

# SOUTHERN HUMBOLDT COMMUNITY PARK DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER 2010092037



Prepared for  
Humboldt County Planning Department

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Prepared by  
Amy Skewes-Cox, AICP



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# 1. INTRODUCTION

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This document is an Environmental Impact Report (EIR) prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended. Humboldt County is the lead agency for the project evaluated in this EIR.

## 1.1. PROJECT BACKGROUND

The overall goal of the project is allow to a mix of public, private, and non-profit uses on the 405.7-acre Southern Humboldt Community Park property on Sprowel Creek Road in Garberville, California (Assessor's Parcel Numbers [APNs] No. 222-241-009 and 222-091-014).

Southern Humboldt Community Park, the project applicant, proposes improvements to the site that include sports fields, playgrounds, picnic areas, and trails. Activities would include a variety of community-based agricultural projects, including a farm stand, along with sports, educational, and camp activities. The project site would include a Park Headquarters (Area 2) that would repurpose existing buildings for park offices and community meeting spaces. Existing and additional agricultural projects would continue on the project site, and new agricultural projects would be added. Existing gravel mining uses in Areas 1 and 6 of the project site would continue. The four existing residential units on the project site would continue to be used for housing caretakers and farm workers or be rented.

The project includes the following requested approvals from Humboldt County:

1. Amending the Humboldt County General Plan (Framework Plan and 1984 Garberville, Redway, Benbow, Alderpoint Community Plan) to add a Public Recreation (PR) land use designation, and changing the General Plan land use designation on the entire 405.7-acre project site to the new Public Recreation (PR) designation. The Humboldt County General Plan currently designates the project site as IR (Industrial, Resource Related), AR5-20 (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres), and AL20 (Agricultural Lands, one dwelling unit per 20 acres).
2. Amending the Humboldt County Zoning Ordinance to add a Public Facility (PF) zoning classification, rezoning 87 acres of the project site from Agriculture Exclusive (AE) to PF, and retaining the existing AE zoning on approximately 307 acres and the existing Heavy Industrial-Qualified (MH-Q) zoning on approximately 12.1 acres of the project site.
3. Obtaining approval of a conditional use permit, special permit for certain proposed uses, including arts and crafts festivals and a special permit is also required to allow for reduced setbacks for new development from streams and wetlands.
4. Bank the existing residential development rights as assets for 54 parcels in the areas of the project site that are currently designated Agricultural Rural (AR 5-20) and Agricultural Lands (AL 20) by the Humboldt County General Plan that could be transferred to other properties for a fee at such time, if ever, that Humboldt County adopts a Transfer of Development Rights program.

A detailed description of proposed improvements to the site and approvals required is provided in Chapter 3, Project Description, of this EIR.

## 1.2. PUBLIC REVIEW

This Draft EIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for a 45-day period as indicated on the Public Notice of Availability of this document. During the public review period, written comments on the adequacy of the Draft EIR may be submitted to:

Michael Richardson  
Senior Planner

### **Mailing Address**

Humboldt County Planning and Building Department  
3015 H Street  
Eureka, CA 95501

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Responses to all substantive comments received on the adequacy of the Draft EIR and submitted within the specified review period will be prepared and included in the Responses to Comments/ Final EIR. Prior to approval of the project, the Humboldt County Planning Commission must certify the Final EIR and adopt a Mitigation Monitoring and Reporting Program (MMRP) for mitigation measures identified in the EIR, in accordance with the requirements of California Public Resources Code (PRC) Section 21001.

## 1.3. ORGANIZATION OF THE EIR

This Draft EIR is organized into the following chapters:

**Chapter 1, Introduction:** Provides an introduction and overview that describes the intended use of this EIR, project background, the EIR process, and organization of the document.

**Chapter 2, Summary:** Briefly describes the project and concerns associated with it, identifies levels of significance for each impact addressed in the EIR, summarizes the project-specific effects of the project, identifies mitigation measures, and compares impacts of the project with those of alternatives to the project.

**Chapter 3, Project Description:** Contains information on the project site, project objectives, and project characteristics.

**Chapter 4, Environmental Setting, Impacts, and Mitigation Measures:** Contains an analysis of environmental topics. Each topic is addressed in a separate section. Each section is divided into an *Introduction* that describes the general content and approach used for the topic; an *Environmental Setting* section that describes baseline environmental information; a *Regulatory Framework* section that describes federal, state, and local regulations applicable to the topic; and an *Environmental*

*Impacts and Mitigation Measures* section that describes project-specific impacts and mitigation measures, along with cumulative impacts.

**Chapter 5, Alternatives:** Assesses impacts of two alternatives to the project, including a No Project Alternative as required by CEQA. The alternatives are compared to the proposed project and an “Environmentally Superior Alternative” is identified.

**Chapter 6, CEQA Considerations:** Contains sections required by CEQA, including a discussion of cumulative impacts, growth inducement, and significant unavoidable impacts.

**Chapter 7, EIR Authors:** Lists the persons directly involved in preparing this report.

**Chapter 8, References:** Lists the persons, agencies, and organizations contacted and documents used during preparation of this report.

#### 1.4. NOTICE OF PREPARATION

A Notice of Preparation (NOP) was prepared by Humboldt County to obtain comments from agencies and the public regarding issues to be addressed in the EIR. The NOP review dates were from 9/13/2010 through 10/12/2010. The Notice of Preparation can be viewed on the CEQANET website at the following address: <http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=645837>

Copies of the comments received in response to the NOP are included in **Appendix A** of this EIR.

This EIR was prepared based on the comments received on the NOP and the project information provided. The following topics were found to have potential environmental impacts and thus are addressed herein in this EIR:

- Aesthetics
- Agricultural/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems



## 2. SUMMARY

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This section briefly describes the proposed Southern Humboldt Community Park (SHCP) EIR. It also summarizes the project-specific impacts and mitigation measures identified in this EIR (Table 2-1). Alternatives to the project that will be considered are also summarized.

### PROJECT UNDER REVIEW

The Southern Humboldt Community Park proposed project site is located in the southern region of Humboldt County, California. The project site is comprised of 405.7 acres along Sprowel Creek and Kimtu Roads, 1 mile outside of the town of Garberville. Project maps can be found in Chapter 3, Project Description, of this EIR.

This project would change the County's General Plan land use designation for the entire site to the Public Recreation (PR) designation. The current land use designation is a combination of Agricultural Rural with a 5- to 20-acre minimum lots size on 256 acres and Agricultural Lands with a 20-acre minimum lot size on 150 acres.

This project would change the zoning of 87 acres from Agriculture Exclusive (AE) to Public Facilities (PF). Approximately 318.7 acres of the property would retain AE zoning. A Qualified (Q) zone would be added to the 318.7 acres in the AE zoning to allow for recreational uses in the AE areas. The current zoning is Agriculture Exclusive on all 405.7 acres. The three discretionary entitlements being requested by the applicant include the following:

- General Plan amendment
- Rezoning
- Conditional Use Permit for Medium and Large Events

The project applicant proposes to be able to retain and transfer the existing residential development rights of the Agricultural Lands and Agriculture Rural Plan designations that currently apply to the property. These land use designations represent 54 potential parcels.<sup>1</sup>

The property has been operating as the Southern Humboldt Community Park since 2000. The project site has 3.5 miles of trails, a playground, picnic areas, and swimming beach that are used by the public. Use of the Park site was estimated at 46,000 visitor days per year in 2012. The property has historically been an operating ranch since the 1800's and is currently the site of ongoing agricultural projects.

The project site property has 12 existing structures, ten of which are currently in use. These structures include the original farm/ranch house (occupied by Park caretakers), two bunkhouses, a blacksmith shop, farm stand, chicken coop, garage, a small barn, and the modern hay barn.

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<sup>1</sup> Calculations for residential units allowable based on current Humboldt County land use designations at the site: Project has 239.9 acres of land currently in Agriculture Residential 5-20 (AR) designation which allows up to 47 units. Project also contains 153.7 acres of land in Agricultural Lands 20 (AL) designation which allows up to seven units for a total of 54 units.

**TABLE 2-1 SUMMARY OF PROJECT FEATURES**

Site Area	Name of Area	Acreeage	Proposed Features
1	Tooby Memorial Park	8.2 acres	<i>Rezoning to Public Facility from Agriculture Exclusive.</i> Upgrading of existing facilities to include shade structure, new bathroom, reconfigured parking area, new traffic circle and signage, trail improvements with improved beach access, addition of 10 new play structures within fenced playground.
2	Park Headquarters	6.0 acres	<i>Rezoning to Public Facility from Agriculture Exclusive (AE).</i> Residences and other facilities to remain in this area. Existing ranch house to be remodeled for new Park Headquarters offices and community center. New facilities to include new bathroom facility, temporary performance stage near large barn, upgrading of main entrance to accommodate two-way traffic. Retention of existing trees. New fencing for livestock and public safety, and protection of riparian areas. More defined parking area. No new paved parking but new temporary area for up to 150 cars in designated fields for special events.
3	Main Agricultural Area	127.1 acres	<i>Rezoning from AE to AE-Qualified Zone to Allow Recreational Activities.</i> Continued and expanded agricultural operations. New trails to be used during tournaments and walk-a-thon type events. New greenhouse, fencing, temporary parking for medium and large events (unpaved). Planting of riparian corridor to stabilize banks.
4	Community Commons	56.4 acres	<i>Rezoning to Public Facility from Agriculture Exclusive.</i> Overnight camping in Area 4B (Environmental Camp). Up to 2.5 miles of new trails, new bridge (one lane, flatcar bridge); bike skill building track; up to five potable water tanks. Area 4A would be the event area (see discussion below) where temporary facilities would be developed during medium and large events. Temporary parking area (unpaved) would also be provided.
5	Community Facilities/Sports Area	16.0 acres	<i>Rezoning to Public Facility from Agriculture Exclusive.</i> Ten acres of new ball fields with bleachers and benches. New restrooms and concession stand facility with storage; new gravel access road connecting park entrance to ball fields; new parking areas along new access road for 50 cars; new playground; off leash dog park in fenced area; skate park (10,000 square feet).
6	Riverfront	77.0 acres	No change in zoning for area designated for industrial use (MH-Q) but rezoning for area designated as AE to AE-Qualifying zone (Q). Improvements to trail and parking areas.
7	Forest Preserve	115.0 acres	<i>Rezone from AE to AE-Qualifying (Q).</i> Up to 2.5 miles of new trails (unpaved) with small, wooden or metal foot bridges over stream crossings.
<b>Total</b>		<b>405.7 Acres</b>	
<b>Features Not Related to Specific Area</b>			
Small Events	Weddings and memorial services; birthday parties; informal gatherings; small fundraisers and similar small events		
Medium Events	Events for 800 to 2,500 attendees such as musical events, theater, dance performances. To occur in Community Commons area. No more than 5 events per year with parking on the site. To be addressed by Conditional Use Permit.		
Large Events	One event per year covered by Conditional Use Permit. Attendance would range from 2,500 to 5,000 people per day (up to 4,000 attendees and 1,000 staff); family-friendly event to include musicians on three outdoor stages, artisans selling wares, exhibits, food vendors and on-site educational workshops. Parking to be partially on-site (up to 500 vehicles) by permit, with remainder of parking in Redway and Garberville, with shuttle buses provided. Event would end by midnight.		

The proposed changes to land use activity include the inclusion of recreation for sports fields, public assembly and events, playgrounds, picnic areas, trails, educational activities and camp activities. Activities include a variety of community-based agricultural projects, including a farm stand. The sports field's activities would include games, practices, jamborees, and tournaments. The project site would include a Park Headquarters (Area 2) that would repurpose existing buildings for park offices and community meeting spaces, and a kitchen. The project would include small events at the large barn. Existing and additional agricultural projects would continue on the project site.

All existing access points would remain in use. This includes access from Sprowel Creek Road, Kimtu Road, and Tooby Ranch Road (for special events only). One new internal road is proposed within the Sports Facilities, Area 5. The existing main entrance would be improved to accommodate two-way traffic. Existing private internal Park ranch service roads provide connectivity, access, and exits from multiple locations within the Park property and can be utilized for emergencies and maintenance.

The proposed project is expected to increase the number of visitors by an estimated 800 persons per day during the peak seasons (late spring, summer, and early fall). Small events such as birthday parties, weddings, memorials, and nonprofit fundraisers are included in everyday uses. This project includes up to five special events per year with 800 to 2,500 attendees (including staff, vendors, and performers), and one annual event per year with up to 5,000 attendees (4,000 guests plus up to 1,000 staff, vendors, and performers).

## **AREAS OF POTENTIAL CONTROVERSY**

The comments on the Notice of Preparation (see Appendix A) and at the project scoping meeting focused on the following topics:

- Removal of agricultural lands.
- Increased traffic, especially during large events.
- Visual impacts of new facilities.
- Removal of wildlife habitat and impacts to wetlands and riparian areas.
- Construction noise.
- Water quality and water supply.
- Potential for cultural resources to be disturbed.
- Potential use of Timber Production Zones.
- Species of special concern and wetlands.
- Stream restoration and buffers.
- Water use and availability.
- Streambed Alteration Notification.
- Event parking adequacy.
- Light pollution.
- Traffic safety and narrowness of access roads.
- Need for Traffic Control Plan.
- Impact on property values.
- Cost of maintenance.
- Emergency vehicle access disruptions.
- Noise from events.
- Security and crowd management.

- Waste disposal.
- Size of events too large.
- Unstable soils.
- Safety of skateboarding.
- Dust during events.

## IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by a project, including effects on land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The criteria of significance used to determine whether or not effects are significant are included in the "Impacts and Mitigation Measures" section for each topic discussion in this EIR.

This EIR identifies one significant unavoidable project-level impact which is the removal of agricultural lands. All other identified impacts can be mitigated to a less-than-significant level with the implementation of the recommended mitigation measures. This EIR also addresses less than significant impacts for which mitigation measures are not needed.

Prior to approval of the project, written findings regarding each of the identified environmental impacts must be prepared. Also, a monitoring program for each mitigation measure must be adopted. This monitoring program will be prepared as part of the Final EIR for this project.

## ALTERNATIVES TO THE PROJECT

Three alternatives to the proposed project are evaluated in Section 5, Alternatives. They are:

- Alternative 1: No Project
- Alternative 2: Reduced Public Facilities Acreage
- Alternative 3: Benbow Lake State Recreation Area

The environmental impacts of each alternative are compared. The ability of each alternative to meet project objectives is also evaluated. Alternative 2 was found to meet many of the project objectives. Alternative 2 would be the environmentally superior alternative.

## SUMMARY TABLE

**Table 2-2** summarizes project impacts and mitigation measures. The table identifies the level of impact both before and after mitigation.



**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<p><b>AESTHETICS</b></p> <p><u>AESTHETICS-1:</u> Implementation of the project would result in construction of new community facilities including recreation fields, a skatepark, a dog park, concessions stands, and visitor amenities and parking areas that would be visible from Kimtu Road and that would change the scenic vista from this road. Such new features could also visually contrast with the natural surroundings.</p>	PS	<p><u>AESTHETICS-1a:</u> New landscaping shall be planted at the edge of the gravel parking area fronting on Kimtu Road in Area 5, the Sports Area. This landscaping shall be low evergreen shrubs that would partially screen parked cars from view from Kimtu Road. All vegetation planted as mitigation shall be planted outside the County-maintained road right-of-ways, meet the County visibility ordinance, not block county road drainage, or cause additional maintenance for the road crew. Prior to installing vegetation, the planting plan should be reviewed by the Department of Public Works.</p> <p><u>AESTHETICS-1b:</u> Similar evergreen shrubbery shall be planted. After 5 years the shrubs shall be at least 4 feet in height and provide a visual screen for a minimum of 85 percent of the view of the parking areas for Area 5 adjacent to Kimtu Road adjacent to Kimtu Road to screen the proposed skatepark and dog park in Area 5 from view. However, landscaping plans shall be reviewed and approved by the Public Works Department to ensure that landscaping would not interfere with sight visibility for safety reasons.</p>	LTS
<p><u>AESTHETICS-2:</u> Project components such as special events would have a need for nighttime lighting that would create a new source of nighttime light or glare that may adversely affect nighttime views in the area (see Appendix I: Lighting Plan).</p>	PS	<p>The combination of these measures would reduce the potential impact to less than significant.</p> <p><u>AESTHETICS-2a:</u> The applicant shall prepare a lighting plan that shall address the facility lighting placement and design for ongoing operations. This plan shall be reviewed and approved by the County's Planning Department. To avoid intrusion into neighboring properties and visibility from nearby roads, all lighting shall be shielded and directed downwards, and shall use the minimum wattage to allow safe conditions. Pathway lighting shall be placed low to the ground to minimize excess lighting. Temporary lighting of parking areas during festival events shall be shielded and directed to minimize glare.</p> <p><u>AESTHETICS-2b:</u> Lighting shall be on timers to minimize the number of hours of lighting at the project site.</p> <p><u>AESTHETICS-2c:</u> During festival events, all concession participants shall be informed of the need to minimize lighting at the project site. This requirement shall be included in the Conditional Use Permit for the project site.</p> <p>The combination of the above measures would reduce this potential impact to less than significant.</p>	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<b>Agricultural/Forestry Resources</b>			
<p><u>AGFR-1:</u> The project would convert farmland (approximately 4 acres in Area 3 and 16 acres in Area 5) to non-agricultural use, reducing the overall inventory of agricultural land in Humboldt County and conflicting with Humboldt County General Plan policies for protecting agricultural land.</p>	PS	<p><u>AGFR-1:</u> The 4-acre temporary parking zone in Area 3 shall be not be used for parking until after the hay crop is harvested. The project applicant shall remove all trash and debris from fields used for parking and return the field to productive use for the next season.</p> <p>To protect the continued agricultural use of Area 3, the applicant shall record a deed restriction on the Area 3 part of the property that would convey to the County the development rights for any development other than the existing uses. This restriction shall preclude any improvements in the area except those for agricultural purposes, such as greenhouses and barns. The restriction would allow the use of the area for parking for temporary events, and the use of ranch roads for moving people and equipment associated with those events, because no new development would be needed for these temporary uses. The deed restriction may include a clause releasing the restriction at the time the zoning and general plan are changed to limit the use of the property to agricultural uses.</p> <p>No additional mitigation is available for the loss of farmland. This measure would help reduce the farmland conversion impact, but the project would still result in a net loss of farmland. The impact would therefore be significant and unavoidable.</p>	SU
<b>Air Quality</b>			
<p><u>AIR-1:</u> During construction, the project could result in a cumulatively considerable net increase of criteria pollutants (i.e., PM<sub>10</sub>) for which the project region is nonattainment under an applicable national or State ambient air quality standard.</p>	PS	<p><u>AIR-1:</u> The project lies within the jurisdiction of North Coast Unified Air Quality Management District (NCUQAMD). All project construction and management shall comply with NCUQAMD ordinances for dust control. Project grading and construction shall use best available fugitive dust control measures during operations in order to reduce the amount of particulate matter that is present in the air as a result of man-made fugitive dust sources.</p> <p>The following best management practices shall be implemented to reduce emissions and control dust during all project construction and grading activities that involve ground disturbance of 1,000 square feet or more:</p> <ol style="list-style-type: none"> <li>1. Water all active construction areas at least twice daily;</li> <li>2. Maintain at least 2 feet of freeboard for haul trucks;</li> <li>3. Cover all trucks hauling soil, sand, and other loose materials;</li> <li>4. Plant vegetative ground cover in disturbed areas as soon as possible;</li> <li>5. Cover inactive soil storage piles; and</li> </ol>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
6. Treat accesses to a distance of 100 feet from the paved or gravel road with a 6- to 12-inch layer of wood chips or mulch, or treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.			
<u>AIR-2:</u> The project would result in the potential release of fugitive PM <sub>10</sub> emissions from temporary large and medium-sized events due to a temporary increase in the number of vehicles on dirt roads.	PS	<u>AIR-2a:</u> On-site access roads used for movement of people and goods shall be watered at least twice daily for large and medium-sized events to reduce PM <sub>10</sub> emissions. Access roads shall be treated to a distance of 100 feet from the paved or gravel road with a 6- to 12-inch layer of wood chips or mulch, or accesses shall be treated to a distance of 100 feet from the paved road with a 6-inch layer of gravel. <u>AIR-2b:</u> For large and medium-sized events, the Traffic Control Plan (see Appendix E) shall be implemented. The Traffic Control Plan demonstrates how shuttle ridership and carpools would be strongly encouraged in an effort to reduce traffic on Sprowel Creek Road; how the use of shuttle buses from both Redway, Garberville, Benbow, and Richardson Grove campground would help reduce the impact of vehicles on park properties, and how all attendees and volunteers would be encouraged to use the shuttle (e.g., by charging parking fees while shuttles would be free). The combination of the two measures would reduce this impact to a less-than-significant level.	LTS
<b>BIOLOGICAL RESOURCES</b>			
<u>BIO-1:</u> Construction activities and site fire fuel management activities could result in the loss of bird nests in active use, which would be a violation of the federal Migratory Bird Treaty Act (MBTA) and State Code.	PS	<u>BIO-1:</u> Major construction activities and vegetation management for fire fuel reduction shall be performed in compliance with the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Wildlife Code to avoid loss of bird nests in active use. This shall be accomplished by preferably scheduling vegetation removal for fire fuel management and major construction activities outside of the bird nesting season (which occurs from February 15 to August 31) to avoid possible impacts on nesting birds if new nests are established in the future. Alternatively, if these activities cannot be restricted to the non-nesting season (September 1 to February 14), a pre-construction nesting survey shall be conducted depending on the proposed activity as defined below. The pre-construction nesting survey(s) shall include the following: <ul style="list-style-type: none"> <li>■ A qualified biologist (Biologist) shall conduct a pre-construction nesting bird (both passerine and raptor) survey within 14 days prior to major construction and fire fuel management activities. Construction activities requiring pre-construction surveys include: sports field improvements in the Sports Area; Environmental Camp and concession stand in the Commons Area; the new restroom, new parking, and roadway improvements in the Park Headquarters Area; and traffic circle and replacement</li> </ul>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p>restroom in Tooby Memorial Park. Major tree limbing and brush thinning for fire fuel management shall also require a pre-construction nesting survey when performed during the nesting season. Birds typically acclimate to on-going vegetation management practices associated with farming and property maintenance, such as hay crop harvest, field tilling, and mowing for trail clearance, special event area maintenance and other property maintenance, and no preconstruction surveys or special avoidance measures are considered necessary for these activities.</p> <ul style="list-style-type: none"> <li>▪ If no nesting birds are observed, no further action is required and scheduled activities shall be initiated within 14 days of the survey to prevent take of individual birds that could begin nesting after the survey.</li> <li>▪ Another nest survey shall be conducted if more than 14 days elapse between the initial nest search and the beginning of the scheduled major construction activities or fire fuel management activity during the nesting season. Follow-up nest surveys are not required for on-going maintenance activities and events because birds typically acclimate to these activities or would avoid nesting in the vicinity if sensitive to the associated noise, increase in human activity and other disturbance levels.</li> <li>▪ If any active nests are encountered, the Biologist shall determine an appropriate disturbance-free buffer zone to be established around the nest location(s) until the young have fledged. Buffer zones vary depending on the species (i.e., typically 75 to 100 feet for passerines and 300 feet for raptors) and other factors such as on-going disturbance in the vicinity of the nest location. If necessary, the dimensions of the buffer zone shall be determined in consultation with the California Department of Fish and Wildlife.</li> <li>▪ Orange construction fencing, flagging, or other marking system shall be installed to delineate the buffer zone around the nest location(s) within which no construction-related equipment or operations shall be permitted. Continued use of existing facilities such as occupied buildings, existing parking, and site maintenance may continue within this buffer zone where the nesting birds have acclimated to these activities.</li> <li>▪ No restrictions on activities outside the prescribed buffer zone are required once the zone has been identified and delineated in the field and workers have been properly trained to avoid the buffer zone area. But additional controls on lighting, noise amplification and other possible disturbance sources that could affect the viability of nest success shall be considered by the Biologist, and recommendations and restrictions defined, if necessary.</li> <li>▪ Construction activities shall be restricted from the buffer zone until the Biologist has determined that young birds have fledged and the buffer zone is no longer needed.</li> </ul>	

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<p><u>BIO-2</u>: Proposed development could result in filling or modifications to regulated waters, including areas of freshwater emergent wetland and seasonal creek channels.</p>	PS	<ul style="list-style-type: none"> <li>■ A survey report of findings verifying that any young have fledged shall be submitted by the Biologist for review and approval by the County prior to initiation of major construction activities and major fire fuel vegetation management within the buffer zone. Following written approval by the County, restricted activities within the nest-buffer zone may proceed.</li> <li>■ <u>BIO-2a</u>: A Wetland Protection and Replacement Program (WPRP) shall be prepared by a qualified wetland specialist and implemented to provide compensatory mitigation for modifications to any areas of jurisdictional waters affected by the project, and to ensure compliance with County General Plan policies and the SMA Ordinance related to stream and wetland protection and mitigation. At a minimum, the WPRP shall contain the following components:                             <ul style="list-style-type: none"> <li>■ If on-site avoidance of jurisdictional waters, streams and wetlands identified in the SMA ordinance is not feasible, the WPRP shall provide compensatory mitigation at a minimum 2:1 ratio (ratio of mitigation acreage or credits to affected jurisdictional waters, streams and wetlands identified in the SMA ordinance), subject to the review and approval by the Planning Director in consultation with CDFW and other regulatory agencies. Any habitat created as compensatory mitigation shall be monitored for a minimum of 5 years or until success criteria are met, as defined in the WPRP to ensure successful establishment. The WPRP shall specify success criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures necessary to achieve a minimum survival rate of 85 percent of planted species following the first year of planting and 75 percent following the fourth year of planting.</li> <li>■ Annual monitoring reports shall be provided to the Planning Director, CDFW and other regulatory agencies before December 31 of each monitoring year, summarizing the status of revegetation efforts, and any maintenance activities performed or required. Photographs of the location from either side of the treatment area shall be included. Maintenance and monitoring shall continue until the area is completely revegetated with a minimum of 80 percent absolute cover of plants comprised of species similar to the undisturbed affected area as reviewed and approved in writing by the Planning Director in consultation with CDFW and other regulatory agencies.</li> <li>■ Orange construction fencing shall be installed at the edge of adjacent jurisdictional waters to be preserved to ensure no disturbance to these features. The construction fencing shall remain in place for the entire duration of construction to ensure construction equipment avoids these areas.</li> </ul> </li> </ul>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<ul style="list-style-type: none"> <li>■ A qualified biologist/restoration specialist shall meet with heavy equipment operators prior to the beginning of site-disturbing activities to explain the required mitigation, and be available during the initial phase of construction to provide situation-specific avoidance measures.</li> <li>■ Installation of the pedestrian bridges and other seasonal creek crossings or modifications shall be performed during the summer and fall months when the channels are dry, to minimize disturbance to aquatic habitat and avoid the need for temporary coffer dam and possible dewatering during construction.</li> <li>■ Any areas to be retained as natural habitat and disturbed as part of construction shall be restored to prevent erosion and contamination of nearby receiving waters. Monitoring shall be provided as part of the larger WPPP for a minimum of 5 years to ensure the disturbed area is successfully revegetated.</li> <li>■ Authorization for modifications to jurisdictional waters on the site shall be obtained by the applicant from the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act, the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act, and the California Department of Fish and Wildlife (CDFW) under Section 1602 of the State Fish and Game Code.</li> <li>■ All legally required permits or other authorizations shall be obtained by the applicant from the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NOAA Fisheries), and CDFW for the potential "take" of protected species under the federal and California Endangered Species Acts, if required. Although considered unlikely given the absence of suitable habitat for State- or federal-listed special-status species, the resource agencies make the determination on the need for any consultation or incidental take permits. This EIR specifically does not allow development that would require an incidental take permit. Subsequent environmental review would be required for approval of any development that requires an incidental take permit.</li> <li>■ Proof that all appropriate authorizations have been secured from the Corps, RWQCB, and CDFW and that adequate compensatory mitigation has been defined shall be furnished to the County prior to the issuance of a grading permit for any component of the project affecting jurisdictional waters.</li> </ul>	

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
BIO-3: Proposed development would replace areas of existing natural habitat and could disrupt wildlife use of the site unless adequate controls are taken to prevent significant disruption.	PS	<p><u>BIO-2b</u>: To address potential indirect impacts on water quality and downgradient receiving waters in the vicinity of the site, the applicant shall implement best management practices under the Storm Water Pollution Prevention Plan (SWPPP) called for in Mitigation Measure HYDRO-1a and the Stormwater Control Plan (SCP) called for in Mitigation Measure HYDRO-1b.</p> <p>The combination of the measures above would reduce this impact to less than significant.</p> <p><u>BIO-3a</u>: A qualified landscape architect or restoration ecologist who specializes in native habitat restoration shall be retained to incorporate the following provisions into the Landscape and Revegetation Plans for the project:</p> <ul style="list-style-type: none"> <li>▪ Prohibit the use of highly undesirable species in landscape improvements on the site which could spread into the adjacent open space areas. Unsuitable species include: blue gum eucalyptus (<i>Eucalyptus globulus</i>), acacia (<i>Acacia</i> spp.), pampas grass (<i>Cortaderia selloana</i>), broom (<i>Cytisus</i> spp. and <i>Genista</i> spp.), gorse (<i>Ulex europaeus</i>), bamboo (<i>Bambusa</i> spp.), giant reed (<i>Arundo donax</i>), English ivy (<i>Hedera helix</i>), German ivy (<i>Senecio milarinioides</i>), cotoneaster (<i>Cotoneaster parmosus</i>), and periwinkle (<i>Vinca</i> spp.), among others identified in the CalEPPC List.</li> <li>▪ Define maintenance and monitoring provisions to ensure the successful establishment and long-term viability of native plantings and the control and eradication of highly aggressive non-native broom and other noxious weeds. The maintenance and monitoring program shall be implemented during a minimum 5-year monitoring required as part of tree replacement and wetlands mitigation, and shall continue as part of long-term maintenance of open space areas.</li> <li>▪ Provide adequate controls to prevent unauthorized vehicle access to natural areas to be retained. These can include appropriately placed bollards, gates, and wildlife friendly fencing that serves to control unauthorized vehicle access but allows for movement by larger terrestrial wildlife.</li> <li>▪ Provide for reseeded of all graded slopes not proposed for roadways and other improvements with a mix of native grasses and forbs appropriate for the site rather than a conventional seed mix typically used for erosion control purposes to replace and improve existing habitat values of grasslands disturbed on the site.</li> </ul> <p><u>BIO-3b</u>: Measures recommended in Mitigation Measures BIO-1, BIO-2a, BIO-2b, BIO-3a, and BIO-4 would serve to partially protect important natural habitat on the site for wildlife, avoid the potential loss of nests in active use, and minimize disturbance to wetlands and provide for replacement of affected jurisdictional waters. The following additional provisions shall be implemented to further protect wildlife habitat resources that could otherwise be compromised as part of the project:</p>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<p><u>BIO-4:</u> Proposed development has the potential to conflict with local regulations related to Stream Management Areas and the intent of relevant policies in the Humboldt County General Plan related to streams and wetlands.</p>	<p>PS</p>	<ul style="list-style-type: none"> <li>■ Permanent and temporary lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to the immediate vicinity of areas necessary to provide the minimum level necessary for safety purposes to illuminate pathways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.</li> <li>■ Dogs and cats shall be kept on leash at all times when on trails and natural areas on the site.</li> <li>■ All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source. This shall include trash generated during temporary special events.</li> </ul> <p>The combination of the measures above would reduce this impact to less than significant.</p> <p><u>BIO-4:</u> Implementation of Mitigation Measures BIO-3a and BIO-3b would ensure adequate mitigation is provided for the direct loss of jurisdictional waters on the site, that protection and restoration of nearby waters is provided by the project, and that required authorizations are secured by regulatory agencies with evidence of compliance provided to the County prior to issuance of a grading permit. The following additional provisions shall be implemented to ensure conformance with relevant policies and standards in the County's General Plan and to meet with the intent of the SMA Ordinance:</p> <ul style="list-style-type: none"> <li>■ Provide compliance with Section 314-61.1, Streamside Management Area Ordinance of the Zoning Code and secure all required permits for any modifications to regulated habitat areas along streams and other wet areas.</li> <li>■ Relocate the portion of the Environmental Camp in Area 4 so that it is sited outside of the 50-foot buffer setback along the adjacent seasonal creek to the east. Although potential impacts associated with the few tents and other improvements near the top of bank are relatively minor, the buffer area is important to minimize vegetation removal, trampling and concentrated human activity along the seasonal creek.</li> <li>■ Restrict use of the Temporary Event facilities in Area 4 to the dry season (May 1 to October 31) to minimize disturbance to nearby seasonal aquatic habitat associated with the seasonal creeks. Exception to this restriction period may be authorized if field inspection verifies that surface water is no longer present in the spring months and that rains are not forecast in the fall months.</li> <li>■ Provide pedestrian bridge crossings over the seasonal creeks in the vicinity of the Temporary Event facilities and the Environmental Camp along designated trails to avoid concentrated pedestrian activity in the channel bottom.</li> </ul>	<p>LTS</p>

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

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<p>BIO-5: The project would contribute to a cumulative reduction in the surface water flows to the South Fork Eel River, creating the potential for a significant cumulative impact on aquatic life.</p>	PS	<ul style="list-style-type: none"> <li>■ Install split rail fencing and interpretive signage to direct park users to designated creek crossing locations and minimize the potential for concentrated informal crossings of the creek channels.</li> </ul> <p>BIO-5: Recommendations contained in the Water Supply and Demand Analysis and Potential Impacts on Surface Water and Aquatic Habitat (WSDAPISWAH) shall be implemented to address the project's contribution to cumulative impacts on aquatic life in the South Fork Eel River. These consist of the following and are described in more detail below: 1) general recommendations for design and operation of the park, 2) adaptive management practices during times of water scarcity, and 3) controls on water availability through increased water storage capacity and restrictions on flow diversions from the South Fork Eel River during the dry season.</p>	LTS
<p><b>General Recommendations</b></p>			
<p>The following are general recommendations to address the project contribution to cumulative impacts on aquatic life in the South Fork Eel River and to improve the beneficial effects of the project on improving habitat conditions. Some of these must be rigidly enforced, such as use of appropriate drought-tolerant turfgrass species and appropriate irrigation design that can substantially reduce water demand. These are very specific recommendations where compliance with the recommendation can be established as a performance standard for the measure.</p>			
<ul style="list-style-type: none"> <li>■ <b>Improvements to Water Storage Capacity</b> – As a goal of improving habitat conditions, the applicant shall work with the appropriate specialists to improve water storage capacity on the site. The project vicinity typically receives an average of 58 inches of precipitation, but the majority of the precipitation occurs between mid-October and mid-May. Thus, retaining water on-site during the wet season and allowing it to discharge back into the river during the dry season is the best means of further enhancing the hydrologic benefits that the park already provides. Water can be retained on-site by enhancing wetlands, restoring riparian areas, constructing infiltration or water storage ponds, and storing water in tanks. It is likely that enhancing groundwater recharge by enhancing wetlands, and restoring riparian areas would be the least expensive and infrastructure-intensive means of accomplishing this goal and would bring with it a suite of additional environmental benefits.</li> </ul>			
<ul style="list-style-type: none"> <li>■ <b>Installation of Drought-tolerant Turfgrass</b> – Drought-tolerant cool turfgrass species, such as Native Bentgrass™ from Delta Bluegrass, Zoysia 'De Anza', and/or Buffalo grass 'UC Verde' shall be used for turf plantings in the playfields and other areas of irrigated turf on the site. Each species and cultivar has differing benefits and advantages, but factors that shall be considered when selecting the type(s) of grass to</li> </ul>			

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		<p>be planted include evapotranspiration potential, drought tolerance, dormancy, soils structure and fertility, fertilizer demand, mowing height, invasive weed potential, and durability. Species that are recognized as an invasive species by the California Invasive Plant Council shall not be used. A landscaping firm experienced in turfgrass cultivation in similar Mediterranean climate zones shall be consulted by the applicant in selecting the exact species and cultivars for the playfields. Hybridized drought-resistant grass species and cultivars typically use about 70 percent of the water required by non-hybridized species.</p> <ul style="list-style-type: none"> <li>▪ <b>Appropriate Design of Irrigation Systems</b> – Irrigation systems shall be designed with best available irrigation technologies, and be low-to-the ground and subsurface to reduce the potential for evaporation. Generally, sprinkler systems that apply water as close to the ground surface as possible will result in less evaporative loss. In addition, watering shall occur at night or in the early morning hours, which also reduces evaporation.</li> <li>▪ <b>Seasonal Restrictions for Irrigation</b> – Most importantly, the irrigation allowance shall be determined based on the characteristics of each water year (when and how much precipitation falls) as that should influence how playfields are managed. Deciding when to cease irrigating the playfields is one of the most critical adaptive management measures for mitigating the potential adverse impacts associated with turf irrigation, and restrictions are defined further below under recommendations for adaptive management.</li> </ul> <p><b>Adaptive Management Practices</b>                      There is a hierarchy of need for water in most communities during times of water scarcity. While sports fields are important for communities to congregate, turfgrass can be replanted after a drought in which irrigation is halted and grass dies. Water needed for direct human consumption often overrides most other uses, trailed closely by irrigation for food crops, and water needed to support instream beneficial uses. However, while alternative water supplies may sometimes be available for human needs, requirements for aquatic organisms can only be met through maintenance of life-sustaining minimum flows and viable water quality. Given the drought conditions that have been ongoing for at least 3 years (at the time of this writing), irrigation of the sports field during extended drought conditions is likely to be highly scrutinized and of reduced priority compared to other needs.</p> <p>For this reason, the WSDAPISWAH recommends establishing a water budget for various irrigation demands on the site, as well as a triggering mechanism for the reduction or cessation of irrigation during periods of water shortage, based on higher priority uses.</p>

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		<p>There are likely to be several tiers of demand within the beneficial uses that currently need to be serviced at the site including direct human consumption, residential uses, irrigation of trees and other established semi-permanent vegetation, irrigation of annual row crops, irrigation of turfgrass, and irrigation of pasture/wetlands. This water budget and management procedures would be defined as part of an Adaptive Management Plan for the site, as required below.</p> <p>The monitoring and management strategy defined in the Adaptive Management Plan shall consider current riverine, atmospheric, and antecedent precipitation conditions when determining the quantity of water available to irrigate turfgrass on the playfields. When the design and construction of new facilities is initiated, they shall be informed by the findings contained in the Adaptive Management Plan, and the findings shall be used in determining what type of and how many playfields are to be constructed. Phasing of the playfield construction would also allow field capacities to equilibrate with user demand and resource availability.</p> <p>The WSDAPISWAH recommends that the irrigation cutoff threshold for the playfields be significantly higher than the 17-cubic-foot-per-second (cfs) flow conditions in the South Fork Eel River observed in July 2015. A threshold of 30 cfs beyond which the playfields could only be irrigated with stored or recycled water is recommended. This threshold would result in less vigorous turf at the onset of the wet season. One adaptation could be rotating the location(s) and layout(s) of fields in active use throughout the dry season in a manner that spreads the recreational impact on desiccated turf throughout the entire playfield area.</p> <p>The following measures are recommended to provide adaptive management in future water use at the site:</p> <ul style="list-style-type: none"> <li>▪ Develop an Adaptive Management Plan by a qualified hydrologist/landscape contractor that establishes a reliable means of determining the annual irrigation water diversion cutoff date. The Adaptive Management Plan shall be in place by the onset of construction of any playing fields.</li> <li>▪ Consult with turfgrass and sports field irrigation system experts before laying out sports fields and designing irrigation systems in order to determine the best drought-tolerant turfgrass and irrigation strategies to reduce water consumption.</li> <li>▪ Refine the water demand summary for agricultural areas and turfgrass (from the 2014 "Water Supply and Demand Analysis Memorandum" prepared for the project applicant by GHD; see Appendix G of the Draft EIR) using the WSDAPISWAH Estimated Water Demand to provide more detail for the site.</li> </ul>	

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Impact	Level of Sig. Without Mitigation	Level of Sig. After Mitigation
<p><b>Future Water Storage and Restrictions on Flow Diversions</b></p>		
<p>The Lake and Streambed Alteration Agreement (LSAA) with the California Department of Fish and Wildlife (CDFW) allows up to 2,000 gallons per day to be diverted from the spring currently used by the applicant between November 1 and July 1 of each year. The other diversion serving the site is from an infiltration gallery in the South Fork Eel River that is allowed to operate at a maximum diversion rate of 0.24 cfs. Use of the infiltration gallery currently does not have a specified period of diversion in the LSAA.</p> <p>The following measures are recommended to improve future water storage and ensure adequate restrictions on in-channel diversions that could otherwise result in a cumulatively significant contribution to adverse effects on the aquatic habitat of the South Fork Eel River during the dry season:</p> <ul style="list-style-type: none"> <li>▪ The applicant shall install additional non-potable water storage facilities on the site for irrigation and as a source of fire suppression water for the Main Agricultural and Forestland areas.</li> <li>▪ Diversion from the South Fork Eel River infiltration gallery shall cease when the flow at Sylvandale (USGS Gauge #11476500) is nominally less than 30 cfs, contingent on calculation of a more robust metric.</li> <li>▪ Staff will track streamflow at Sylvandale (USGS Gauge #11476500), available from USGS website) between July 1<sup>st</sup> and October 31<sup>st</sup>. If streamflow drops below 40 cfs, streamflow data will be checked daily before diverting water from the South Fork Eel River infiltration gallery for sports field irrigation. No diversion from the South Fork Eel River infiltration gallery will occur when the collected streamflow data shows the flow at Sylvandale (USGS Gauge #11476500) is less than 30 cfs.</li> <li>▪ The LSAA with the CDFW requires that streamflow be measured prior to any diversion if water is diverted between July 1 and October 31. Measurements shall be taken at USGS Gauge 11476500.</li> <li>▪ A report consisting of streamflow measurements and diversion data will be submitted annually on December 31<sup>st</sup> to the Planning Director and the CDFW. The report shall also assess the effectiveness of the mitigation measure, and make recommendations for increasing the efficacy of the mitigation, if needed. This report shall be subject to the approval of the Planning Director in consultation with the CDFW.</li> <li>▪ The applicant shall seek funding to install additional water storage tanks and other on-site facilities to improve availability during the dry season. The additional water storage capacity can be defined as part of the Adaptive Management Plan, and preferably implemented in conjunction with construction of the future sports fields. Depending on the location selected for these tanks and other storage facilities, additional</li> </ul>		

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		<p>environmental review may be required. Any necessary environmental review shall be conducted before the facilities are installed.</p> <ul style="list-style-type: none"> <li>▪ The Southern Humboldt Community Park is a senior water rights holder on the South Fork Eel River. Complying with any and all agreements to conserve water in an effort to protect fish and wildlife during periods of prolonged drought has no affect on existing senior water rights.</li> </ul> <p>The combination of the measures above would reduce the project's contribution to the cumulative impact to less than significant.</p>	
<b>CULTURAL RESOURCES</b>			
<p><b>CULTURAL-1:</b> The project could cause a substantial adverse change in the significance of the Wood/Tooby Ranch Complex, a historical resource as defined in CEQA Guidelines Section 15064.5. Remodeling contributing properties to the Wood/Tooby Ranch Complex could cause a substantial adverse change in the significance of this resource.</p>	PS	<p><b>CULTURAL-1:</b> Any remodel, reconfiguration, or rehabilitation of the ranch house, cabin, garage, or other contributing buildings to the historical Wood/Tooby Ranch Complex by the project shall be conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation (Standards) and undertaken with the assistance of an individual meeting the Secretary of the Interior's Professional Qualifications Standards for historic architecture (qualified architect). The qualified architect shall review the applicant's plans for work on the Wood/Tooby Ranch Complex buildings and provide written recommendations to the applicant and County to ensure that modifications to historical buildings are done in compliance with the appropriate standards. The qualified architect shall oversee remodeling, reconfiguration, or rehabilitation of the historical buildings to ensure that work is done in compliance with the standards. The County shall ensure that the recommendations of the qualified architect are followed as a condition of project approval.</p>	LTS
<p><b>CULTURAL-2:</b> The project could cause a substantial adverse change in the significance of archaeological resources, resulting from construction-related ground disturbance. Also, increased use of and visitation to the property from public and private events as well as recreational uses have the potential to result in incidences of vandalism of resources, unauthorized collection of archaeological materials, and trampling of archaeological deposits.</p>	PS	<p><b>CULTURAL-2a:</b> The Site Monitoring and Protection Protocols described in the Community Park Cultural Resources Management Plan (Venwayen and Whiteman, 2008) shall be implemented for the project. These monitoring and protection protocols include the following:</p> <ol style="list-style-type: none"> <li>1. <b>Placement of Protective and/or Interpretive Signs:</b> Signs shall be placed at strategic locations in the community park—such as near restrooms, at kiosks, and trailheads—prohibiting surface collection of artifacts or digging in archaeological sites.</li> <li>2. <b>Site Patrols:</b> Community park staff shall routinely patrol archaeological resources, particularly during mid-size and festival-size events, to ensure that visitors remain on designated trails and away from archaeological deposits. Community park staff shall maintain a record of archaeological site inspections, including the date of inspection, observed damage or sources of potential damage (e.g., volunteer trails or cattle grazing) to archaeological resources. At its discretion, the County may request a copy of the inspection record(s) from the applicant. If damage or sources of potential</li> </ol>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p>damage to archaeological resources is observed, community park staff shall implement site-specific measures to mitigate or prevent further damage. Such measures may include fencing to prevent incursion on archaeological deposits, signs requesting that visitors stay on designated trails, and planting of dense vegetation near archaeological resources to reduce the potential for site incursion.</p>	
		<p>3. <b>Fencing:</b> A fence or section of fence shall be used to direct foot traffic away from archaeological resources on the project site. Temporary chain-link fencing or construction fencing could be used to keep people off archaeological sites during mid-size and festival-size events.</p>	
		<p>4. <b>Archaeological Survey:</b> Prior to project ground disturbance within 100 feet of a recorded archaeological resource, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards shall conduct a survey to ensure that archaeological deposits would not be affected by the project. If an archaeological deposit is identified during the survey, project activities shall be redirected to avoid the deposit. If project activities cannot be redirected, the archaeological deposit shall be evaluated and mitigation carried out, as appropriate. Such mitigation may include a controlled excavation to recover archaeologically and historically significant information as well as public outreach and interpretation.</p> <p><b>CULTURAL-2b:</b> Prior to project approval, the County shall ensure that the following compulsory specification be included in the project construction contract plans:                      If cultural resources greater than 50 years old, such as chipped or ground stone, historical debris, building foundations, or bone are discovered during project ground disturbance, work shall be stopped within 20 meters (66 feet) of the discovery. Work near the archaeological finds shall not resume until a professional archaeologist has evaluated the materials and offered recommendations for further action.</p> <p>The combination of the two measures above would reduce this impact to a less-than-significant level.</p>	<p>LTS</p>
	PS	<p><b>CULTURAL-3:</b> The project could disturb human remains interred outside of formal cemeteries. The project site includes one historical grave (CA-HUM-1267/H) and a prehistoric site with possible Native American human remains (CA-HUM-1257/H). Furthermore, previously unrecorded human remains, either in isolation or in association with archaeological deposits, may be unearthed during project ground disturbance.</p>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

	Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<b>GEOLOGY AND SOILS</b>				
<u>GEO-1:</u>	Development of the project could expose future site workers and patrons to significant seismic hazards, including ground shaking and seismic related ground failure.	PS	<u>GEO-1:</u> As a condition of approval for any grading or construction permits for the project, a design-level geotechnical investigation shall be prepared by a licensed professional and submitted to the Humboldt County Building Department for review and approval. The geotechnical review shall verify that the project plans incorporate the recommendations for design contained in the preliminary geotechnical report, the current California Building Code (CBC), and other applicable design standards. All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical review shall be implemented as a condition of project approval.	LTS
<u>GEO-2:</u>	Development of the project could expose future site workers and patrons to significant geologic hazards, including hazards related to lateral spreading, slope instability, liquefaction, subsidence, and differential and total settlement.	PS	<u>GEO-2:</u> Implementation of Mitigation Measure GEO-1, requiring a design-level geotechnical review as a condition of approval for grading and construction permits, would reduce potential geologic impacts to less-than-significant levels. No additional mitigation is required.	LTS
<u>GEO-3:</u>	Soils at the project site may be incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	PS	<u>GEO-3:</u> Implementation of Mitigation Measure HYDRO-2, requiring demonstration of adequate capacity and operation of septic and wastewater systems, would reduce this potential impact to a less-than-significant level. No additional mitigation is required.	LTS
<b>GREENHOUSE GAS EMISSIONS</b>				
<u>GHG-1:</u>	The project could generate an increase in direct and indirect greenhouse gas (GHG) emissions.	PS	<u>GHG-1:</u> The project applicant shall implement the following measures to reduce greenhouse gas (GHG) emissions: <ol style="list-style-type: none"> <li>1. Design buildings to be energy-efficient.</li> <li>2. Site buildings to take advantage of shade, prevailing winds, and landscaping to reduce energy use. The project shall make use of strategically-placed shade trees.</li> <li>3. Limit the hours of operational outdoor lighting.</li> <li>4. Install renewable systems where feasible, including solar and tank-less hot water heaters.</li> <li>5. Create water-efficient landscapes. All landscaped areas shall be designed to reduce their water requirements. Landscaping shall make extensive use of drought-tolerant species.</li> <li>6. Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.</li> <li>7. Control irrigation by systems designed to ensure water-efficiency.</li> </ol>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<b>HAZARDS AND HAZARDOUS MATERIALS</b>			
HAZ-1: The project could expose the public or the environment to risks from reasonably foreseeable releases of hazardous materials during building renovation and demolition of buildings in Area 2.	PS	HAZ-1: As a condition of approval for project construction and demolition permits, a hazardous building materials survey shall be conducted by a qualified and licensed professional for all structures proposed for demolition or renovation as part of the project. All loose and peeling lead-based paint and asbestos-containing materials shall be abated by a certified contractor in accordance with local, state, and federal requirements. All other hazardous materials shall be removed from buildings prior to demolition in accordance with California Division of Occupational Safety and Health (DOSH) and California Department of Toxic Substances Control (DTSC) regulations. The completion of the abatement activities shall be documented by a qualified environmental professional and submitted to the County with applications for issuance of construction and demolition permits.	LTS
<b>HYDROLOGY AND WATER QUALITY</b>			
HYDRO-1: Proposed development at Area 5 could result in polluted runoff adversely affecting the water quality of South Fork Eel River.	PS	HYDRO-1a: Consistent with the requirements of the statewide Construction General Permit, the project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce impacts on surface water quality through the project construction period.  The SWPPP shall be prepared by a qualified stormwater professional (QSP). The SWPPP shall include the minimum best management practices (BMPs) required in Attachment C for Risk Level 1 discharges, Attachment D for Risk Level 2 dischargers, or Attachment E for Risk Level 3 dischargers (as applicable, based on final determination of the proposed project's Risk Level status [to be determined as part of the Notice of Intent for coverage under the Construction General Permit]). BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or similar guidance. BMPs shall include all measures necessary to prevent sediment from the project site from being discharged during drainage.	LTS
		The SWPPP shall include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations and, as appropriate, depending on the proposed project Risk Level, sampling of the site effluent and receiving waters. (Receiving water monitoring is only required for some Risk Level 3 dischargers.) If the proposed project is Risk Level 2 or 3, the project applicant shall also include requirements for Rain Event Action Plans as part of the SWPPP; a Rain Event Action Plan is a written document that must be prepared within 48 hours of any likely	

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p>precipitation event, describing actions that will be implemented to protect all exposed portions of the site from the predicted precipitation. BMPs shall include measures for dust control, erosion prevention, sediment control, construction vehicle traffic controls and tire washes, and material storage, spill prevention, and housekeeping protocols.</p>	
		<p><u>HYDRO-1b:</u> As a condition of approval for all grading and construction permits for the project site, the applicant shall prepare and implement a Stormwater Control Plan (SCP) for the project site consistent with all requirements of the MS4 National Pollutant Discharge Elimination System (NPDES) Permit as implemented by the Humboldt County Public Works Department. The SCP shall include, but not be limited to, BMPs designed into project features and operations to reduce potential impacts on surface water quality and to manage changes in the timing and quantity of runoff associated with development of the project site. The BMPs shall include Low Impact Development (LID) measures, such as minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source, to the maximum extent practicable. The potential for irrigation water runoff containing sediment or other contaminants will be addressed in the SCP, and any BMPs and LID measures to address irrigation water runoff will be included. Increased stormwater runoff may not be channeled or directed to flow across the traveled section of a County roadway, and drainage must be contained at the edge of the County road surface. Funding for the maintenance of all BMPs for the life of the proposed project shall be specified.</p>	
		<p>The combination of the two measures above would reduce this impact to a less-than-significant level.</p>	
<p><u>HYDRO-2:</u> Inadequate septic systems could potentially adversely affect groundwater and surface water quality.</p>	<p>PS</p>	<p><u>HYDRO-2:</u> As a condition of approval for building, grading, and construction permits at the project site, the applicant shall provide detailed plans for septic and wastewater disposal systems. The plans shall be prepared by a qualified professional and shall implement best available technology in the selection and installation of septic systems in compliance with state and county requirements. As a condition of approval for certificate of occupancy of the project site, the applicant shall provide evidence that the septic system is operating efficiently, that adequate capacity exists to address proposed site uses, and that a maintenance plan has been prepared and implemented for the system.</p>	<p>LTS</p>

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

	Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<b>LAND USE AND PLANNING</b>				
<u>LAND-1:</u>	The project would conflict with applicable Humboldt County General Plan policies adopted for the purpose of avoiding or mitigating an environmental effect.	PS	<u>LAND-1:</u> The project applicant shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would generally ensure that project conflicts with applicable Humboldt County General Plan policies would be reduced to less-than-significant levels. As indicated in Impact and Mitigation Measure AGFR-1, however, the loss of agricultural land that would result from the project would be a significant, unavoidable impact. The project's conflict with Humboldt County General Plan policies for protecting agricultural land would therefore be significant and unavoidable.	SU
<b>MINERAL RESOURCES</b>				
<i>No potentially significant impacts related to mineral resources would be anticipated as part of the proposed project development or operation.</i>				
<b>Noise</b>				
<u>NOISE-1:</u>	Concerts involving full (rock type) amplification during the large annual event, and medium-sized events with concerts involving medium amplification or loud acoustic bands in the Barnyard area, may exceed the County's short-term (L <sub>max</sub> ) land use and noise compatibility (CNEL) standards and increase ambient CNEL levels by 5 dBA or greater at some adjacent noise-sensitive (residential) receptors.	PS	<u>NOISE-1a:</u> A dispersed (satellite speaker) sound system around the stage and audience area of large amplified music events at the main stage in Area 4A and medium-sized music events at the western stage in Area 2 shall be used to lower point-source sound levels from that of a stage only speaker system. Sound levels needed to produce acceptable sound coverage of an audience with such a system are typically lower than those using stage-mounted speakers. <u>NOISE-1b:</u> The following sound level limits shall be employed for all outdoor events involving speech or voice/music amplification at the park: 1. Any outdoor speech or voice/music amplification at the main, secondary or southern stage areas in Area 4A after 10:00 PM shall be limited to a maximum noise level of 90 dBA at 100 feet from the sound source. 2. Any outdoor speech or voice/music amplification at the western stage in Area 2 after 10 PM shall be limited to a maximum noise level of 85 dBA at 100 feet from the sound source. 3. Daytime outdoor speech or voice/music amplification at the main, secondary or southern stage areas in Area 4A shall be limited to a maximum noise level of 95 dBA at 100 feet from the sound source; and 4. Daytime outdoor speech or voice/music amplification at the western stage in Area 2 shall be limited to a maximum noise level of 90 dBA at 100 feet from the sound source.	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p><u>NOISE-1c:</u> A Noise Management Plan, including the following provisions, shall be developed and implemented for use at the large- and medium-sized events that may generate noise levels in excess of the limits in the Humboldt County General Plan:</p> <ol style="list-style-type: none"> <li>1. The plan shall establish a position at which maximum event noise levels may be verified noise to show compliance with Mitigation Measure NOISE-1b;</li> <li>2. Park staff shall obtain and be trained in the use of a sound level meter so as to capable of determining compliance with noise limits;</li> <li>3. A member of the park's Board of Directors or management staff shall be designated as a complaint response coordinator and shall be responsible for responding to any local complaints about event-related noise;</li> <li>4. If noise complaints are received during any event, noise shall be monitored during the next (subsequent) event at the residence from which noise complaints were received, and appropriate measures identified to reduce the impact to a less-than-significant level; and</li> <li>5. Records of noise complaints shall be filed with the Humboldt County Planning Department at least once per year and included in any required annual report reviewed by the Planning Commission.</li> </ol>	
		<p><u>NOISE-1d:</u> The project shall be subject to the following annual reporting and review requirements:</p> <ol style="list-style-type: none"> <li>1. By December 31 of each year a medium-sized or large-sized event is held, the applicant shall prepare and submit 15 copies of a post-event report discussing that year's concert. Verification of attendance levels shall be discussed.</li> <li>2. The report shall focus on assessing the effectiveness of the plan of operation, mitigation measures, and monitoring program. The report shall also contain written correspondence from agencies participating in monitoring and/or affected by the event (i.e., Planning Department, Division of Environmental Health, Sheriff's Office, and Public Works).</li> <li>3. Responses to all concerns and issues identified in the report shall be provided and appropriate measures to be undertaken at the following year's event identified as needed. The annual report shall include sufficient data to assess the effectiveness of all required mitigation measures in relation to the total daily attendance and noise.</li> <li>4. The Humboldt County Planning Commission shall review the post-event report within 120 days of receiving the report. The total attendance levels for medium- and large-sized events shall be determined by the Planning Commission on an annual basis</li> </ol>	

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p>after review and approval of the annual report. The allowed attendance levels for medium-sized events shall range from a low of 800 to a maximum of 2,500 persons total. A large-sized event ranging from 2,500 to 4,000 attendees is not allowed until the Planning Commission has reviewed and approved two consecutive annual reports for medium-sized events with attendance levels of at least 1,800 persons. In consultation with the reviewing agencies, the Planning Commission may waive the annual reporting requirements for medium- and large-sized events for up to 5 years should the applicant demonstrate the use has been conducted in conformance with all the required mitigation, and no changes in attendance levels or mitigation measures are proposed.</p>	
	5.	<p>To address area concerns that may arise, the applicant shall hold a minimum of one community meeting in the vicinity of the site within 90 days of each large-sized event. This requirement may be waived by the Humboldt County Planning Director in consultation with the reviewing agencies if no significant community issues have been reported during that year's large-sized event.</p>	
		<p>The combination of the measures above would reduce this impact to a less-than-significant level.</p>	
<p><b>NOISE-2:</b> Project construction could result in a substantial temporary increase in noise.</p>	PS	<p><b>NOISE-2:</b> The following best management practices shall be incorporated into the project:</p> <ul style="list-style-type: none"> <li>▪ Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours of 7:00 AM to 5:00 PM, Monday through Friday, and to the hours of 10:00 AM to 5:00 PM, Saturday and Sunday.</li> <li>▪ Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.</li> <li>▪ Strictly prohibit unnecessary idling of internal combustion engines.</li> <li>▪ Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses. Temporary noise barriers could reduce construction noise levels by 5 dBA.</li> <li>▪ Use "quiet" air compressors and other stationary noise sources where technology exists.</li> <li>▪ Route all construction traffic to and from the project site via designated truck routes, where possible. Prohibit construction-related heavy truck traffic in residential areas, where feasible.</li> <li>▪ Designate a "disturbance coordinator," who would be responsible for responding to any</li> </ul>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
<p><b>POPULATION AND HOUSING</b></p> <p><i>The project would not have any potentially significant impacts on population or housing conditions.</i></p>		<p>local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.</p> <p>With the incorporation of these practices, the noise impact resulting from project construction would be reduced to a less-than-significant level.</p>	
<p><b>PUBLIC SERVICES</b></p> <p><i>The project would not have any potentially significant impacts on public services (fire protection, police, and schools).</i></p>			
<p><b>RECREATION</b></p> <p><b>REC-1:</b> The projects would include recreational facilities that might have an adverse physical effect on the environment.</p>	PS	<p><b>REC-1:</b> The project shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would ensure that the impact of recreational facilities included in the project would be reduced to a less-than-significant level.</p>	LTS
<p><b>TRANSPORTATION/TRAFFIC</b></p> <p><b>TRAFFIC-1:</b> The project would increase traffic volumes on area roadways. While the volumes associated with typical daily operation would be nominal, medium-sized and large events would generate substantial traffic that could result in a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation.</p>	PS	<p><b>TRAFFIC-1a:</b> As indicated in the Traffic Assessment Management Control Plan for the project, for events that are expected to exceed 1,200 attendees, flaggers shall be stationed at the intersection of Redwood Drive/Sprovel Creek Road at the conclusion of the event to direct traffic and to reduce delays.</p> <p><b>TRAFFIC-1b:</b> For events having more than 2,000 attendees, shuttle buses shall be employed to reduce the total number of vehicles leaving the site to a maximum of 700 outbound vehicles in a single hour.</p> <p><b>TRAFFIC-1c:</b> At medium-sized events, data regarding the number of attendees and resulting volumes of traffic shall be collected so that the number of trips can be monitored and thresholds adjusted if it is determined that attendance patterns or average vehicle occupancy are substantially different from what was assumed. These data shall be included in the annual report reviewed by the Humboldt County Planning Commission.</p>	LTS

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		<p><u>TRAFFIC-1d</u>: During the large festival events, on-site parking shall be limited to 500 spaces for attendees and 200 spaces for vendors and others working the event. While the vendors and others employed during the festival would likely remain on-site for an hour or more after the event concludes, the limited parking would ensure that the amount of traffic generated during a single hour results in trips that can be adequately handled by the street network. All other attendees would need to arrive by shuttle from off-site parking fields. It is understood that this is how the festival currently operates in Benbow, where there is substantially less parking than could be made available at the project site.</p>	
		<p><u>TRAFFIC-1e</u>: Festival parking passes shall be made available through advance purchase only, with a variety of purchase options, including buying them on-line or at the usual local ticket outlets where attendees purchase their event tickets. The number of parking passes that can be issued shall be limited for each day of the festival to 500. A separate pass shall be required for each day, with the passes to be displayed on the dashboard of the vehicle. The above requirements shall be addressed in the project's Traffic Management Assessment Control Plan (see Appendix E).</p>	
		<p><u>TRAFFIC-1f</u>: The project shall be subject to the following annual reporting and review requirements:</p>	
		<ol style="list-style-type: none"> <li>1. By December 31 of each year during which a medium- or large-sized event is held, the applicant shall prepare and submit 15 copies of a post-event report discussing that year's event(s). Verification of attendance levels shall be discussed.</li> <li>2. The report shall focus on assessing the effectiveness of the plan of operation, mitigation measures, and monitoring program. The report shall also contain written correspondence from agencies participating in monitoring and/or affected by the event (i.e., Humboldt County Planning Division, Division of Environmental Health, Sheriff's Office, and Public Works Department).</li> <li>3. Responses to all concerns and issues identified in the report shall be provided, and appropriate measures to be undertaken at the following year's event(s) identified as needed. The annual report shall include sufficient data to assess the effectiveness of all required mitigation measures in relation to the total daily attendance and traffic volume and intensity, and potential safety hazards to pedestrians and bicyclists.</li> <li>4. The post-event report shall be submitted to the Humboldt County Planning Commission for review. The total allowable attendance levels for medium- and large-sized events shall be determined by the Planning Commission on an annual basis after review and approval of the annual report. The allowed attendance levels for medium-sized events shall range from a low of 800 to a maximum of 2,500 persons total. A large-sized event ranging from 2,500 to 4,000 attendees is not allowed until the Planning Commission</li> </ol>	

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Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
		has reviewed and approved two consecutive annual reports for medium-sized events with attendance levels of at least 1,800 persons. In consultation with the reviewing agencies, the Planning Commission may waive the annual reporting requirements for medium- and large-sized events for up to 5 years should the applicant demonstrate the use has been conducted in conformance with all of the required mitigations, and no changes in attendance levels or mitigation measures are proposed.	
5. To address area concerns that may arise, the applicant shall hold a minimum of one community meeting in the vicinity of the site within 90 days of each large-sized event. This requirement may be waived by the Humboldt County Planning Director in consultation with the reviewing agencies if no significant community issues have been reported during that year's large-sized event.		The above combination of mitigation measures would reduce this impact to a less-than-significant level.	LTS
<u>TRAFFIC-2:</u> The project has the potential to conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	PS	<u>TRAFFIC-2:</u> Refer to Mitigation Measures TRAFFIC-1a through 1f and Mitigation Measures TRAFFIC-4a through 4e.	LTS
<u>TRAFFIC-3:</u> The project has the potential to increase safety hazards associated with access and circulation, especially in the Community Commons area (Area 4) of the site. Specifically, limited sight distance at any or all of the project driveways would result in a potentially unsafe condition.	PS	<u>TRAFFIC-3:</u> During events held in the Community Commons (Areas 4A and 4B), warning signs shall be posted along Sprowel Creek Road in advance of the driveway indicating that there is potentially stopped traffic ahead. While drivers would typically be able to make the left turn with little, if any, delay, this safety measure would ensure that there is adequate warning for drivers approaching the area.	LTS
<u>TRAFFIC-4:</u> The project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This is especially true for pedestrian use during medium- and large-sized events.	PS	<u>TRAFFIC-4a:</u> For medium-sized special events and the festival, a temporary marked crosswalk shall be created connecting the Tooby Memorial Playground to the Park Headquarters area. The crossing shall be placed to maximize sight lines, and during periods of peak usage, there shall be a crossing guard or flagger available to assist pedestrians and control traffic. This measure is included in the Traffic Assessment Management Control Plan (see Appendix E). <u>TRAFFIC-4b:</u> "Share the Road" signs shall be posted, and consideration given to installing "sharrows" to indicate the potential presence of cyclists. Sharrows are markings that include a cyclist and arrows, and they are placed in the lane to identify the road as a shared use facility. <u>TRAFFIC-4c:</u> For large festival events, accommodations shall be made either on the shuttle vehicles or by dedicated vans to ferry cyclists to the top of the hill on Sprowel Creek Road.	LTS

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		<p><u>TRAFFIC-4d</u>: Bicycle racks shall be included in each of the park's major entrances to encourage bicycle travel.</p>	
		<p><u>TRAFFIC-4e</u>: To facilitate shuttle bus users, a temporary shelter shall be provided during events that use a shuttle bus, both to protect attendees and to provide guidance as to the location of the shuttle stop.</p>	
		<p>The combination of the above mitigation measures would reduce this impact to a less-than-significant level.</p>	
<b>UTILITIES AND SERVICE SYSTEMS</b>			
<p><u>UTIL-1</u>: The project would require or result in the construction of new water facilities, the construction of which could cause significant environmental effects.</p>	PS	<p>The project shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would ensure that the impact of the proposed water facilities included in the project would be reduced to a less-than-significant level.</p>	LTS
<p><u>UTIL-2</u>: The project would comply with federal, state, or local statutes and regulations related to solid waste. However, The Humboldt County Division of Environmental Health has identified the potential for impacts resulting from the handling of solid waste and recycling at the project, especially during events attracting 500 or more attendees.</p>	PS	<p><u>UTIL-2</u>: The applicant shall submit a plan for the management of solid waste and recycling for events that would attract 500 or more attendees. The plan shall be subject to approval by the Humboldt County Division of Environmental Health. Prior to events attracting 500 or more attendees, the applicant shall manage solid waste and recyclables a manner consistent with the approved plan.</p>	LTS

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## 3. PROJECT DESCRIPTION

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This chapter describes the proposed Southern Humboldt Community Park (SHCP) project (the project) that is evaluated in this Draft EIR. This chapter provides information on the proposed project's location, objectives, existing and proposed facilities, construction techniques, maintenance, and permitting and entitlement requirements.

### 3.1 PROJECT LOCATION AND SITE CHARACTERISTICS

#### PROJECT SITE LOCATION AND LAND USES

The 405.7-acre project site is located in an unincorporated portion of southern Humboldt County, approximately 1 mile west of Garberville, at 934 Sprowel Creek Road at the intersection of Sprowel Creek Road with Kimtu Road (see **Figure 3-1**).

Tooby Memorial Park is located in the northeastern portion of the project site and has been in operation as a park for more than 50 years. The park is a well-used facility in southern Humboldt County. In 2008, use of the park by visitors was estimated at 42,000 visitor days per year. By 2012, park use had increased to an estimated 46,000 visitor days per year.

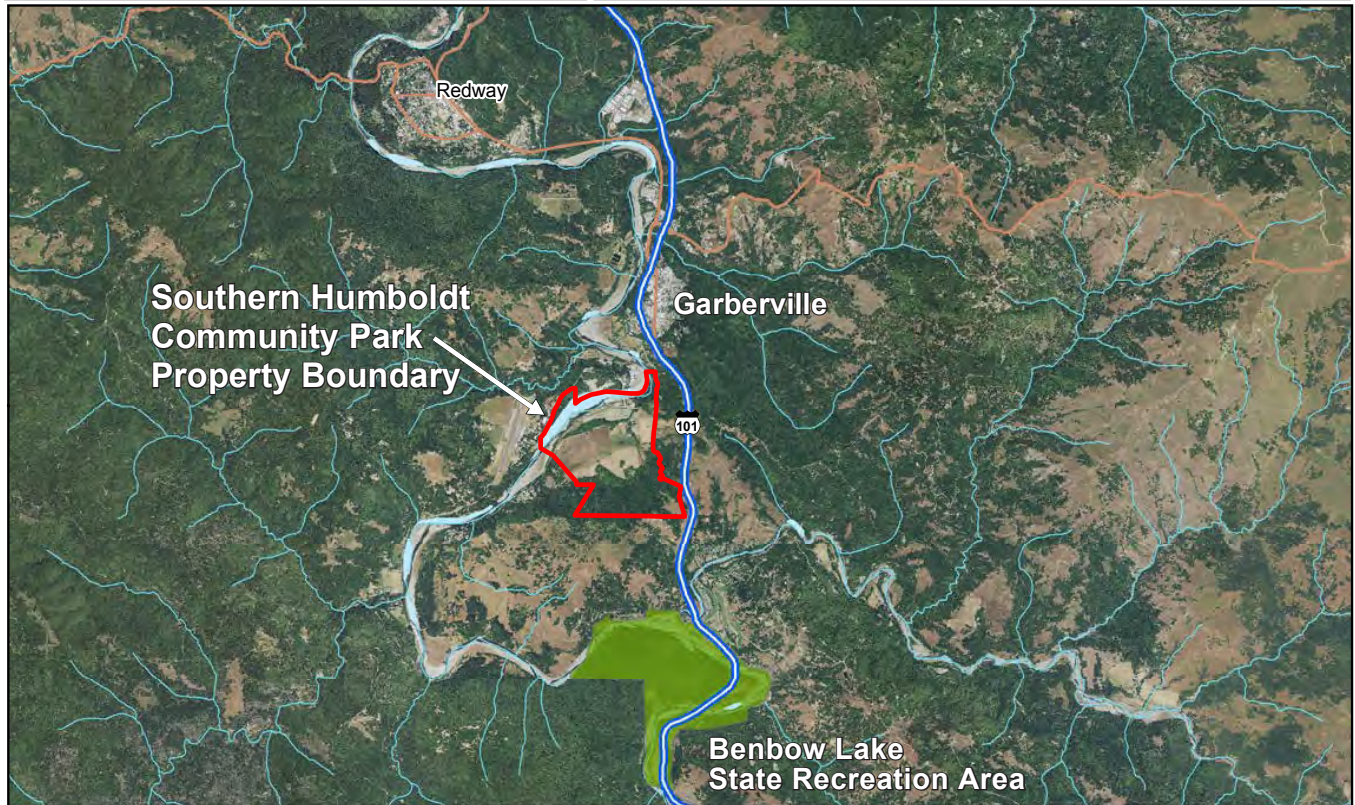
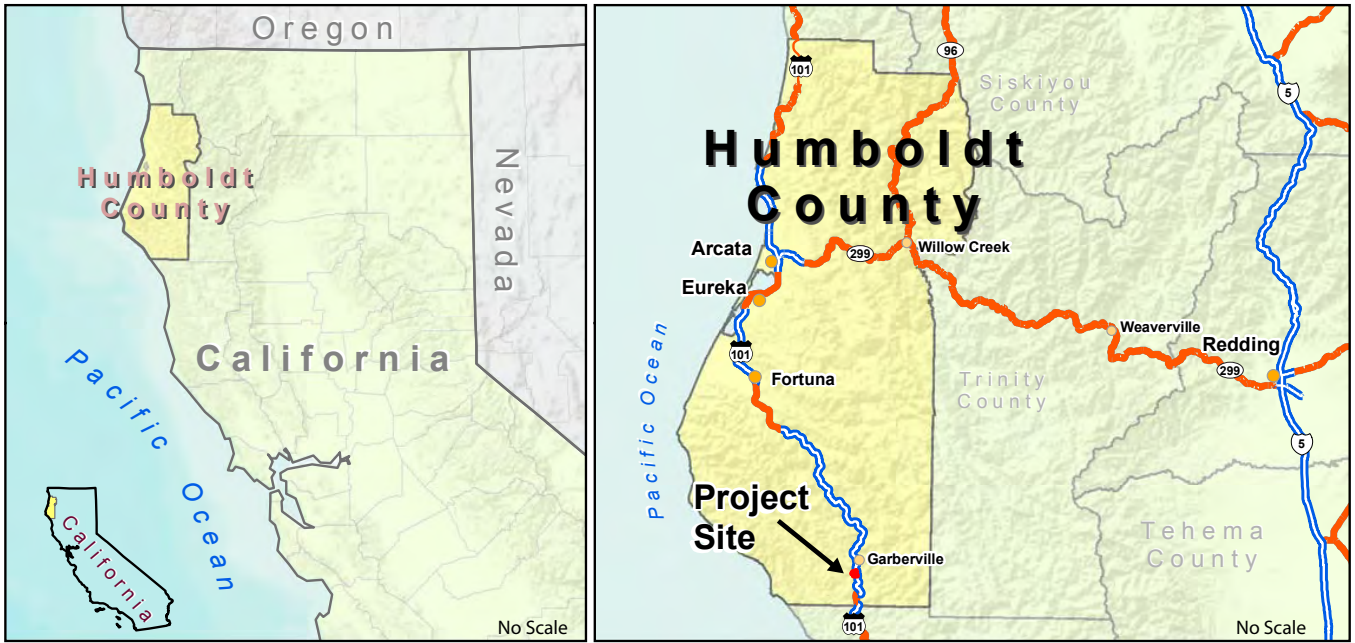
The project site includes aquatic and riverine habitats bordered by riparian vegetation as well as mixed deciduous and conifer forest, native redwoods, California Bay forest, non-native grasses, freshwater emergent wetlands, seasonal creeks, and prime farmland. The South Fork Eel River flows across the northern portion of the project site.

Most of the project site has been used for ranching and agricultural activities since the mid-1800s. Numerous dwellings and out-buildings are located on the project site. There are currently four people on-site including three caretakers and one resident.

As shown in **Figure 3-2**, the Humboldt County General Plan land use designations for the project site are IR (Industrial, Resource Related); AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres); and AL(20) (Agricultural Lands, one dwelling unit per 20 acres). The project site is zoned MH-Q (Heavy Industrial-Qualified) and AE (Agriculture Exclusive).

#### NEARBY LAND USES

Adjoining properties on the north side of the South Fork of the Eel River include a cluster of low-density, rural-residential, single-family-zoned properties; a single-family horse ranch; and an operational 36.3-acre surface mining, gravel, and shale extraction, storage, and processing facility that has a General Plan designation of Industrial, Resource Related (IR) and is zoned MH-Q. The property where the gravel mining facility is located is owned by the Southern Humboldt Community Park (the project applicant), but the separate parcel containing the mining operation is not a part of the proposed project.



SHCP Property Boundary  
 Counties

Limited Access  
 Highway  
 Major Road

+ Parks (Local)  
~ Streams

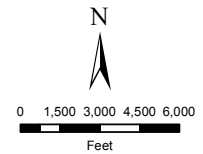


Figure 3-1

SOURCE: GHD, 2014

**REGIONAL AND PROJECT LOCATION**

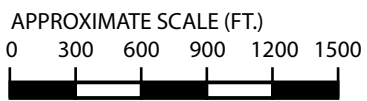
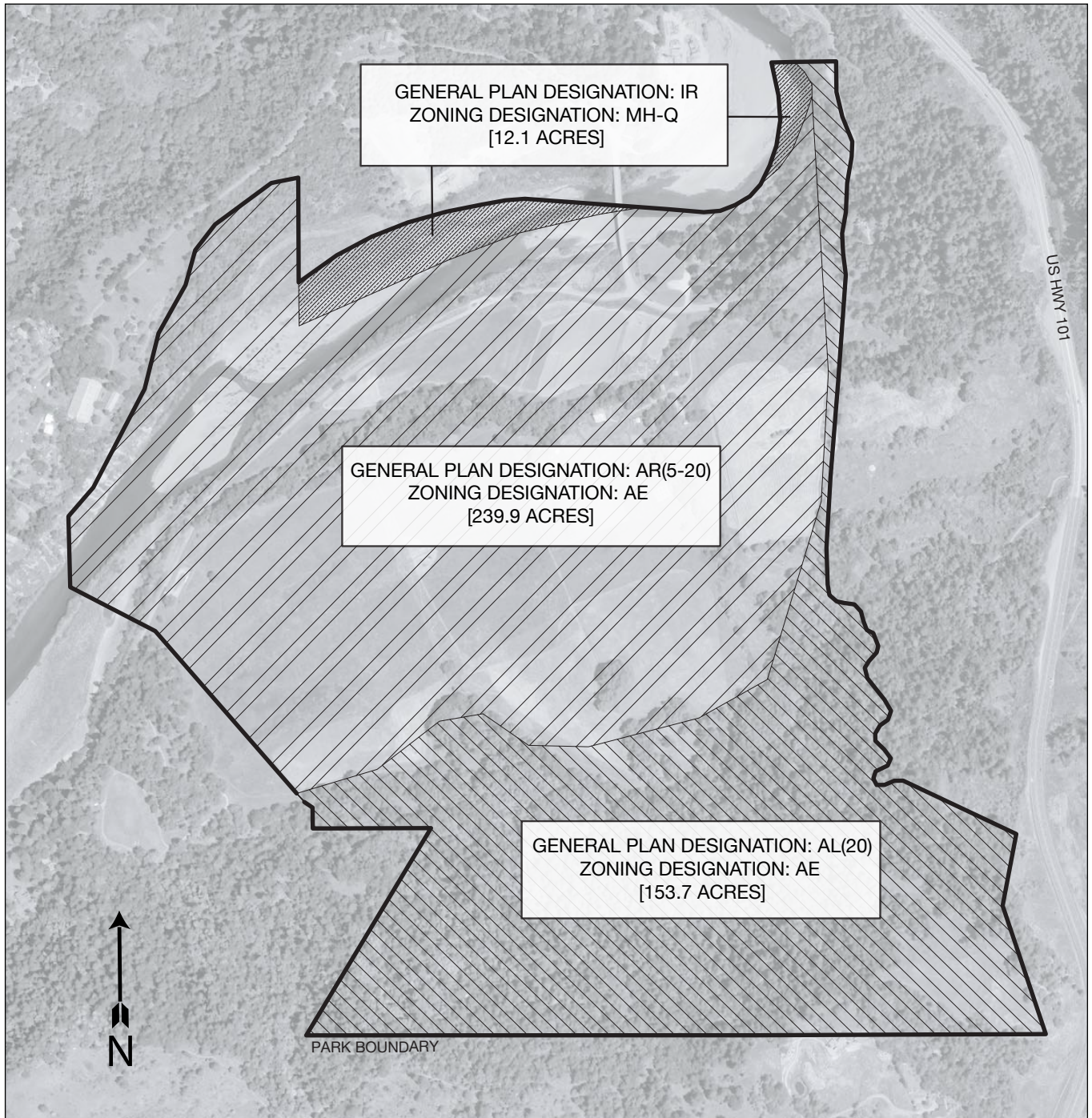


Figure 3-2

SOURCE: Huber C&D, 2014

**EXISTING GENERAL PLAN AND ZONING DESIGNATIONS**

To the east, the project site borders Highway 101 and a privately owned 80-acre parcel with a single-family residence, which is also the location of the new Garberville Sanitary District (GSD) potable water treatment facilities expansion. The water treatment facilities are also not a part of the proposed project.

To the west, the project site is bordered by a privately owned 70-acre undeveloped and unoccupied property.

Benbow Lake State Recreation Area (see Figure 3-1), located approximately 2 miles south of Garberville, offers nearby compatible recreational land use and public access opportunities.

## **3.2 PURPOSE, NEED, AND OBJECTIVES**

### **PURPOSE**

The purpose of the proposed project is to create the appropriate land use regulatory framework for continued use and enhancement of the existing infrastructure, resources, and other assets within the project site.

### **NEED**

The Garberville and Redway areas of southern Humboldt County have a limited supply of available community park facilities and do not currently have any land zoned to allow the development of a multi-use community park. Because of the mountainous topography of southern Humboldt County and the distance between population centers, the area has historically lacked community gathering spaces in close proximity to population centers. Although there are available federal, state, and county parks in southern Humboldt County, these generally lack the appropriate space, proximity to towns, and infrastructure to be well suited to community gatherings, events, and other recreational activities. Much of the flat land close to population centers was historically, and remains, in use for agricultural, commercial, and residential development and is zoned accordingly. This has led to an overuse of the few public areas close to population centers.

### **PROJECT OBJECTIVES**

Project objectives are the broad goals that support the proposed project and form the basis for evaluation of project alternatives. The objectives for the proposed project are as follows:

1. To establish a multi-use community park on land owned by the Southern Humboldt Community Park, a non-profit group established for the purpose of administering a local community park.
2. To create a balance between human uses and natural resource protections within the SHCP boundaries by promoting multiple compatible uses of the land that conserve the ecological, historic, agricultural, and scenic resources.
3. To retain and enhance existing infrastructure, resources and other assets of the Southern Humboldt Community Park to support recreational, entertainment, and community enrichment uses, including all the following uses:

- Social activities, cultural experiences, events, festivals, concerts and celebrations;
  - Multi-purpose trails and facilities for walking, bicycling, and equestrian use;
  - Interpretive riparian trail and interpretive features including trails, kiosks, and displays;
  - Organized sports and tournaments including disc-golf, soccer, baseball, and football;
  - Playgrounds, barbeque and food preparation areas, and picnic areas;
  - Environmental and educational facilities that can be used for trainings, workshops, group retreats, and sports camps;
  - River access for non-motorized boating and swimming; and
  - Community meeting rooms, and a community kitchen to prepare food for on-site uses.
4. To retain and enhance existing infrastructure, resources, and other assets to support agricultural and ecological restoration uses of the project site including:
    - Protection of prime farmland;
    - Farming, grazing and animal husbandry;
    - Sustainable agriculture community education;
    - Agriculture projects and agricultural production;
    - Water facilities to support project objectives;
    - Dry farming and water conservation practices;
    - Economically viable farming;
    - Community supported agricultural (CSA) projects;
    - Cooperative facilities for processing and storage of crops;
    - Restoration, forest management, and erosion control; and
    - Retain existing surface mining.
  5. To provide the appropriate land use regulatory framework for the uses listed above through changes in the zoning and Humboldt County General Plan land use designations of the site, and the approval of conditional use permit to allow community events with more than 800 attendees and special permits to create a two-lane entrance road and for small bridge installation.
  6. To retain transferable development rights provided through the existing mixed agricultural/residential land use designation AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres); and AL(20) as assets that could be transferrable to other properties in the County for a fee under a transfer of development rights program.

### 3.3 BACKGROUND

The project applicant is Southern Humboldt Community Park, a non-profit group established for the purpose of administering a local community park. Since the applicant took over ownership and operational responsibility of the project site in 2000, it has been working with the community to identify appropriate uses for the project site. In addition, the applicant has been working with Humboldt County to align the existing and proposed uses of the project site with the Humboldt County General Plan and Zoning Ordinance.

The applicant conducted extensive public outreach in its multi-year park planning process, including three initial public visioning events with 30 to 60 attendees in 2002; a series of four targeted public planning sessions beginning in 2008, with 40 to 200 attendees; and a 2012 survey of 425 individuals. This community input formed the basis for park planning efforts and shaped the proposed project.

In support of the project, the applicant commissioned preliminary technical and environmental work that included property surveys and more than a dozen special studies to gather information about the existing conditions on the project site. On November 10, 2009, the Humboldt County Board of Supervisors voted unanimously to accept a General Plan Amendment petition, which allowed the applicant to submit the application for the proposed project. The application was initially filed on May 22, 2010. The Notice of Preparation of the Draft EIR was released in August 2010. A community scoping session was held at the project site on September 9, 2010 to receive input on what should be included in the Draft EIR.

Since that time, the applicant and County staff have been working on the Draft EIR. The project site has continued to be used for resource production consistent with the existing zoning, and for small-scale community activities consistent with the historic use of the property. In 2011, it was estimated that there were more than 46,000 park user-days visits.

### 3.4 PROJECT SUMMARY

The project site includes a variety of existing facilities, structures, and land uses. Under the project, some of these would be continued and some would be changed. The discussions of existing and proposed uses below refer to the following subareas of the site:

- Area 1 – Tooby Memorial Park (8.2 acres)
- Area 2 – Park Headquarters (6.0 acres)
- Area 3 – Main Agricultural (127.1 acres)
- Area 4 – Community Commons (56.4 acres)
- Area 5 – Community Facilities/Sports Area (16.0 acres)
- Area 6 – Riverfront (77.0 acres)
- Area 7 – Forest Preserve (115.0 acres)

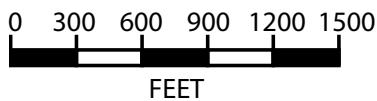
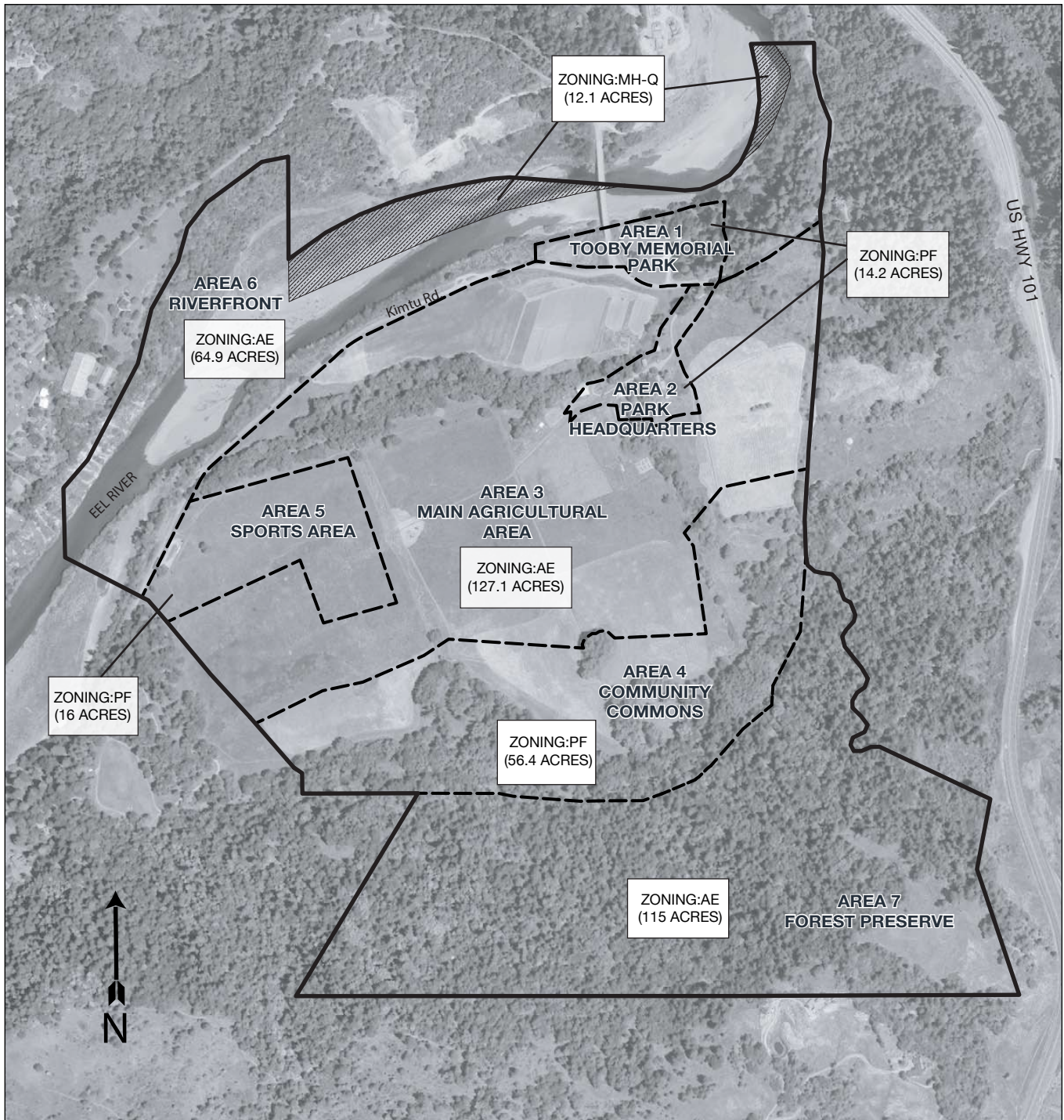
These seven subareas are illustrated in **Figure 3-3** and described in more detail in Section 3.5 below.

#### PROPOSED CONTINUED USES OF EXISTING FACILITIES

The proposed project would retain the following existing facilities, with some modifications.

##### Agricultural Facilities

Portions of the site have been used historically and are currently used for agricultural activities. Since agricultural activities would continue as part of the proposed project, most of the existing agricultural buildings would remain in use. Existing uses include the production, processing, and storing of agricultural products. In the Park Headquarters (Area 2), an existing large two-story barn, a small two-story barn, a chicken coop, and a horse stable with tack room and covered storage area would remain in use with no significant physical alterations. Agricultural processing would continue in the main, two-story barn. An existing refrigeration unit is next to the main barn. A small existing tool shed in the Park Headquarters is used as a farm stand. In the Main Agricultural Area (Area 3), existing greenhouses and storage sheds would remain in use. There are two unserviceable structures in Park Headquarters (Area 2): the scale house and the slaughterhouse. There are



PF = PUBLIC FACILITIES  
 AE = AGRICULTURE EXCLUSIVE  
 MH-Q = HEAVY INDUSTRIAL

Figure 3-3

SOURCE: Huber C&D, 2014

**PROPOSED ZONING AND SITE AREAS**

no proposed uses for these two structures. Existing livestock fencing in the Park Headquarters and in the Main Agricultural Area would be maintained. Existing community uses currently taking place in the barnyard include weddings, memorials, nature study, agricultural study, and workshops and classes.

The following existing uses would be continued and are consistent with the historical use of the property:

- Production of food, fiber, plants, and timber;
- Continued agricultural use of existing structures: two barns, greenhouses, outbuildings, chicken coop, stables, and farm stand;
- Cottage industry, such as value-added farm products, food products, nursery, or seed production which will require that the Public Facility (PF) zone be added to the cottage industry ordinance;
- General agricultural production;
- Continued use of horse stable facilities for fewer than six horses;
- Agricultural products processing; such as post-harvest handling and market preparation;
- Agricultural storage and refrigeration;
- Watershed, forest management, and restoration; and
- Equestrian uses.

### **Recreational and Community Facilities**

Within Tooby Memorial Park (Area 1), existing playground equipment, a picnic area, barbeque pits, and benches dating to the 1960s would remain for public use. This area has been used for public recreation, swimming, boating, ad hoc sports games, community gatherings and events for many decades. Additional existing picnic areas located in the Main Agricultural Area (Area 3) and Community Facilities/ Sports Area (Area 5) would also be retained. Approximately 3.5 miles of existing unpaved trails, dating to 2002, throughout the park would remain in use. Other existing visitor uses of the park, under the current agreement with Humboldt County Planning Department, exist and would continue in Areas 3 through 5. These include hiking, biking, horseback riding, disc golf course dog walking, nature study, forest, habitat and streamside restoration, agricultural study, workshops, classes, weddings, and memorials.

The existing disc golf course in Areas 3 through 5 would also be retained. An existing labyrinth pathway in the Main Agricultural Area (Area 3) would continue to be used during weddings and memorials. Existing benches, way-finding signs, and interpretive signs throughout the park, in addition to two kiosk/shade structures (one in the Park Headquarters and one at the Community Facilities Area) would be retained. Existing portable toilet facilities, which have been placed in several areas of the park, would continue to be necessary.

### **Transportation/Parking**

A network of existing park service roads is currently used by park staff, by hikers and bicyclists, and for agricultural machinery and vehicles; these roads would remain in use. All existing roads



and existing permanent unpaved parking areas in Tooby Memorial Park (Area 1), Park Headquarters (Area 2), and the Community Facilities/Sports Area (Area 5) would be retained. There are several unpaved parking areas that are currently used by park visitors approximately once per month to facilitate events in the Park Headquarters, the eastern portion of the Main Agricultural Area (Area 3), along Kimtu Road (Area 6), and in the Community Facilities/Sports Area (Area 5). These areas would continue to be used as a part of the project.

### **Residential Facilities**

There are currently four residential units on the project site. These existing structures consist of a large ranch/farm house serving as a caretaker's unit, a one-bedroom cabin, a two-bedroom bunk house in the Park Headquarters (Area 2), and a small mobile home/caretaker's unit in Tooby Memorial Park (Area 1). These residential units are used for housing caretakers and farm workers or are rented, and would continue to be used similarly as part of the project. Portions of some of the existing residential facilities may be converted for additional park uses. Use conversion may include minor physical alterations, repair, and maintenance of existing structures. Existing structures may be used as office spaces, meeting spaces, and a community kitchen.

### **PROPOSED NEW USES**

Proposed physical changes to the project site would allow expanded and new opportunities for use of the park, including community enrichment events, agricultural uses, and a variety of proposed recreational uses including organized sports, disc golf, specialty group camping, educational classes, workshops, camps, and ecological restoration uses, as discussed below. New proposed uses include community assembly as part of the everyday allowable uses. Additional proposed park uses range from birthday parties, weddings, and memorial services to non-profit fundraisers, concerts, sporting events, tournaments and a festival. The park serves an important role as a place for community interaction and as a gathering place for a wide range of activities.

### **Agricultural and Ecological Restoration Uses**

Agricultural use has been an important part of the history of the Tooby Ranch and is ongoing under existing park management. The project proposes community uses of existing agricultural land to increase the productivity of the land by allowing multiple farmers, community groups, and individuals to use the land and existing facilities. Collaborative use of agricultural land and facilities would allow a greater level of community participation and cooperation in farming and agricultural production. This would also assist multiple farmers in sharing basic set-up costs to make farming more profitable. Park management proposes ongoing restoration activities aimed at watershed and forest improvements as part of ongoing maintenance and stewardship of the land.

### **Recreational and Educational Uses**

The park would be used for many educational purposes including workshops, forums, classes, meetings, educational camps, and agritourism. Additional community uses, such as workshops and classes, would also take place in the park. New proposed recreational uses would include a wide variety of recreational uses such as organized sports, an environmental camp for specialty groups, recreational sports, and educational camping. In addition, the existing park uses of hiking, bicycling, horseback riding, bird watching, skate ramp, disc golf, and dog walking allowed under

current agreement with Humboldt County would be expanded through additional trails, a bike park, a new skate park, and a dog park

In addition, the various existing and proposed sports and recreational facilities would host tournaments for multiple teams. This could include bicycling and disc golf events using existing facilities and new facilities.

### **Proposed New and Modified Uses of Existing Park Facilities Uses**

The project would allow the modified use of existing structures for additional community purposes. The existing ranch/farm house and garage would be modified to include community meeting rooms, offices, and kitchen facilities. The ranch house would also retain living quarters.

Remodeling the existing ranch/farm house and garage would create the Park Headquarters offices and a community center facility. The remodeled spaces would be used as a community center, community kitchen, educational, and spaces for meetings, workshops and park offices.

### **Proposed New Facilities**

Proposed new facilities would include facilities for organized sports such as baseball, soccer, football, and other similar sports and recreational uses. Additional trails, bicycle park, dog park, and a skate park would be added for public recreation uses. Concession and equipment facility, modification of existing water system, restrooms and portable toilets would be added.

### **Events**

Various small events, as well as five medium-sized events per year and one festival per year, are proposed as part of the project.

#### *Small Events*

The following small events (attendance under 800) would occur under the project and would be considered allowable within the number of visitors allowed at the park daily based on the type of event held:

- **Birthday parties and informal gatherings.** With attendance typically ranging from 10 to 50 people, Tooby Memorial Park (Area 1) and the large barn in the Park Headquarters (Area 2) have been favorite gathering places for family birthday parties, BBQs, and similar events. Tooby Memorial Park has served as a location for these types of events for more than four decades. These types of gatherings often have amplified music such as radios or portable personal music players. These events typically end at sunset. This type of activity would continue with the proposed project, with no limit on the number of these types of events annually.
- **Weddings and memorials.** Many weddings and memorial services for community members have taken place at the park. These events would continue in Tooby Memorial Park (Area 1), the Park Headquarters (Area 2), the Community Commons Area (Area 4), and the labyrinth in the Main Agricultural Area (Area 3). Weddings could include low-key amplified music such as one musical group or a DJ using a small public address amplification system at 65 decibels or

less. These events would typically end at sunset, but a few each year may continue until midnight. Attendance would be 500 people or less and would be within the daily visitor allowance at the park.

- **Small fundraisers and events.** Many local non-profit organizations and park user groups have used the park for fundraising activities. A few examples include the Hospice Barnyard Brew, the Egg Hunt, the Walk in the Park (fundraiser for the local schools and the park) and mountain bike races. These are well-attended events that bring a wide range of community members and interests groups together at the park. Most of these events include a variety of types of amplified music including prerecorded and live performances. Small events with amplification could also take place at Tooby Memorial Park (Area 1), the Park Headquarters (Area 2), and the Community Commons and the wedding grove (Area 4), due to their size and setting. The sound level produced during such a small event would be 71 decibels at 500 feet from the performance areas. These events would typically end at sunset, but a few each year may continue until midnight with a maximum attendance of 800 people and would be within the number of daily visitors allowed at the park.

These small events would be considered as public assembly uses under the proposed new zoning and would not require a special conditional use permit or be limited in the number of events. These types of events would be allowed to occur all year. They would occur seasonally, most often during late spring, summer, and early fall months. The majority of these small events would occur between sunrise and sunset, with a few events each year going to midnight.

#### *Medium-Sized Events*

This type of event often features multiple performers and performances by well-known groups or individuals that would likely attract more attendees than small events. These events could cover a wide range of musical genres, theater, dance performances, and concerts. These events would take place in the Community Commons (Area 4). Attendance would be 800 to 2,500 people daily in addition to staff and vendors. Not more than five of these medium-sized events would occur per year. Parking would occur on-site on approximately 6 acres. For events with more than 2,000 attendees, shuttle buses would be used and public parking in the towns of Garberville and Redway would be utilized. These events would be included in the proposed conditional use permit.

#### *Festival/Large Event*

The park would host a festival-sized event annually. Attendance would range from 2,500 to 5,000 people per day. The event would occur once per year and be no longer than 2 days. The event would be a family-friendly event that features a unique blending of local and regional musicians on three outdoor stages, roving entertainers, quality artisans displaying and selling wares, exhibits of fine arts displays, international cuisine, and on-site educational workshops. The attendance would fluctuate over the course of the day and the total number of attendees on the site at any one time would be less than the 1-day total. Actual attendees would cap at 4,000 per day, with an additional 1,000 staff, vendors, and entertainers on-site.

The event organizers would encourage attendees to park in street side parking spaces available in the towns of Redway and Garberville and ride shuttle buses, a system that has been successfully used by the Mateel Community Center's Summer Arts and Music Festival for decades. The event would have the same (or lesser) street parking needs as the Summer Arts and Music Festival

(Justin Crellin, General Manager Mateel Community Center). Street parking in Redway and Garberville is well proven to be adequate for off-site parking for an event of this size. On-site parking would be available and would be limited to 500 attendee vehicles and 200 vehicles for staff and vendors, for a total of 700 vehicles. This event would be included in the proposed conditional use permit.

### **PROPOSED GENERAL HOURS OF OPERATION**

The park would be open to the general public from dawn to dusk all year, as it is currently. Prearranged special events may run until midnight. By advanced arrangement with park staff, Area 4 the Environmental/Educational Camp would have overnight camping.

### **ANTICIPATED NUMBER OF VISITORS**

The proposed improvements included in the project are expected to increase the number of visitors by an estimated 800 persons per day during the peak seasons (late spring, summer, and early fall). Additional visitors would be allowed at the park for special events under a conditional use permit. Under the conditional use permit, one annual event per year with up to 5,000 attendees (4,000 guests plus up to 1,000 staff, vendors and performers), and up to five events per year with 800 to 2,500 attendees (including staff, vendors and performers) are proposed.

### **ANTICIPATED NUMBER OF NEW EMPLOYEES**

When the project is in full operation (anticipated in 3 to 5 years), it would likely result in four full-time permanent employees.

## **3.5 PROPOSED LAND USES BY AREA**

Due to the large size of the project site, the project plans address subareas of the site. The site has been divided into the following seven subareas, as shown in Figure 3-3:

- Area 1 – Tooby Memorial Park (8.2 acres)
- Area 2 – Park Headquarters (6.0 acres)
- Area 3 – Main Agricultural (127.1 acres)
- Area 4 – Community Commons (56.4 acres)
- Area 5 – Community Facilities (16.0 acres)
- Area 6 – Riverfront (77.0 acres)
- Area 7 – Forest Preserve (115.0 acres)

Each of these subareas is discussed in more detail below.

### **AREA 1 – TOOBY MEMORIAL PARK (8.2 ACRES)**

Area 1, Tooby Memorial Park, is designated in the Humboldt County General Plan as AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and zoned as Agriculture Exclusive (AE). The proposed project would change the General Plan designation of

this area to a new designation, Public Recreation (PR), and change the zoning to a new zone, Public Facility (PF).

### Existing Facilities

Area 1 has functioned as a public park since the 1960s. Existing facilities include a playground with playground equipment located in an approximately 11,500-square-foot fenced area (see **Figure 3-4**). An additional 6,500-square-foot area includes picnic tables, barbecue pits, and a large area for parking. The Tooby Park area also includes public beach access to the South Fork of the Eel River and is a popular swimming site in the summer. There are existing trails throughout this area that would continue to be used by the public, such as an existing pedestrian trail (375-foot gravel path) between Tooby Memorial Park and the 45,000-square-foot parking area within Area 1, to the west of the Sprowl Creek Bridge. There are existing trails and a bridge extending from Tooby Park (Area 1) to the redwood grove along the northwestern corner of Riverside Area (Area 6) adjacent to Sprowl Creek Road. Signage, fencing, gates and existing landscaping also are currently in place. Portable toilets and trash service are currently available at the site. A caretaker residence (a 192-square-foot trailer) is also on-site.

### Proposed Facilities

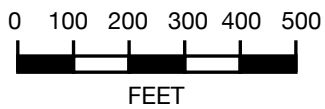
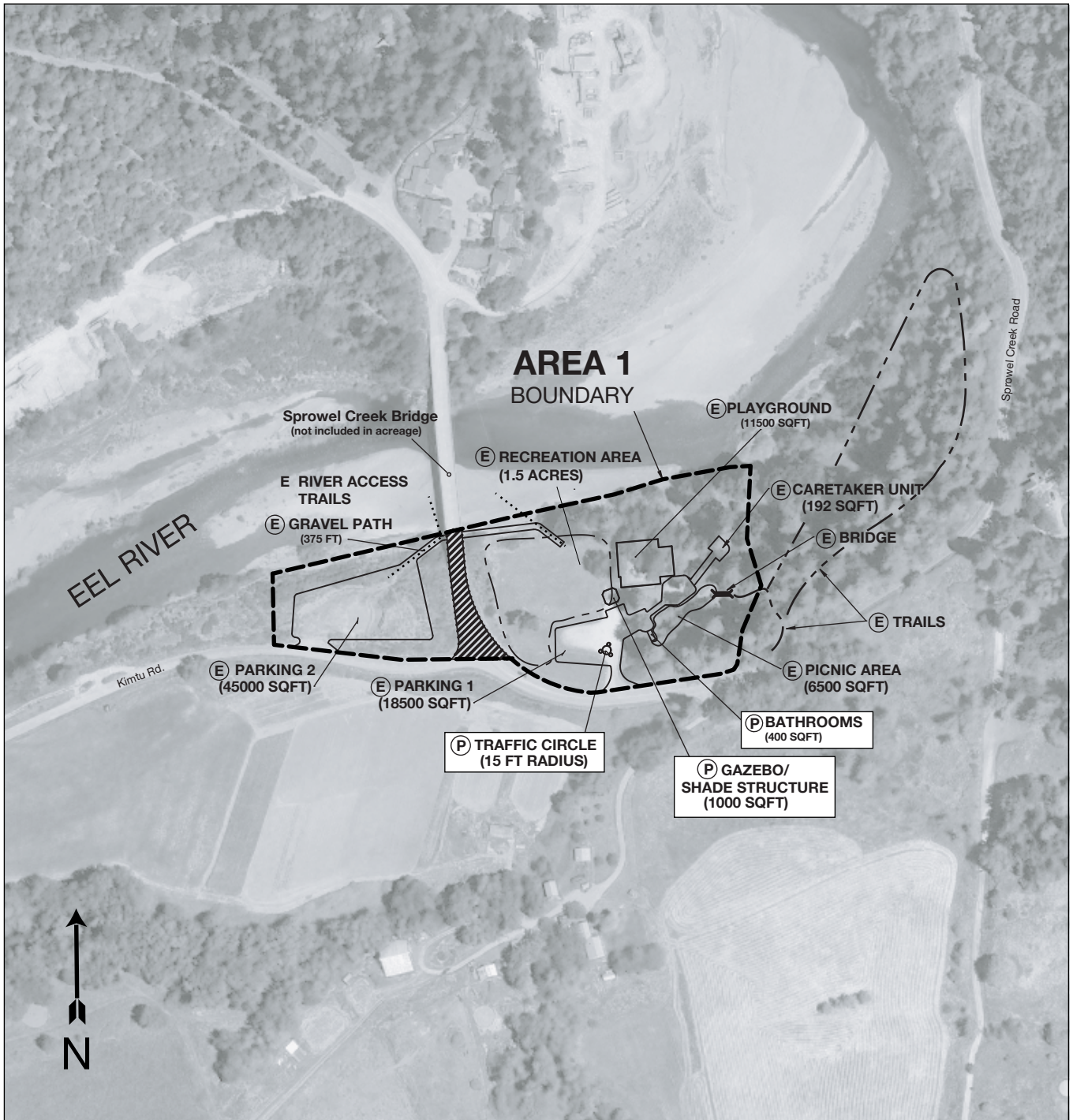
The proposed work in this area is to upgrade, improve, and maintain existing facilities. The following reconfigurations and new facilities are proposed (see Figure 3-4):

- A 1,000-square-foot, 12-foot-tall gazebo/ shade structure would be installed.
- A 400-square-foot (40-foot by 10-foot) bathroom would be installed.
- A drinking fountain would be installed.
- The existing parking lot (65 cars) would be reconfigured for safety.
- A traffic circle would be created and gateway signage would be installed.
- The existing flat parking area on the west side of the Sprowl Creek Bridge would be reconfigured and used for overflow parking (45,000 square feet). (Existing gravel storage would remain an allowed use.)
- The existing 100-foot-long dirt footpath to the beach would be improved with wooden steps from the playground and parking lot area and would improve access for non-motorized boating.
- The addition of up to 10 additional play structures total would be added, the existing fenced playground area would be expanded and within the 1.5-acre recreation area.

The new construction listed above would involve minimal grading, and heavy equipment would be limited to less than one single dump truck and small tractor.

### Access

Access to Tooby Park is on Sprowl Creek Road approximately 1 mile from Garberville. The existing parking area would be reconfigured with a traffic circle and shade trees. Overflow parking



- (E) EXISTING
- (P) PROPOSED
- ..... PATH/TRAIL
- PROPOSED USE

Figure 3-4

SOURCE: Huber C&D, 2014

**AREA 1: TOOBY MEMORIAL PARK (8.2 ACRES)**

may be used on the west side of the Sprowel Creek Bridge in an existing large flat area within Tooby Park (Area 1).

### **Lighting**

Outdoor lighting is proposed at the existing caretaker's residence and at the restrooms. Temporary lighting would be used on special occasions that continue beyond dark. Solar and battery-powered lighting options would be used whenever possible.

### **Changes to Existing Agriculture**

Tooby Park (Area 1) has been operating as a park for more than 50 years and, as such, has not been used for agricultural production during that time. There are no current agricultural uses of Area 1, and no new agriculture uses are proposed.

### **Gravel Operation**

Areas within and near Area 1 are currently leased by Randal Sand and Gravel for harvest of gravel, sand, and shale. The section of Area 1 on the west side of the Sprowel Creek Bridge is currently used as a stock pile for gravel. This use would remain the same and would continue to be allowed within Area 1.

### **Removal of Vegetation**

No removal of trees or vegetation is proposed in Area 1.

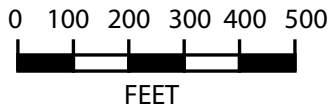
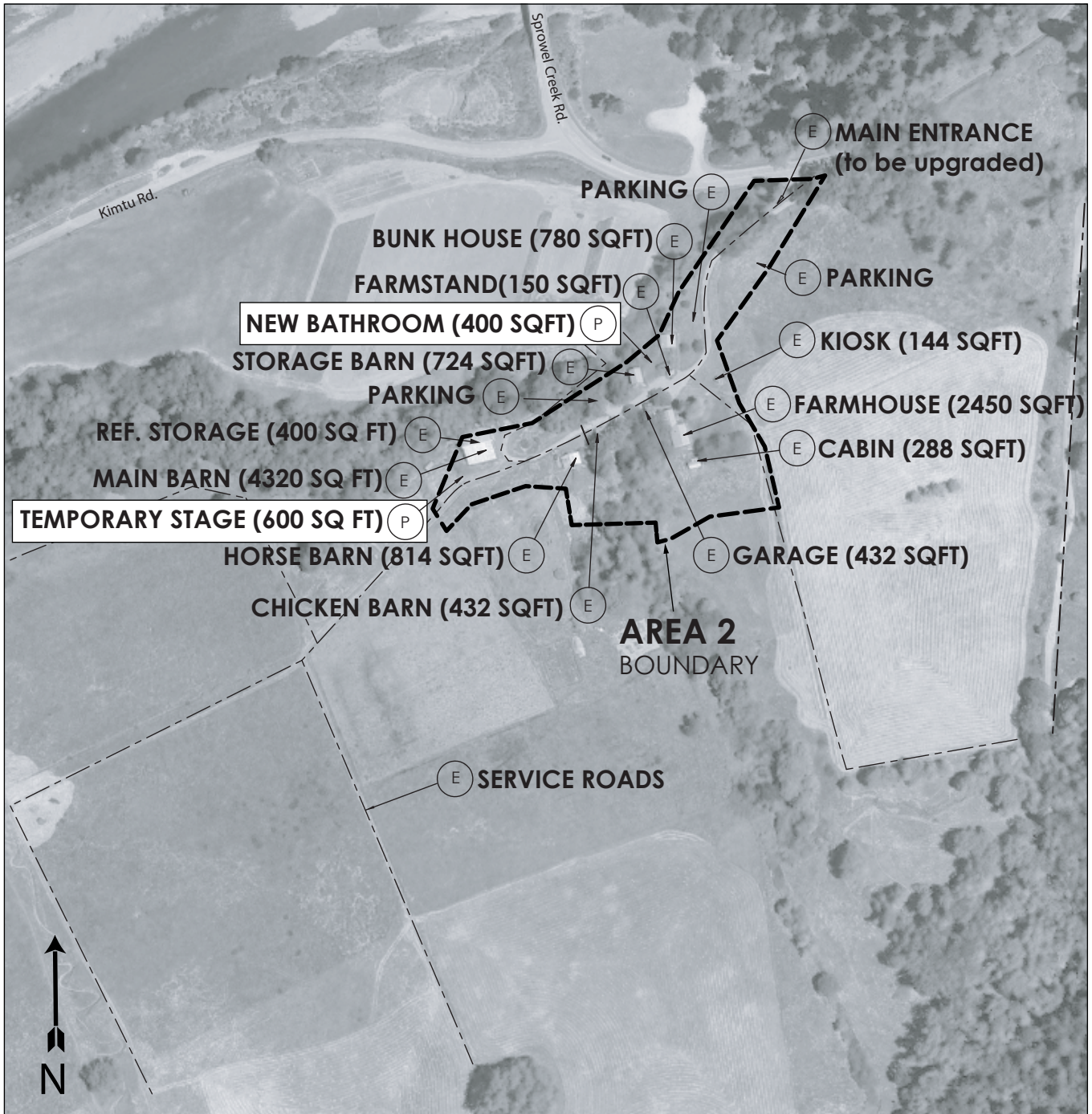
## **AREA 2 – PARK HEADQUARTERS (6 ACRES)**

Area 2, Park Headquarters, is designated in the Humboldt County General Plan as AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and zoned as Agriculture Exclusive (AE). The proposed General Plan designation is Public Recreation (PR) and the proposed zoning is Public Facility (PF).

### **Existing Facilities**

Area 2 includes most of the existing structures from the old ranch (see **Figure 3-5**). Area 2 contains 13 existing permanent ranch and residential structures. Several of the buildings are in poor to very poor structural condition. These structures and their existing uses include:

- Main ranch/farm house—caretaker's unit (2,241 square feet) currently in residential use;
- Secondary house/cabin (300 square feet), currently unoccupied;
- Bunk house (624 square feet) currently in residential use;
- Farm stand (96 square feet) for sale of produce;
- Chicken coop with loft (633 square feet) used for raising chickens;
- Garage (432 square feet) currently used as a workshop;



- (E) EXISTING
- (P) PROPOSED
- SERVICE ROAD
- PROPOSED USE

Figure 3-5

SOURCE: Huber C&D, 2014

**AREA 2: PARK HEADQUARTERS (6 ACRES)**



- Horse barn including tack room, stables, and storage (576 square feet) used for horses, livestock, and equipment;
- Small barn with loft (1464 square feet total) used to store farm equipment;
- Large, modern, two-story hay barn (4,320 square feet footprint with 7,503 square feet total) used for hay storage, park and farm equipment, and community gatherings;
- Refrigeration container (400 square feet);
- Existing parking along the park entrance road and past the main barn accommodating 150 cars;
- 10-foot by 20-foot greenhouse of aluminum construction with plastic covering; and
- A central underground hub for the water delivery system that runs throughout the park.

There are existing trails throughout Area 2 that would continue to be used by the public. Existing uses include residential uses and housing for caretakers and farmworkers working within the project site.

### **Proposed Facilities and Construction**

The following are the proposed uses for Area 2:

- A 400-square-foot, 12-foot-tall bathroom facility would be installed near existing structures and parking area.
- A 20-foot by 30-foot (600-square-foot) temporary performance stage would be installed near the large barn.
- The existing main entrance and driveway to the Park Headquarters would be upgraded to create an additional lane and accommodate two-way traffic. The upgraded entrance driveway would be 15 feet wide and less than 500 feet in length. The existing driveway is tree-lined; all existing trees would be retained and a lane would be added with a gravel surface. A 25-foot-wide paved encroachment exists at this entrance.
- Remodeling of the existing ranch/farm house and garage to create Park Headquarters offices and a community center. The existing 2,241-square-foot structure would be remodeled and would be phased. The remodeled spaces would be used as community, educational, and civic spaces for meetings, workshops, and park offices. The phases would be as follows:
  - The large modern main barn (4,320-square-foot footprint with 7,503 square feet total) would have structural improvements required to allow for dual use of the facility. Community uses of the main barn would be in addition to the existing agricultural uses. The Phase 1 remodel would repurpose the existing utility shed, bathroom, and kitchen area as the Park Headquarters office, public kitchen, and meeting rooms. The remodel would include 1,150 square feet of the ranch/farm house. The remaining footage in the ranch/farm house would continue to be residential. The existing two-car garage (482 square feet) would be fully converted to a multi-purpose meeting classroom space and community center.
  - The Phase 2 remodel would include the remaining area in ranch/farm house to be used for additional park offices and public meeting spaces.

- An unoccupied cabin (300 square feet) behind the farm house would be remodeled for offices.
- New fencing would be added (and existing fencing repaired) for livestock and public safety and to protect riparian areas.
- Existing vehicle parking for daily park users along the park entrance road would be more clearly defined with fencing, such as split rail. Existing unpaved parking now accommodates 75 cars. There is existing staff parking for events near the main barn that accommodates 75 cars.
- Designated fields within Area 2 would be used as temporary parking areas to accommodate an additional 150 cars during activities and events. No paved parking is proposed.

Portions of the existing 3-bedroom, 2,450-square-foot main farm house, the 288-square-foot cabin, and the 432-square-foot garage may be remodeled to accommodate new uses in addition to residential uses. Use conversion may include physical alterations of existing structures to accommodate offices, meeting spaces, a community kitchen, restrooms and reconfigured residential uses.

The project would continue to use 7,503-square-foot, two-story main barn for community gatherings and events. Agricultural processing (processing of row crops such as onions, garlic, beans, and hay storage) would also continue in this barn.

Ranch buildings such as the main ranch house, the secondary unoccupied house, the garage, and the modern hay barn would have additional Park Headquarters uses for offices, meeting spaces, and other community uses.

### **Existing Agricultural Uses**

All existing agricultural uses would continue in this area. This includes the use of the stable, horse barn, paddocks, and chicken coop for livestock. Equestrian activities and grazing would continue to take place in the corrals and pastures within and surrounding the Park Headquarters. Additional acreage may be cultivated in the future for general agricultural purposes. Existing storage and refrigeration facilities would continue to be used to support agriculture. A small existing farm stand at the Park Headquarters would continue to be used for sale of agricultural products. Agricultural processing (i.e., processing of crops such as onions, garlic, beans, and seeds), related cottage industry such as value-added farm products, food products, nursery, or seed production and sales yards of agricultural and similar related products would continue to be allowed in this area. Existing small greenhouses in the Park Headquarters area would continue to be used as well as the gardening areas adjoining the residences. Existing uses include housing and camping for farmworkers (at the current bunkhouse and cabin when those facilities are available) working within the project site.

### **Proposed Community Uses**

The Park Headquarters (Area 2) will be used for a variety of new uses and community activities. These include administrative office uses, classes, meetings, workshops, study groups, educational, recreational uses, and community assembly for weddings, memorials, parties, small and medium

sized events, sporting tournaments, and equestrian activities and events. A kitchen facility will allow on-site preparation of foods and processing of agricultural products.

### **Access**

Access to the Park Headquarters is via the existing main entrance and driveway from Sprowel Creek Road approximately 1 mile from the town of Garberville. This access to the Park Headquarters area is the main entrance to the park. The main entrance is one of three public entrances to the park. A series of existing ranch service roads connect this area to other areas of the community park. Service roads would not be available for everyday park use by the general public.

### **Lighting**

Standard outdoor lighting may be installed at and between the existing buildings. Additional solar and battery-powered lighting options would be used where possible. The new construction and remodeling of existing structures would involve minimal grading. Use of heavy equipment would be limited to a single dump truck and small tractor, similar to construction of one single-family residence.

### **Removal of Vegetation**

Removal of vegetation would include invasive species such as Himalayan blackberries and Scotch broom that are encroaching on existing facilities. No tree removal is planned.

## **AREA 3 – MAIN AGRICULTURAL AREA (127.1 ACRES)**

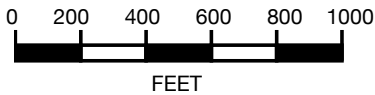
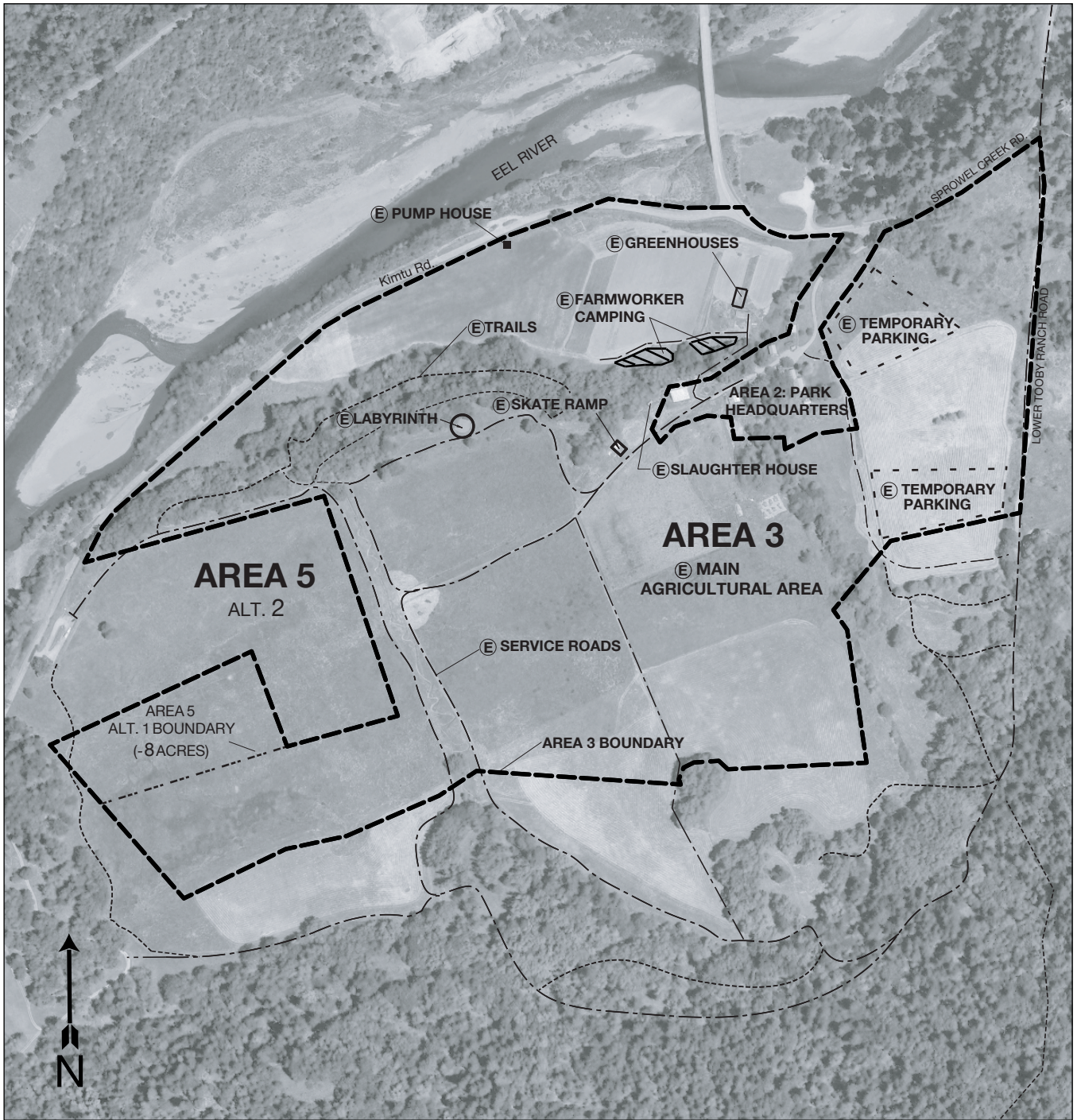
The existing General Plan designation for Area 3, Main Agricultural Area, is AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and the existing zoning is Agriculture Exclusive (AE). The proposed General Plan designation is Public Recreation (PR) and the proposed zoning is Agriculture Exclusive (AE), Qualified (Q) zone. A Qualified zone would provide allowance for recreation activities in the AE-zoned area.

### **Existing Facilities**

The majority of Area 3 is proposed for continued agricultural use along with additional compatible recreational uses (see **Figure 3-6**). The project would maintain the current agricultural uses and cottage industry uses and expand them to include additional general agricultural uses. The lower farm field location (referred to as the Main Agricultural Area) is approximately 15 acres and is currently used for row crops. This use would continue.

Area 3 is not irrigated with the exception of the lower farm field (15 acres) and 3 acres on the upper flat.

Existing facilities in Area 3 are limited to greenhouses. The dimensions of the greenhouses are 10 feet by 20 feet and 15 feet by 50 feet. The greenhouses are constructed of aluminum poles covered with plastic film. There is an existing pump house in the lower farm field that is about 5 feet by 7 feet.



- (E)** EXISTING
- (P)** PROPOSED
- SERVICE ROAD

Figure 3-6

SOURCE: Huber C&D, 2014

**AREA 3: MAIN AGRICULTURAL AREA (127.1 ACRES)**

Area 3 is the lower farm field (community farming area) that is served by an agricultural well located in the South Fork of the Eel River within Area 6, Riverfront.

A hay crop is produced each spring from Area 3 (and portions of Area 4). Acreage used for hay production has varied from year to year, ranging from 15 to 45 acres. Hay crop is typically harvested in late May.

Area 3 has historically been grazed (and overgrazed) by sheep and cattle. Much of the agricultural acreage in Area 3 is of a degraded quality from a century or more of intensive grazing. Grasses and hay in the western part of Area 3 are of poor quality and have not been used for agriculture for the past 15 years or more.

Farmworkers would continue to be allowed to camp temporarily on-site during farming seasons. Farmworkers camping would be on the lower farm field at the base of the escarpment. A maximum of 12 farmworkers would be on-site at any one time.

There are existing trails throughout Area 3 that would continue to be used by the public. Existing uses also include camping for farmworkers as well as a labyrinth and a skate ramp that are used by the public (see Figure 3-6). Those uses would continue. The skate park is proposed for Area 5, Sports Field Area, and the existing ramp in Area 3 would be removed after the skate park is completed.

### **Changes to Existing Agricultural Uses**

Changes proposed for Area 3 include efforts to improve soil fertility and to add additional general agricultural and community farming uses over time. Community based farming and grazing projects would be encouraged.

Hay production and grazing would continue and would likely increase in Area 3. As stated previously, much of the open land has suffered from overgrazing in the past century. A program of rotational grazing would be added as would specialty crops, row crops, and possibly orchards. Plans include improving and restoring the grasslands, providing habitat for wildlife, and removing invasive species. Additional acreage would be brought under active agricultural production over time.

Spring harvest of hay and rotational grazing would accommodate the compatible recreational uses and temporary parking (for seven occurrences per year) that are proposed to overlay portions of this area. Hay is typically harvested early in the spring season. A portion of Area 3 that is used to grow hay in the early spring would be used later in the season for temporary public parking during events. This would allow for the hay harvest to be completed each year before additional recreational uses would occur. These new uses would not significantly interfere with the existing agricultural activities. A 1-acre (or less) section within the parking area closest to the Park Headquarters would be used for early spring events such as the annual Egg Hunt. This area would be mowed early and would not be included in the hay crop area.

Tournaments, bicycle races and walk-a-thon type events would have participants utilizing the trails that exist throughout Area 3 – Main Agricultural Area. Visitors would pass through Area 3. Main event activities would happen in Areas 1, 2, 4, 5, and 7.

## Proposed Facilities and Construction

The following are the proposed changes for Area 3:

- New fencing would be added (and repaired) for livestock security, public safety, and protection of riparian areas. This fencing would control livestock movement and allow for rotational grazing.
- An additional greenhouse (up to 15 feet by 50 feet) is proposed to be added in Area 3 adjacent to existing greenhouses. Greenhouses would be constructed from packaged kits with aluminum pipe structure and plastic film removable covers. The greenhouse would be placed over existing soil with no concrete or paving.
- The proposed conditional use permit has been requested to allow five mid-size events (800 to 2,500 persons) and one festival-size event (2,500 to 5,000 persons) to take place at the park annually. Temporary parking for these events would be located in fields in Area 3 that adjoin the Park Headquarters (Area 2).
- Fields adjacent to the Community Facilities/Sports Area (Area 5) on the eastern side of the property would also provide temporary parking areas (see **Appendix E**). These areas would not be paved, graded, or otherwise improved.
- During these events, the existing ranch service roads through Area 3 may be used by park and community event staff to move equipment and supplies, performers, and emergency vehicles.
- Agricultural uses in Area 3 would continue and may include orchards, row crops, nursery production, hay production, grazing, and all general agricultural uses.
- An existing 55,000-gallon water storage tank is located on an adjacent property (Assessor's Parcel Number 221-091-11). This tank has historically provided potable water to the project site for residential and limited agricultural uses. There is an existing deeded easement that allows for placement of additional large-capacity water storage tanks on this adjacent property. At this time, no off-site water storage tanks are proposed.
- Temporary event fencing may be placed in this area to protect wildlife and visitors during the festival sized event.
- The riparian corridor that bisects Area 3 would be planted to stabilize the banks and to provide habitat and shade.

## Access

There are three access points from County roads to Area 3:

- The existing main entrance road from Sprowel Creek Road—approximately 1 mile from the town of Garberville— through the Park Headquarters Area (Area 2). This entrance road provides access to Area 3. There are existing non-paved ranch service roads that connect this area to other areas of the project site. The service roads are available for farm equipment, service vehicles, and park staff and are not available for general public use.
- Sprowel Creek Road via the Lower Tooby Ranch Road would be used during special events. This road is not available for everyday general public access.

- The western portion of Area 3 has access from Kimtu Road. Access to this portion of Area 3 is also through a series of trails for public use. There are existing non-paved ranch service roads that connect this area to other areas of the project site. The service roads are not available for general public use.

### Lighting

No permanent lighting fixtures would be installed. The special events each year that may continue past dusk would use portable lighting stations to illuminate the parking areas. One temporary lighting station for each parking area would be provided. All station lighting would be directed and shielded to reduce light and glare and to prevent light leakage to surrounding roads and properties.

### Removal of Vegetation

No trees or vegetation would be removed in this area other than invasive species such as Himalayan blackberries and Scotch broom that may be removed as part of general maintenance.

### AREA 4 – COMMUNITY COMMONS (56.4 ACRES)

The existing General Plan designation for Area 4, Community Commons, is AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and the existing zoning is Agriculture Exclusive (AE). The proposed General Plan designation is Public Recreation (PR) and the proposed zoning is Public Facility (PF).

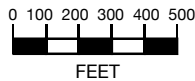
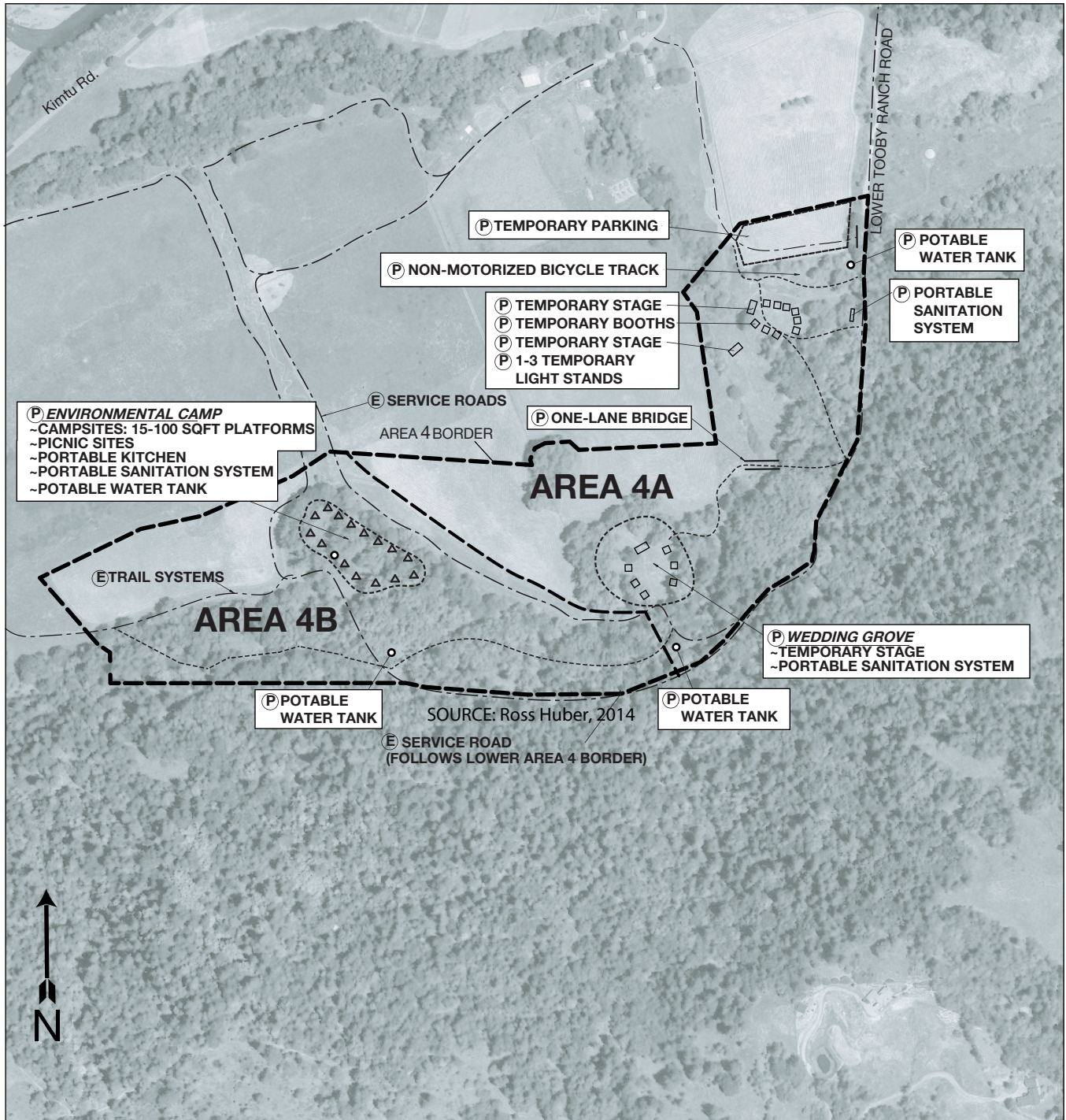
### Existing Facilities

- There are 2.5 miles of existing trails and benches in Area 4, existing unused well, waterlines
- Fencing for livestock (see **Figure 3-7**).
- Restoration and watershed improvement projects will be maintained or improved to prevent fuel hazards the advance of existing headcut gullies and legacy erosion issues.

### Proposed Facilities

Area 4 would include a number of new proposed uses and facilities that include the following:

- Area 4 includes an event area and a specialty camping area that would consist of infrastructure that is predominately seasonal and temporary in nature.
- Up to 2.5 miles of new trail would be located in Area 4. Trails would have unpaved surfaces and would be constructed with hand tools.
- A simple one-lane flat-car bridge would be installed in Area 4A over a ravine approximately 2,700 feet south of the Park Headquarters area (see **Figure 3-7**). This bridge would facilitate one-way traffic flow during some events. Also, the bridge would help with pedestrian access when necessary. The bridge would be fashioned from a flatbed trailer.
- A non-motorized bike skill building track (0.25-acre) consisting of 20 yards of mounded dirt and wood construction would be built near the service road entrance to the event parking area.



- (E)** EXISTING
- (P)** PROPOSED
- SERVICE ROAD
- PROPOSED USE

Figure 3-7

SOURCE: Ross Huber, 2014

**AREA 4: COMMUNITY COMMONS (56.4 ACRES)**



- Up to three potable water tanks of up to 500 gallons each would be placed in Area 4 (see Figure 3-7). Additional water lines would be placed along the existing service road to connect tanks to the existing network of water pipe.

### Proposed Uses

- The Community Commons (Area 4) would be used for a variety new uses and community assembly related activities. These include weddings, memorials, workshops, classes, small and medium events, a festival, study groups, specialty camping, equestrian activities and events, sporting tournaments and bicycle track uses.
- Restoration and watershed improvement projects would be maintained or improved to prevent fuel hazards the advance of existing headcut gullies and legacy erosion issues.

For clarity, this area would be broken into two subareas:

- Area 4A, Event Area
- Area 4B, Environmental Camp

### Community Commons: Area 4A – Event Area

Area 4A, Event Area, would be used seasonally for public and private events.

#### *Proposed Temporary Facilities*

The following temporary infrastructure would be used during the seasonal public and private events (see Plan of Operation in **Appendix E**):

- Temporary vendor booths (10 feet by 10 feet by 10 feet by 20 feet), made of canvas and aluminum construction to be assembled and disassembled on-site during the event.
- Temporary stages for performances.
- A temporary sanitation station that would include portable toilets as necessary and required by numbers of attendees (1 unit per 75 people), a temporary washing station for food vendors at events, along with grey water catchment and a holding tank. A licensed contractor would pump, service, and remove all waste to an off-site location.
- Portable lighting located in parking areas during events that continue into the evening. This would be provided for medium-sized events and any festival-sized event.
- Temporary event fencing.
- Parking for special events to be provided at the junction of the Main Agricultural Area (Area 3) and the Community Commons (Area 4).

#### *Access*

Vehicle access to the Community Commons event area in Area 4A would be from Sprowel Creek Road to Lower Tooby Ranch Road. Lower Tooby Ranch Road connects with the parking areas. There are existing internal park service roads leading to the temporary parking areas in the fields. During medium- and festival-sized events, traffic on Lower Tooby Ranch Road would be limited to

incoming vehicles only. The public would exit the event using the internal ranch road that links to the main park entrance in the Park Headquarters (Area 2).

#### *Parking*

Public parking would be limited to designated temporary parking areas. The Traffic Control Plan (see Appendix E) proposes to limit parking for the public on the site. The proposed conditional use permit would allow parking for the five events with attendance of 800 to 2,500 persons and one annual festival-sized event with attendance of 2,500 to 4000 persons. In addition, there could be up to 1,000 persons in staff, vendors, and performers for a total of 5,000 persons at the festival-sized event. Parking for these events would be located in the Community Commons (Area 4) adjacent to the Park Headquarters (Area 2) and designated fields in the Main Agricultural Area (Area 3), and temporary parking would be provided in the Community Facilities/Sports Area (Area 5). All staff would be encouraged to ride the shuttle buses. A maximum of 100 vehicles for staff and vendors would remain on-site overnight for security and for early shifts. Other off-site parking would include parking in the towns of Garberville and Redway. Shuttle buses would bring attendees from off-site parking locations in Garberville and Redway.

#### *Pedestrian Access*

The public would reach the event site on foot from the designated parking area to the event area. There are two existing metal bridges spanning a ravine that would facilitate pedestrian access to the event site. Pedestrians would reach other areas within the event site using the existing trail system and service roads. An additional bridge, made from a flatbed trailer bed, would be placed over the span of the ravine in Area 4A (see Figure 3-7).

#### *Lighting*

One to three temporary light stands would be positioned in the parking lots during evening seasonal events. The entry to the event site would also be lit. Low-voltage lighting would be used to light the portable toilets. Portable solar and battery-powered lighting would be used when possible. Craft and food booths that remain open after dark would also provide their own lights.

#### *Vendor Booths*

Canvas portable vendor booths would be placed along the edges of the event areas. They would be assembled and disassembled for the events and would not be a permanent fixture. Temporary food booths would be provided with a portable washing station and wastewater would be collected in a temporary tank. The wastewater in these tanks would be serviced by the same company servicing the portable toilets.

#### *Seasons and Hours of Use*

The events proposed for Area 4A are expected to occur between the months of May and October. Trails in this area would be accessible from dawn to dusk as is proposed for the rest of the project site. During special prearranged events, this area may be used from dawn to midnight.

### *Removal of Vegetation*

No removal of trees is planned in this area except for invasive species such as Scotch broom, Himalayan blackberry, and poison oak that would be removed as part of routine maintenance.

### *Agriculture Changes*

Currently, portions of this area are being used for hay production (approximately 15 acres). Hay production would continue in those areas. Hay is typically cut in mid-spring and events would be scheduled after harvest of the hay crop. Portions of this area may be used for grazing livestock.

### *Number of Visitors*

There would be an increase in park visitors to Area 4A during gatherings such as weddings, memorials, and parties; during medium-sized events of 2,500 persons maximum (expected five times per year); and one festival event with up to 4,000 persons in attendance plus 1,000 persons in staff, vendors, and performers (5,000 in total) are expected during one weekend.

## **Environmental Camp: Area 4B**

Area 4B would be the environmental camp that would be used for campsites.

### *Existing Facilities*

This area is generally wooded with connecting trails that would continue to be used by the public. This area would be used by special groups and organized groups such as educational, sports, or environmental groups and for staff camping during some events. There are existing service roads within this area that are not for general public use.

### *Proposed Facilities and Construction*

The proposed project includes a specialty camping area that would consist of camping areas that are temporary in nature. There would be no construction of permanent facilities in this area. The following facilities are proposed:

- A 2-acre environmental camp with up to 15 primitive camp sites for groups. Campsites would contain wooden platforms (10 feet by 10 feet) for tents at each site.
- A picnic table and benches would be placed at each site.
- Trails and signage to sites would be provided.
- A sanitation station would be provided when the camp is used. The sanitation station would include portable toilets, as necessary, based on numbers of attendees (1 unit per 75 people), and a temporary washing station with grey water catchment and holding tank. A licensed contractor would be retained to pump, service, and remove all waste to an off-site location.
- Potable water tanks would be provided on elevated stands, with up to maximum size of 110-inch diameter by 150 inches in height each to service the area. Two locations for potable water tanks are shown in Figure 3-7.

- Restoration and watershed improvement projects would be maintained or improved to prevent fuel hazards the advance of existing headcut gullies and legacy erosion issues.

#### *Access*

Primary access to the proposed environmental camp would be from Sprowel Creek Road to Tooby Ranch Road and then onto the existing Community Park perimeter service road. A secondary access point for service vehicles is from the Kimtu Road entrance on the western side of the project site. This existing service road extends east along the tree line and turns south to the camp. Service vehicles would deliver camping equipment and campers to the site and would be required to park in approved parking areas at park entrances. Pedestrian/backpack access would be along the same routes. Food service vehicles would be allowed within Area 4B.

#### *Lighting*

Necessary lighting would consist of temporary solar or battery-powered lighting used to light portable toilets at the environmental camp.

#### *Hours of Use*

The environmental camp is proposed to be available all year long and 24 hours per day. The majority of use is expected to occur during the spring, summer, and fall months.

#### *Removal of Vegetation*

Brush and poison oak removal would be required surrounding the campsite areas. Control of invasive species such as Scotch broom and Himalayan blackberry would occur in this area. Fallen trees and tree hazards would be removed for safety as part of ongoing routine maintenance.

#### *Changes to Existing Agriculture and Proposed Agricultural Uses*

The hay fields and grazing areas adjacent to the environmental camp area would continue to be used for these purposes. Additional new agricultural uses would be allowed in this area and would include rotational grazing, orchards, seasonal crops and other general agricultural uses.

### **AREA 5 – COMMUNITY FACILITIES/SPORTS AREA (16 ACRES)**

The existing General Plan designation for Area 5, Community Facilities/Sports Area, is AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and the existing zoning is Agriculture Exclusive (AE). The proposed General Plan designation is Public Recreation (PR) and the proposed zoning is Public Facility (PF).

Area 5 is proposed to become the location for multiple community recreational facilities. This area would include multiple sports fields for organized sports, such as baseball, little league, softball, soccer, and football. A dog park, skate park, and new playground are proposed.

## Existing Facilities

There is an existing parking area approximately 10,000 square feet in size located adjacent to Kimtu Road for visitors to Area 5. An informational kiosk and two picnic tables are located adjacent to the parking area. There are existing trails throughout Area 5.

## Proposed Facilities

The following are proposed facilities for Area 5:

- Ten acres of fenced ball fields would be installed, including a multi-use soccer/football field (70,000 square feet), 1 soccer field (45,000 square feet), one standard size (high school) baseball/multi-purpose field (130,000 square feet), and a multi-purpose field (80,000 square feet) for softball, baseball, and soccer. This area would be irrigated (10 acres).
- Bleachers and benches would be placed near ball fields.
- 1,000-square-foot restrooms and a concession stand facility with storage would be installed.
- A new gravel access road 20 feet in width and 1,000 feet in length would be constructed to connect the entrance to the park to the ball fields. The first 25 feet from the roadway would be paved.
- Construction would include the addition of new parking areas along the new access road with a total of 50 additional non-paved parking spaces.
- A 5,000-square-foot playground, fenced with 10 play and climbing structures and no paving, would be installed.
- A proposed off-leash dog park (5,000 square feet) with fenced area would be installed.
- A skate park (approximately 10,000 square feet) would be constructed of concrete and wood; excavation would be required.

There would be direct exposure of soils when the ball fields, parking area, service road, skate park, playground, and proposed buildings are constructed. Significant grading may be needed to create a level play field and parking areas. While the depth of grading would be less than 24 inches, there is a large area that would be graded; approximately 9 acres (14,333 cubic yards) of soil may be disturbed during construction of the ball fields, structures and parking area. Grading would be graduated from 0 feet to a maximum of 24 inches. All graded material would remain on-site.

Construction would require the use of several types of heavy equipment, including graders, backhoes, loaders, and dump trucks.

After grading occurs, the exposed soils are proposed to be covered with material that would prevent dust emissions. The parking areas are proposed to be covered with 3 inches of gravel, and the ball fields would be covered by turf.

## Proposed Uses

### *Community Facilities/Sport Facilities (Area 5)*

This area is proposed to be utilized for a variety of recreational uses (see **Figure 3-8**). Organized and leisure sports teams would conduct games, practices and sporting tournaments at the project site. Sports activities include soccer, baseball, softball, football, and similar activities. Dog owners would have a fenced area to allow dogs' off-leash. A new skateboard park would be used for ramp riding and skills building. There would be a new playground and picnic areas for recreation activities. New uses would include sports related classes, workshops, and training camps.

### Seasons and Hours of Use

This area would be open from dawn until dusk all year. During sports tournaments, occasional night games would be held.

### Access

This area has access from Camp Kimtu Road. An internal dirt road would be constructed to provide access for the sports fields and to provide additional parking.

### Lighting

Bathroom facilities and the concessions would also have outdoor lighting.

### Agricultural Uses

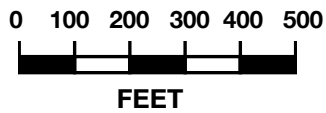
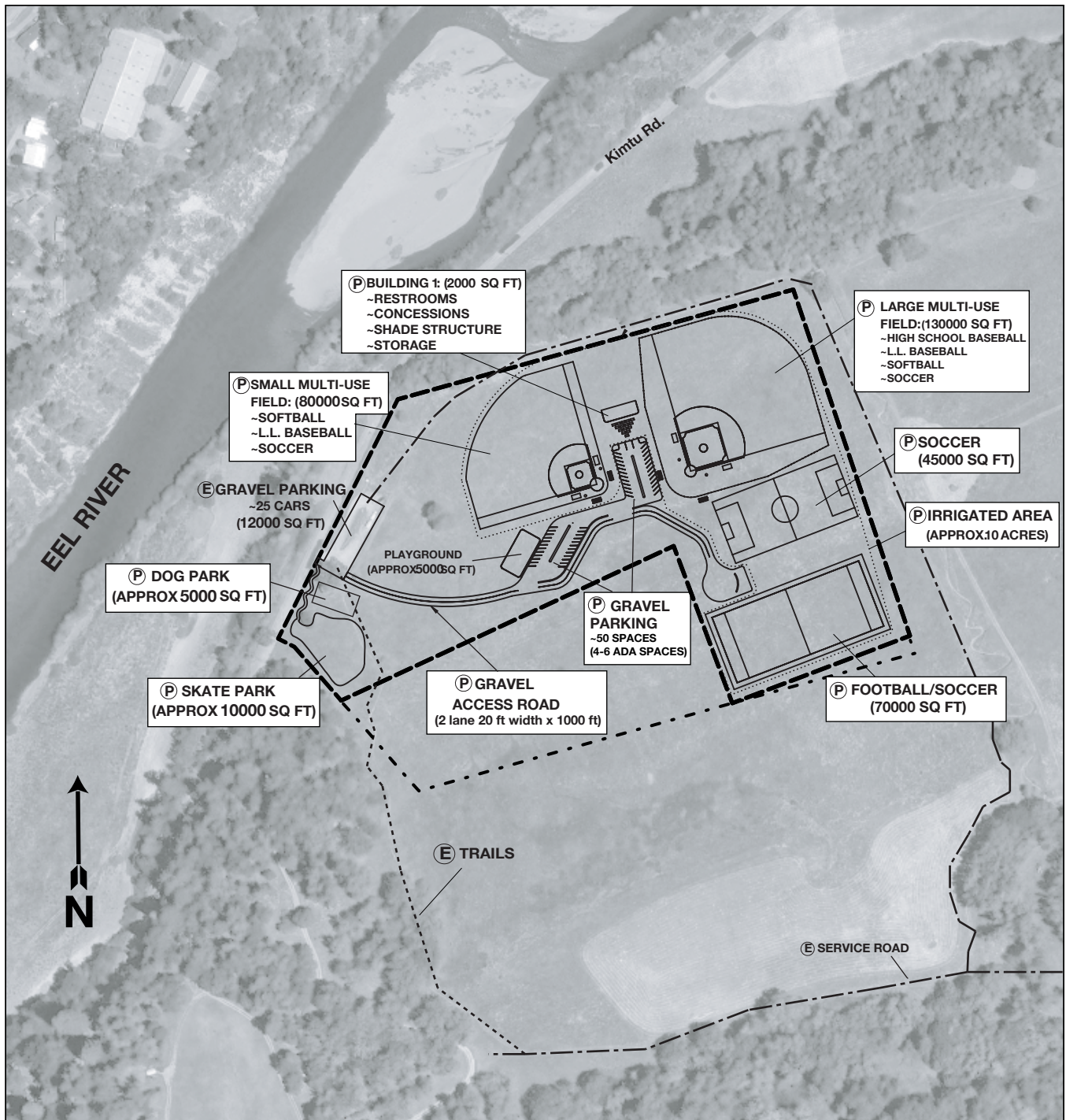
There are no existing agricultural uses of this area. The land in Area 5 has not been used for any agricultural purposes for the past 15 years. Landscaping could incorporate edible plants and fruit-bearing trees.

### Removal of Vegetation

Surface vegetation such as grasses and small shrubs would be removed during construction of ball fields. No trees would be removed.

## **AREA 6 – RIVERFRONT (77 ACRES)**

The existing General Plan designations for Area 6, Riverfront, are AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and IR (Industrial, Resource Related). The existing zoning is Agriculture Exclusive (AE) and MH-Q (Heavy Industrial, Qualified). The proposed General Plan designation is Public Recreation (PR) and the proposed zoning is Agriculture Exclusive (AE), Qualified (Q) zone. The portion designated and zoned for industrial use would remain unchanged.



- (E) EXISTING
- (P) PROPOSED
- SERVICE ROAD
- PROPOSED USE

Figure 3-8

**AREA 5: SPORTS AREA**

SOURCE: Huber C&D, 2014

## Existing Facilities

This area has numerous existing access points from within the project site, including from Tooby Memorial Park (Area 1), and from surrounding properties along the South Fork Eel River. There is an existing network of trails northeast of Tooby Memorial Park that would remain in use. There are two existing pedestrian bridges in this area.

A separate 36.3-acre parcel in Area 6 is designated for industrial use in the Humboldt County General Plan and zoned MH-Q. This parcel is not included in the proposed rezoning. This separate parcel a portion of the river bar are currently permitted and leased to Randall's Sand and Gravel for a gravel and shale mining operation. The permitted area extends into Area 6. These existing gravel and shale operations would continue.

## Proposed Changes

Currently, there are two existing undeveloped areas along the north side of the riparian corridor of the South Fork Eel River (see **Figure 3-9**). This area has been used informally for parking, picnicking, and river access by the public for decades. This existing trail and parking area would be modified and improved to better control existing public uses. Plans include formalizing the existing deficient dirt parking and picnic areas to keep cars in designated areas. Parking for ten vehicles would be formalized along this existing area off Kimtu Road. No pavement is proposed. Wooden split rail fencing would be constructed at the edge of parking areas. Construction would be limited to a single dump truck and small tractor. This area would be utilized for riverside activities and not included in plans for parking during special events unless the event is occurring at the Tooby Memorial Park site.

### *Lighting*

No lighting is proposed for this area.

### *Removal of Vegetation*

No trees are proposed to be removed from this area. Surface vegetation and selective removal of underbrush and invasive species would occur along the north side of the river for trail construction. Restoration of the riparian area would include riparian plantings to provide shade and to prevent erosion. Removal of invasive species would also occur in this area.

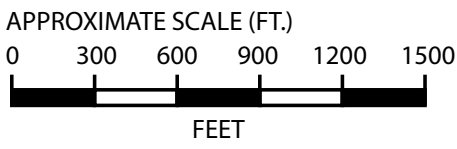
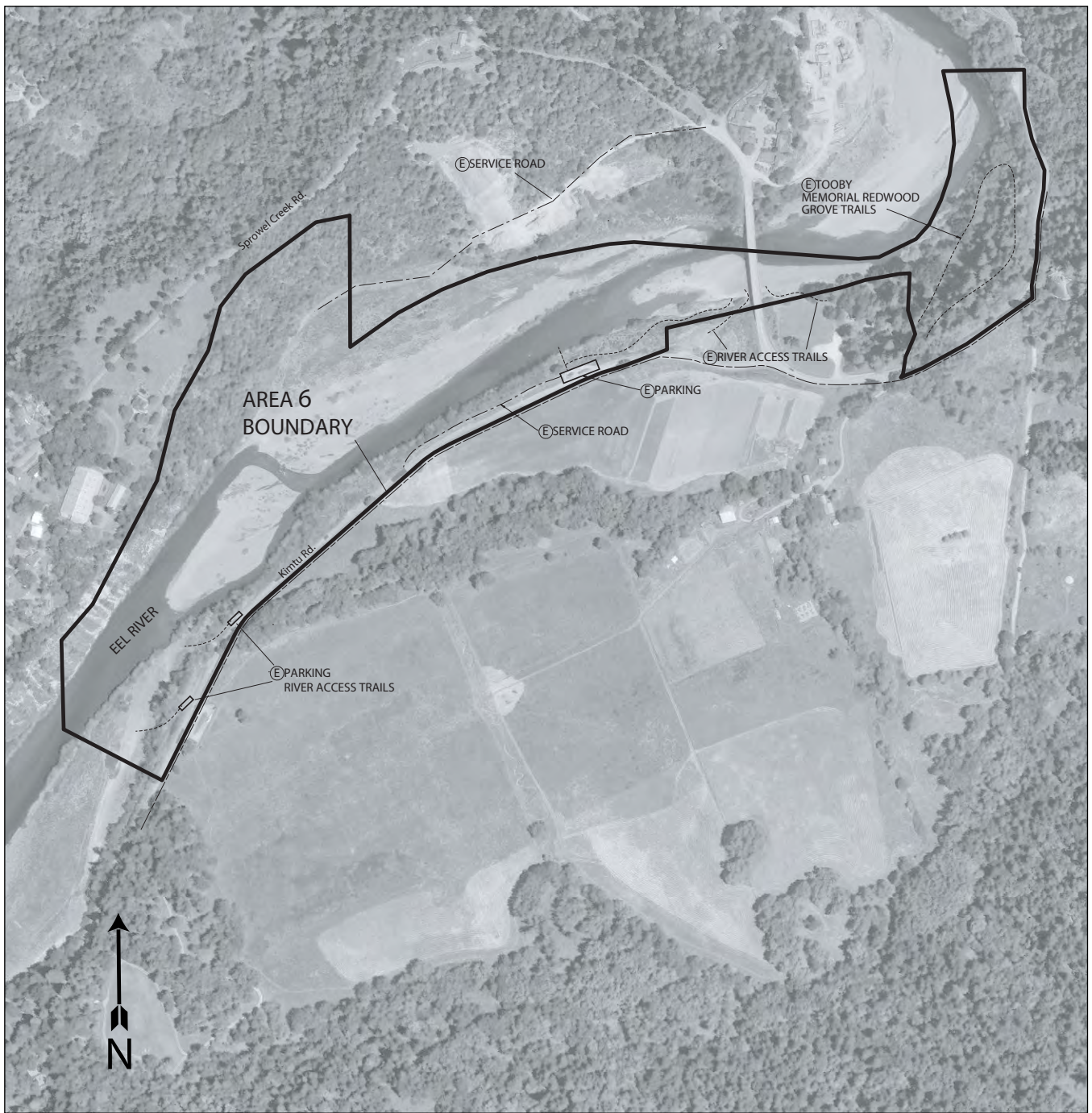
### *Access*

Area 6 runs adjacent to Kimtu Road. There are existing unimproved public river access points that would be formalized and improved under this proposal.

### *Agricultural Uses*

There are no existing agricultural uses of Area 6, and no new agricultural uses are proposed.





- ⓔ EXISTING
- TRAIL
- SERVICE ROAD

Figure 3-9

**AREA 6: RIVERFRONT**

SOURCE: Huber C&D, 2014

### *Gravel Operation*

All permitted and leased gravel operations existing in this area would remain unchanged by the project.

### *Hours of Use*

Currently, this area is unfenced and is accessible to the public 24 hours per day, all year. This would remain the same under the project.

## **AREA 7 – FOREST PRESERVE (115 ACRES)**

The existing General Plan designation for Area 7, Forest Preserve, is AL(20) (Agricultural Lands, one dwelling unit per 20 acres) and the existing zoning is Agriculture Exclusive (AE). The proposed General Plan designation is Public Recreation and the proposed zoning is Agriculture Exclusive (AE), Qualified (Q).

### **Existing Facilities**

Area 7 is forest land that supports native tree cover. There is no timberland or timberland production zones within the project site. There are existing trails through this area.

### **Proposed Changes**

Up to 2.5 miles of new trail would be located in Area 7 (see **Figure 3-10**). The proposed trails would have unpaved surfaces and would be constructed with hand tools. Small wooden or metal footbridges would span over small stream crossings for protection. No changes are proposed to the forest in this area. The area would be used for low-impact activities, such as hiking, non-motorized bike riding, and disk golf including races and tournaments.

### *Seasons and Hours of Use*

The trails would be open from dawn until dusk all year long, as are all park trails.

### *Access*

Area 7 would have access through main entry points to the park. The public would park in designated parking areas at the main entry points in Area 2 and Area 5 and proceed along the interconnected internal trail system. Area 7 would be accessible to the public by the internal trail system only. There is an existing access service road along Lower Tooby Ranch Road that would be used by park staff but would not be open for public use.

### *Parking*

No parking areas for Area 7 are proposed. Visitors using Area 7 trails would park in public parking lots in Area 2 and Area 5.



Figure 3-10

**AREA 7: FORESTLAND**

SOURCE: Huber C&D, 2014

### *Lighting*

There is no proposed lighting in Area 7.

### *Removal of Vegetation*

There would be no removal of trees for trail construction. Small underbrush may be removed to construct trails and as part of maintenance or ongoing fuel hazard reduction program implemented by the park since 2002.

## **3.6 EXISTING AND PROPOSED WATER SYSTEM IMPROVEMENTS**

### **EXISTING WATER SOURCES**

The SHCP has four existing water sources that serve the site, as well as a dual piping system (see **Figure 3-11**). The first source is the South Fork Eel River which is currently used primarily for irrigation and for livestock. There is an existing infiltration gallery in the river and a pump house in Area 3. Waterlines are installed from the infiltration galley throughout Area 3 – Main Agricultural Area and the Park Headquarters – Area 2.

The second source is a spring. This water source comes from a spring on the adjacent property (APN 222-091-11) with a legal deeded easement. The spring fills the existing 55,000-gallon water tank on the adjacent property. This spring provides potable water to the project site through the existing water delivery system to Area 2, Area 3, Area 4, and Area 5.

The third source is from the Tooby Memorial Park Well which has been serving the water needs in Area 1 for decades. There is existing water system infrastructure within this park and the water supply is adequate. The final and fourth water source is upland well in Area 4. This well would be connected to the existing water system and utilized to fill the off-site 55,000-gallon storage tank during the forbearance<sup>1</sup> months.

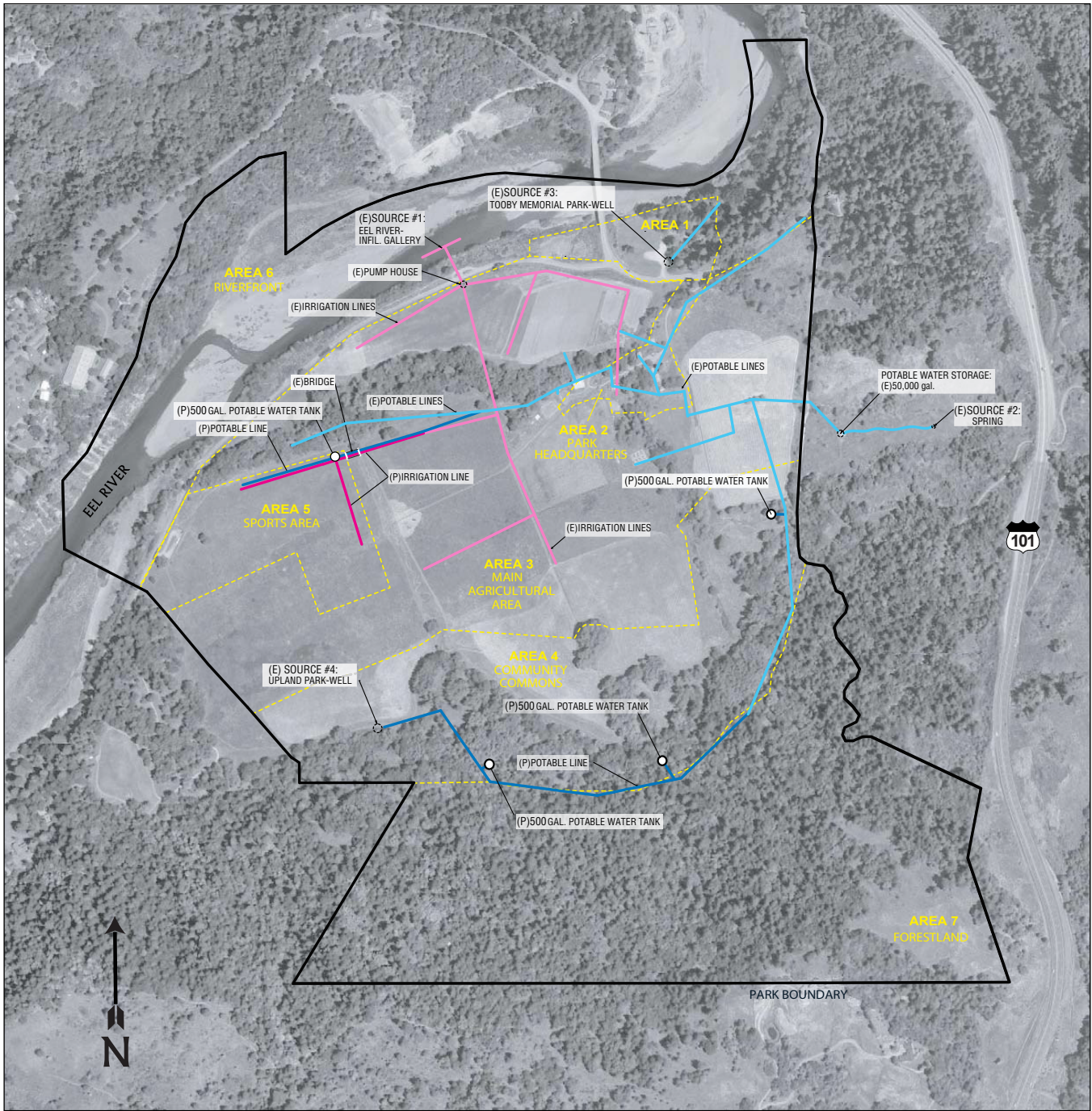
### **EXISTING WATER LINE INFRASTRUCTURE AND WATER STORAGE TANK**

An existing water system on the project site includes independent, dual-water systems: one for potable water and one for non-potable water delivery. These systems run throughout the project site in Areas 2, 3, 4, and 5. Area 1 has an independent potable well water system.

A water storage tank that provides water to the site is located just off the site. This water storage tank site has a legal deeded easement on adjacent property APN 222-091-11. The existing tank has a 55,000-gallon storage capacity (see Figure 3-11).

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<sup>1</sup> Forbearance months refer to July 1 – October, 31, CDFW LSA Agreement R1-09-0238.



- (E) EXISTING POTABLE LINES
- (P) PROPOSED POTABLE LINE
- (E) EXISTING IRRIGATION LINES
- (P) PROPOSED IRRIGATION LINES
- (P) PROPOSED POTABLE WATER TANKS
- AREA BOUNDARY

Figure 3-11

**WATER INFRASTRUCTURE**

SOURCE: Ross Huber, 2014

## PROPOSED WATER INFRASTRUCTURE IMPROVEMENTS

Additional waterlines would be installed for full project implementation. A dual system would provide potable and non-potable water on the project site and would be added in phases. The proposed additional water lines are described below.

### Potable Water Lines and Tanks

#### *Connection of Source #4, Upland Well, to Existing Potable System within Community Commons – Area 4*

An additional water pipeline would be installed in Community Commons – Area 4 along the existing service road and trails to connect the existing upland well (Source #4) to the existing potable water system (see Figure 3-11). This waterline would also provide water to Celebration Grove and Environmental Camp in Area 4. This waterline extension would connect this well to the existing off-site 55,000-gallon water storage tank, utilizing the existing water delivery system.

While conducting ground disturbing activities during the installation of waterlines on the project site, all protocols in the site specific Cultural Resource Management Plan for the Southern Humboldt Community Park would be closely followed. All ground disturbance would occur at least 100 feet from known archaeologically sensitive areas.

#### *Existing Potable Waterline extended to Sports Facilities – Area 5*

One trench would carry both the potable and non-potable waterlines from Area 3 – Main Agricultural Area to Area 5 – Sports Facilities Area along the southern side of the existing service road (see Figure 3-11).

#### *Connection of Source #4 Upland Well to Existing Potable System within Community Commons – Area 4*

An additional 2,500 feet of pipeline would be installed in Community Commons – Area 4 along existing service road and trails to extend the existing potable waterline to connect the existing upland well (Source #4) to the existing potable water system. This waterline would also provide water to Celebration Grove and Environmental Camp in Area 4.

The installation would utilize existing service roads and trails. Waterlines would be installed with a trencher. Pipe would be placed at a depth of 12 to 18 inches with a 6-inch width. All soil removed during trenching would be returned to the trench. No trees would be removed during the installation of this line. Vegetation that would be disturbed would include grasses, poison oak and low brush. It would take 2 days to install this line and installation would occur between September 1 and February 1. The installation would require two truck trips to deliver and return the trenching equipment.

#### *Existing Potable Waterline Extended to Sports Facilities – Area 5*

An additional 1,800 feet of waterline would be installed from the existing potable line in Area 3 (Main Agricultural Area) to Area 5 (Sports Facilities Area) along the southern side of the existing

service road. The potable water and non-potable water lines being extended to Area 5 would both be placed in the same trench. An additional 100 feet of line would be trenched from the labyrinth area to the southern side of the service road. The water line would cross the stream channel on the existing footbridge. Installation details would be similar to the Source No. 4 line discussed above.

#### *Water Storage Tanks*

Three small water tanks with a maximum size of 47-inch diameter by 71-inch in height would be stationed in Areas 4 and one tank would be stationed in Area 5 (see Figure 3-11). The capacity of each tank would be 500 gallons. Thus, on-site storage for 2,000 gallons would be provided with the project. The source of water for these tanks would be the spring (Source 2) and the upland well (Source 4).

All tanks would be installed along the existing service road on level ground. Each tank would be sited within a 4-foot by 4-foot-square, 8-inch-tall, low redwood box, filled with sand. Tanks would be placed and leveled on the sand base. No soil would be moved or disturbed. No trees would be cut to install the tanks. Vegetation to be disturbed would include grasses, poison oak and low brush.

Installation of the tanks would occur between October 1 and February 1 and would take one working day to complete for all four tanks. The installation would require one pickup truck trip for materials and two vehicles for workers.

#### **Non-Potable Water Lines**

##### *Existing Non-Potable Waterline extended to Sports Facilities – Area 5*

An additional waterline would be installed from Area 3 to the Sports Facilities (Area 5) along the southern side the existing service road and within the field to provide non-potable water for irrigation and other non-potable uses. One trench would carry both the potable and non-potable waterlines. This line would be installed at the time the ball fields are constructed. The water source for this new line would be the well in the South Fork Eel River (Source 1).

##### *Existing Non-Potable Waterline Extended to Sports Facilities – Area 5*

An additional 1,700 feet of waterline would be installed from Area 3 to Area 5 along the southern side of the existing service road to provide non-potable water for irrigation and other non-potable uses. Both the potable and non-potable water lines would be placed in the same trench. The water lines would cross the stream channel on the existing footbridge.

All water lines would be 1.25-inch flexible poly, schedule 180. The installation would utilize existing service roads and trails. Waterlines would be installed with a trencher. Pipe would be placed at a depth of 12 to 18 inches with a 6-inch width. All soil removed during trenching would be returned to the trench. No trees would be removed during the installation of this line. Vegetation that would be disturbed includes grasses and low brush.

Installation would occur at the time the ball fields are constructed. The installation would require two truck trips to deliver and return the trenching equipment.

## 3.7 PROPOSED GENERAL PLAN LAND USE DESIGNATION AND ZONING

### PROPOSED GENERAL PLAN LAND USE DESIGNATION

The Public Recreation (PR) land use designation from the Humboldt County General Plan update that is currently underway would be applied to the entire 405.7-acre project site. The project would require a General Plan amendment to apply this land use designation to the project site (see Section 3.8, Reviewing Agencies and Required Approvals, below).

The purpose of the PR designation is to protect lands suitable for public recreation and/or resource protection and to provide open space and public lands. Allowable uses types include the following:

- **Natural Resource.** Fish and wildlife habitat, public access facilities, resource related recreation, boating facilities, watershed management and wetland restoration
- **Resource Production.** General agriculture and timber production.
- **Industrial.** Aquaculture.
- **Civic.** Community assembly, public recreation.
- **Other.** Caretaker's residence, subordinate residential, surface mining, temporary camping, and RV park, similar compatible uses.

### PROPOSED ZONING

The proposed zoning of the project site is illustrated in Figure 3-3 and described below.

#### Agriculture Exclusive (AE) Zone

Under the project, approximately 307 acres of the project site would remain zoned AE (see Figure 3-3).

#### Heavy Industrial-Qualified (MH-Q) Zone

Under the project, approximately 12.1 acres of the project site would remain zoned MH-Q (see Figure 3-3).

#### Public Facility (PF) Zone

As part of the project, a Public Facility (PF) zoning classification would be added to the Zoning Ordinance (Title III of Division 1 of Humboldt County Code) and applied to approximately 87 acres of the project site (see Figure 3-3).

The PF zone is intended to apply to areas in which community-based uses are the desirable predominant uses. The purpose of this zoning classification is to allow a variety of civic uses and natural resource uses, including resource production, recreation, education and research, and natural resource uses.



Allowable use types include:

- **Civic.** Essential services, community assembly, public recreation and facilities, open spaces, minor utilities.
- **Residential.** Caretakers and other incidental residence.

Conditionally permitted uses include:

- Extensive impact civic uses, solid waste disposal.

### **Qualified (Q) Combining Zone**

The Q combining zone is intended to be combined with any principal zone in situations where sound and orderly planning principles indicate that specified principal permitted uses or conditional uses otherwise allowed under the principal zone should be limited or not be allowed with or without a conditional use permit. The Q combining zone also allows development standards or restrictions to be added, deleted, or modified to implement the General Plan or CEQA mitigation or to limit additional entitlements. The qualified uses must be specified in the ordinance applying the Q combining zone to a specific property.

As part of the project, the Q combining zone would be applied to the areas zoned PF to allow agricultural uses and to the areas zoned AE allow for public recreation uses.

## **3.8 REVIEWING AGENCIES AND REQUIRED APPROVALS**

This EIR will be used by Humboldt County, the CEQA lead agency for the project, in addition to CEQA responsible and trustee agencies to comply with CEQA requirements. The EIR may also be used by other local, state, or federal agencies with regulatory authority over for the project as an informational document.

The following actions may be subject to the requirements of the California Environmental Quality Act:

- Rezoning and General Plan amendments
- Conditional use permits
- Special permits
- Grading permits
- Building permits
- Encroachment permits

Early consultation is mandatory with responsible and trustee agencies and voluntary with any person or organization that may be concerned with the environmental effects of a proposed project. It provides an opportunity to resolve many potential problems that could arise in more serious form later in the review process. The consultations should occur as early in the review process as feasible to better define areas of concern and to focus the EIR on these problems (CEQA Guidelines, Sections 15082-15083).

## REQUIRED APPROVALS

### Required Approvals from Humboldt County

The project would require the following approvals from Humboldt County:

- **General Plan Amendment** – Amend the Humboldt County General Plan and the 1984 Garberville, Redway, Benbow, Alderpoint Community Plan to add a Public Recreation (PR) land use designation, which would allow natural resource uses, resource production uses, recreation facilities and uses, and education and research uses. Change the General Plan land use designation on the entire 405.7-acre project site to the new Public Recreation (PR) designation.
- **Zoning Ordinance Amendment and Rezoning** – Amend the Zoning Ordinance (Title III of Division 1 of Humboldt County Code) to add a Public Facility (PF) zoning classification, which would allow natural resource uses, resource production uses, recreation facilities and uses, and education and research uses. Rezone 87 acres of the project site from Agriculture Exclusive (AE) to Public Facility (PF) to allow the proposed recreation uses, education and research uses, public assembly, natural resource uses, and resource production uses on the site. Retain the AE zoning on approximately 307 acres of the project site and retain the existing MH-Q zoning on approximately 12.1 acres of the project site. Add a Qualified (Q) combining zone to (1) the 307 acres zoned AE, to allow recreational uses; and (2) the 87 acres zoned PF, to allow agriculture.
- **Conditional Use Permit** – Approve a conditional use permit to allow specific activities within the PF-zoned areas of the site, including five medium-sized events of 800 to 2,500 persons and a festival-scale community assembly event of up to 5,000 persons similar to Summer Arts and Music Festival at Benbow.
- **Transfer of Development Rights** – This project will allow the applicant to retain and bank the existing residential development rights as credits for the areas of the project site that are currently designated Agricultural Lands (AL) and Agricultural Rural (AR) by the Humboldt County General Plan. These credits will be retained for transfer until such time, if ever, that Humboldt County adopts a Transfer of Development Rights (TDR) or program similar in nature. Currently there is no TDR program in Humboldt County and it is unknown if or when one will be adopted by the County. These land use designations represent approximately 54 potential parcels.
- **Building and Grading Permits** – Issue building and grading permits and other necessary approvals for specific improvements such as playing fields and new buildings in specific portions of the site.
- **Cottage Industry Ordinance Amendment** – Amend the cottage industry ordinance to include PF zones.

### Required Approvals from State and Federal Agencies

In addition to approvals from Humboldt County, the project may require permits and approvals from federal and state agencies as listed in **Table 3-1**.

**TABLE 3-1 ANTICIPATED REGULATORY APPROVALS BY FEDERAL AND STATE AGENCIES**

<b>Agency</b>	<b>Permit or Approval</b>
U.S. Army Corps of Engineers	Permit under Section 404 of the Clean Water Act.
North Coast Regional Water Quality Control Board	Permit under Section 401 of the Clean Water Act; National Pollutant Discharge Elimination System permit.
California Department of Fish and Wildlife	Consultation under the California Endangered Species Act and authorization of incidental take; permit under Section 1602 of the Fish and Game Code (streambed alteration agreement).
U.S. Fish and Wildlife Service/ National Marine Fisheries Service	Consultation under the federal Endangered Species Act and authorization of incidental take.

## REVIEWING AGENCIES

As the lead agency for this project, Humboldt County will be responsible for considering certification of the EIR and the various project approvals (see “Required Approvals from Humboldt County” above). In addition to Humboldt County, a number of other jurisdictional and permit-granting agencies oversee specific environmental concerns in the project site vicinity. The following is a listing of agencies and their authority, jurisdiction, or area of environmental concern. Each of these agencies may use this Draft EIR during their review. In addition, Native American tribes are required by State law to be consulted on all General Plan Amendments for protection of cultural resources.

### Federal Agencies

- National Marine Fisheries Service: Administers Endangered Species Act as it pertains to marine species.
- U.S. Fish and Wildlife Service (USFWS): Administers Endangered Species Act.
- U.S. Environmental Protection Agency (USEPA): Issues permits for point source discharges.
- U.S. Army Corps of Engineers (Corps): Controls dredge and fill of U.S. waters including wetlands under Section 404 of the Clean Water Act; controls navigable waters under Section 10 of the River and Harbors Act; establishes wetlands boundaries.

### State Agencies

- State Lands Commission: Responsible for tidelands and historic waterways.
- California Department of Transportation (Caltrans): Responsible for the management of the statewide transportation network.
- Native American Heritage Commission (NAHC): Mandated to preserve and protect places of special religious or cultural significance pursuant to Section 5097 *et seq.* of the Public Resources Code.
- California Department of Fish and Wildlife (CDFW): Reviews fish and wildlife issues.
- California Department of Forestry and Fire Protection (CAL FIRE): Responsible for wildland fire protection and for regulation of timber production.

- California Regional Water Quality Control Board (RWQCB): Concerned with the effects of wastewater disposal on water quality and supply.
- California Air Resources Board (CARB). Responsible for establishing state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving state implementation plans.

### **Regional Agencies**

- Air Quality Management District (AQMD): Monitors air quality and has permit authority over certain types of facilities, including dry-cleaning plants, service stations, landfills, sewage treatment plants, and industrial plants.

### **Local Agencies**

- Humboldt County Planning and Building Department: Serving as lead agency for CEQA review of the project.
- Humboldt County Sheriff's Office: Responsible for law enforcement and emergency response.
- Humboldt County Department of Health and Human Services, Division of Environmental Health: Oversees water supply, solid waste, sewage disposal, and food preparation.
- Humboldt County Department of Public Works: Regulates encroachment onto county roads.
- Garberville Fire Protection District and Briceland Volunteer Fire Department: Provide fire protection in the project site vicinity, along with CAL FIRE.

## 4. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

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This section addresses project-related impacts within the following 17 topic categories:

- Aesthetics
- Agricultural/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

Each of the 17 topic sections in this EIR presents information in four parts, as described below.

### **INTRODUCTION**

This section addresses the overall issues covered for the topic and the primary studies and other documents used in report preparation.

### **ENVIRONMENTAL SETTING**

This section briefly describes elements of the project setting relevant to a discussion of impacts in the topic category.

### **REGULATORY FRAMEWORK**

This section describes applicable federal, state, regional, and local regulations relevant to the topic category.

### **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

This section identifies potential impacts based on the identified significance criteria. Potentially significant impacts are numbered and summarized in **bolded** text, followed by text that describes

the impact in more detail. Mitigation measures (indented text) that can reduce such impacts follow this discussion with a number that corresponds to the number of the impact. A code indicating the level of significance of each impact before and after mitigation follows the impact statements and mitigation measures. The code "PS" stands for "potentially significant" and "LTS" stands for "less than significant." The code "SU" stands for "significant and unavoidable."

## 4.1 AESTHETICS

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### INTRODUCTION

This section of the EIR for the Southern Humboldt Community Park considers and evaluates the potential impacts of the proposed project on aesthetic and visual resources. Visual resources are an important component to the quality of life and identity of any geographic area. When people experience a place, their primary sensory interaction with that place is visual in nature.

This section describes the existing visual character of project area and the surrounding area, including the identification of physical and visual features and conditions, which give the project area its unique visual character. The protection of scenic resources and open space areas can increase opportunities for recreation opportunities, pedestrian and bike access, and land use buffering.

### DEFINITIONS

The term "aesthetic value" refers to the observation of the natural beauty of an area and other features that create or enhance the areas visual quality. While aesthetic value is subjective, it is included as a measure for evaluating those components that contribute to the qualities that characterize an area.

Most communities recognize scenic resources as an important asset. What is considered "scenic" may vary according to local settings and values. Scenic resources can include natural open spaces, scenic vistas, special trees, rock outcroppings and unique landscapes. These resources can be maintained and enhanced to promote a positive image in the future. Natural landforms and landscapes with scenic resources, such as woodlands, lakes, rivers, streams, and some historical areas are commonly considered scenic and visual resources. Scenic resources can also include open spaces and elements of the man-made environment. Examples of these would include parks, trails, pathways, nature centers, archaeological and historical resources, and architectural features.

### SETTING

The Southern Humboldt area offers a variety of scenic features. The region attracts approximately one-million tourists annually who come to see the redwood forests, pristine beaches and the natural beauty of this rural area. The range of scenic resources within the Southern Humboldt area include a variety of scenic elements and viewsheds that include Richardson Grove State Park, Rockefeller Forest, redwoods forests, King Range Conservation Area, Sinkyone Wilderness, Benbow Lake State Recreation Area, Shelter Cove, Bear Buttes with its unique rock formations and outcroppings, the South Fork Eel River, and the surrounding forested mountains and valleys.

## VISUAL RESOURCES

The visual resources section evaluates the existing visual resources of the project area and the potential for the proposed project to impact these visual resources. The project consists of several separate elements including a change in zoning, land use designation, operational activities and projects requiring conditional permitting; some of these elements have a potential to impact visual resources in the area and are discussed below.

## EXISTING CONDITIONS

### Visual Character

Located just one mile outside the small rural town of Garberville in northern California, the project site has a variety of visual features including meadows, grasslands, upland forests, farmland, and native redwoods. Under past ownership, significant landform changes were made. The existing streambeds were channeled into straight drainage ditches that cross the project site. Irrigation channels were created with mounding of soil. The open fields have been contoured and a series of serviceable ranch roads were built. Visual features, by type, are described in more detail below after the discussion of viewsheds.

### Existing Viewsheds

Viewsheds represent the range of vision in which scenic resources may be observed. A viewshed is an area defined by terrain or objects that a viewer can see from a particular viewing area. Some of the important viewsheds from which the site can be seen are from Sprowel Creek Road, from Kimtu Road, and from U.S. Highway 101. **Figures 4.1-1 through 4.1-3** illustrate views of the site from these locations. As can be seen in the photos, the area is heavily forested except where there are open meadows and agricultural fields.

### Existing Visual Resources

#### *Natural Features*

Juxtaposed to the mountainous hillsides and steep terrain, the open space quality of the Southern Humboldt Community Park is visible from two rural roads and Highway 101.

- **Open Space.** The project area has approximately 150 acres of open fields in the South Fork Eel River valley. It is a grassland area that was mostly rangeland under previous ownerships. This area is partially visible from the hilltop above on U.S. Highway 101, which adjoins the property's eastern boundary (Figure 4.1-5). Large trees along the edge of the highway are growing above the horizon line obstructing the site view in several locations. Sprowel Creek and Kimtu Roads are secondary rural roads that pass through the property and also provide have views of the open space areas of the SHCP.





View of the South Fork Eel River and the Community Park (Tooby Playground) are visible in the upper portion of the photo.



View along Sprowel Creek Road with Community Park on both sides of the road. Figure shows the tree lined roadway and vegetation which would remain unchanged.

Figure 4.1-1

SOURCE: SHCP, 2014

## VIEWS FROM SPROWEL CREEK ROAD



Park entrance on Sprowel Creek Road. Projects proposed within the Park are not readily visible from this section of the roadway due to the dense vegetation barrier.



View from Kimtu Road park entrance and existing parking area, looking northeast. Kimtu Road is a residential rural road leading to a grouping of homes along a cul-de-sac. It is a non-through road that is primarily used by residents and park users. This area is the designated to be the Community Recreational Facilities area. The proposed sports fields, parking area and concession would be visible from this Kimtu Road location.

Figure 4.1-2

SOURCE: SHCP, 2014

## VIEWS FROM SPROWEL CREEK ROAD AND KIMTU ROAD



View from Highway 101, southbound lane, ½ mile from Garberville. This view shows the open space, farm, river valley, and forested hills of the Southern Humboldt Community Park. The arrow locates the Community Recreational Facilities area. Parts of the ranch complex are visible from this point.



View from Rivercrest Drive residential area looking across the river toward the Community Park. This figure shows the dense riparian and redwood trees (center) on the far bank that buffer these homes from visual impacts.

Figure 4.1-3

SOURCE: SHCP, 2014

## VIEWS FROM U.S. HIGHWAY 101 AND RIVERCREST DRIVE

- **The South Fork Eel River** runs through the project site for approximately 1 mile. Though the river has scenic qualities, particularly on the western border. The river also provides recreational opportunities, irrigation and household water, and wildlife habitat. The river's scenic qualities are diminished by the several long standing manmade features including the Sprowel Creek Road Bridge, a gravel extraction facility on the river level, and a shale extraction site on the hillside on the southern boundary of the property (Figure 4.1-1).
- **Forested Areas.** The SHCP has many distinctly different ecological zones. The forested hillsides are highly visible from a number of locations and are not proposed to be altered.

#### *Manmade Elements*

The primary manmade elements within the project site include the ranch complex buildings and the existing gravel extraction activities.

- **Tooby Memorial Park.** This park includes play structures that are fenced as well as picnic facilities and restrooms (see **Figure 4.1-4**).
- **The Ranch Complex** is the location where the early white settlers, the Wood family, established residence. While none of the remaining structures on the site are from this period, they are a good example of the utilitarian, make-do style of construction common in the past century. This area includes residential dwellings and barns (see **Figure 4.1-5**).
- **Gravel Extraction, Shale Extraction, Sprowel Creek Road Bridge.** Gravel and shale extraction at two locations adjacent to the project area (see Figure 4.1-1) are visible in close proximity to the project site as is the Sprowel Creek Road Bridge (see Figure 4.1-5) which dissects the property over the South Fork Eel River.

### **Scenic Resources**

While there is no comprehensive list of specific features that automatically qualify as scenic resources, certain characteristics can be identified which contribute to the determination of a scenic resource. Following is a partial list of visual qualities and conditions which, if present, may indicate the presence of a scenic resource:

- A tree that displays outstanding features of form or age.
- A landmark tree or a group of distinctive trees accented in a setting as a focus of attention.
- An unusual planting that has historical value.
- A unique, massive rock formation.
- An historic building that is a rare example of its period, style, or design, or which has special architectural features and details of importance.
- A feature specifically identified in applicable planning documents as having special scenic value.
- A unique focus or a feature integrated with its surroundings or overlapping other scenic elements to form a panorama.
- A vegetative or structural feature that has local, regional, or statewide importance.



a) View of entrance to Tooby Memorial Park playground showing playground equipment and fencing.



b) Additional view of Tooby Memorial Park playground.

Figure 4.1-4

SOURCE: A. Skewes-Cox, 2014

## VIEWS OF TOOBY MEMORIAL PARK



a) View from Tooby Memorial Park looking northwest towards the Sprowel Creek Road bridge.



b) View of onsite barn located near the cluster of residential buildings.

Figure 4.1-5

**VIEWS OF SPROWEL CREEK ROAD BRIDGE  
AND RANCH COMPLEX BARN**

SOURCE: A. Skewes-Cox, 2014

Examples of scenic resources at the project site include large expanses of forestlands, open fields, and a barn that provides the historical context for long-term operations at the project site.

## **REGULATORY FRAMEWORK**

### **California State Scenic Roadways Program**

The California State Scenic Roadways Program, established in 1963 by the State legislature, identifies key roadways in California that contribute to the state's scenic resources by providing viewsheds with aesthetic value. The program establishes the State's responsibility for the protection and enhancement of California's natural scenic beauty through regulations pertaining to scenic roadways and their function.

There are no officially recognized scenic roadways in the project area. While many in the Southern Humboldt County area offer residents and visitors a glimpse at the natural beauty of the region, none of the roadways is formally designated as part of this State program.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on visual resources if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;  
or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

### **LESS-THAN-SIGNIFICANT IMPACTS**

#### **Scenic Resources Visible from State Scenic Highway**

No designated state scenic highways exist in the vicinity of the site and thus no visual impacts to scenic resources from such highways would occur. In addition, the project would not impact rock outcroppings or historic buildings.

## POTENTIALLY SIGNIFICANT IMPACTS

**Impact AESTHETICS-1: Implementation of the project would result in construction of new community facilities including recreation fields, a skatepark, a dog park, concessions stands, and visitor amenities and parking areas that would be visible from Kimtu Road and that would change the scenic vista from this road. Such new features could also visually contrast with the natural surroundings. (PS)**

New recreational features and buildings could conflict with the predominantly natural surroundings of the project site, especially if such features contrasted significantly in color or materials from the natural surroundings. No landscape plans have been submitted for the project site; thus, it cannot be determined if new landscaping may screen some features from the view of motorists on Kimtu Road. Area 5, the Sports Area, would have the most significant permanent changes on the project site. During construction, the construction staging area may contain worker vehicles and construction equipment.

Park events such as the medium and large festival events would change the site's visual character in terms of bringing in many people and cars to the project site; however, this use would be very short-term and would not require mitigation.

The project would not result in significant amounts of vegetation loss, substantial alteration of the site's natural character, or extensive grading visible from beyond the site boundaries. The sports fields would require some grading to level the fields. The view from U.S. Highway 101 would not be significantly altered due to the distance of the site from the highway where new facilities would be developed, the orientation and speed of the driver (e.g., that would generally require motorists to stop by the road to take in views of the site), and the fact that the site is at a much lower elevation than the highway. The Community Facility/Sports Field area is approximately 1 mile from the highway. The open space nature of sports fields and the distance from Highway 101 would not have a significant impact on the overall visual aesthetics.

While the installation of sport fields may require some changes to the sites typography, the area that is now a large open area would primarily remain a large open area. There are no potentially significant features that would be affected in the area such as distinctive landmark trees, unique rock formations, or other rare features.

*Mitigation Measure AESTHETICS-1a: New landscaping shall be planted at the edge of the gravel parking area fronting on Kimtu Road in Area 5, the Sports Area. This landscaping shall be low evergreen shrubs that would partially screen parked cars from view from Kimtu Road. All vegetation planted as mitigation shall be planted outside the County-maintained road right-of-ways, meet the County visibility ordinance, not block county road drainage, or cause additional maintenance for the road crew. Prior to installing vegetation, the planting plan should be reviewed by the Department of Public Works.*

*Mitigation Measure AESTHETICS-1b: Similar evergreen shrubbery shall be planted. After 5 years the shrubs shall be at least 4 feet in height and provide a visual screen for a minimum of 85 percent of the view of the parking areas for Area 5 adjacent to Kimtu Road adjacent to Kimtu Road to screen the proposed skatepark and dog park in Area 5 from view. However,*



*landscaping plans shall be reviewed and approved by the Public Works Department to ensure that landscaping would not interfere with sight visibility for safety reasons.*

*Mitigation Measure AESTHETICS-1c: All new buildings and other built features at the project site shall be painted in neutral colors to blend into the surroundings and shall not include reflective materials.*

*The combination of these measures would reduce the potential impact to less than significant. (LTS)*

**Impact AESTHETICS-2: Project components such as special events would have a need for nighttime lighting that would create a new source of nighttime light or glare that may adversely affect nighttime views in the area (see Appendix I: Lighting Plan). (PS)**

Except for Areas 6 and 7, new lighting would be added to the project site to provide light to restroom facilities, parking areas, on-site residences, and other components of the site. During festivals, the exit to the event site would also be lit. Low-voltage lighting would be used to light the portable toilets during festival events. Portable solar and battery-powered lighting would be used when possible. Craft and food booths that remain open after dark would also provide their own lights.

*Mitigation Measure AESTHETICS-2a: The applicant shall prepare a lighting plan that shall address the facility lighting placement and design for ongoing operations. This plan shall be reviewed and approved by the County's Planning Department. To avoid intrusion into neighboring properties and visibility from nearby roads, all lighting shall be shielded and directed downwards, and shall use the minimum wattage to allow safe conditions. Pathway lighting shall be placed low to the ground to minimize excess lighting. Temporary lighting of parking areas during festival events shall be shielded and directed to minimize glare.*

*Mitigation Measure AESTHETICS-2b: Lighting shall be on timers to minimize the number of hours of lighting at the project site.*

*Mitigation Measure AESTHETICS-2c: During festival events, all concession participants shall be informed of the need to minimize lighting at the project site. This requirement shall be included in the Conditional Use Permit for the project site.*

*The combination of the above measures would reduce this potential impact to less than significant. (LTS)*

## REFERENCES

State of California, 2013. State's Scenic Highway Program. Website <http://www.dot.ca.gov/hq/LandArch/scenic/schwly.htm>, accessed August 6, 2014.



## 4.2 AGRICULTURE AND FORESTRY RESOURCES

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### INTRODUCTION

This section reviews existing agricultural and forestry resources in the project site vicinity, describes the regulations and programs that relate to these resources, and provides an assessment of the potential impacts of implementing the project. The California Agricultural Land Evaluation and Site Assessment (LESA) prepared for the project site is included in **Appendix B** and was used in the preparation of this section of the Draft EIR, along with sources listed in the “References” section below.

### ENVIRONMENTAL SETTING

#### AGRICULTURAL RESOURCES

##### Overview

Agricultural production is an important component of farming in Humboldt County and is viable due to the significant precipitation, fertile soils, and mild climate. The total agricultural acreage in 2008 was approximately 345,238 acres, covering approximately 15 percent of the county’s total land area (Humboldt County, 2012).

The project site is located within the Garberville/Redway/Alderpoint/Benbow Community Planning Area in southern Humboldt County. The total acreage with an agricultural land use designation in this planning area is approximately 7,146 acres, covering approximately 60 percent of the planning area’s total land area (Humboldt County, 1987).

The project site encompasses approximately 405.7 acres. The South Fork Eel River borders the site to the northwest and north. The project site primarily contains agricultural and forest lands that are zoned Agricultural Exclusive (AE). The Humboldt County General Plan land use designations for these lands are AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres); and AL(20) (Agricultural Lands, one dwelling unit per 20 acres). Approximately 12 acres of land in the northern part of the project site are zoned MH-Q (Heavy Industrial-Qualified) and have a General Plan designation of IR (Industrial, Resource Related).

Historically, the project site was used mainly for grazing cattle. Currently, the primary agriculture activity is hay production.

## **Agricultural Soil Definitions**

### *Storie Index*

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California. Storie Index ratings are represented by six grade classes ranging from non-agricultural to excellent.

### *California Public Resources Code*

California Public Resources Code Section 21060.1 contains the following definition of agricultural land:

- a) "Agricultural land" means prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California.
- b) In those areas of the state where lands have not been surveyed for the classifications specified in subdivision (a), "agricultural land" means land that meets the requirements of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code.

### *California Government Code*

Section 51201(c)(5) of the Government Code defines "prime agricultural land" as land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than \$200 per acre for 3 of the previous 5 years.

### *Humboldt County General Plan*

Under the existing Humboldt County General Plan, "prime farmland" is identified by any of the following definitions:

- a) Rated Class I or II by the Soil Conservation Service land use capability classifications.
- b) Land which qualifies for rating 80 through 100 in Storie Index Rating.
- c) Land that has a livestock carrying capacity of one animal unit per acre.
- d) Land planted with fruit or nut-bearing trees, vines, bushes or crops which have a non-bearing period of less than five years and which will normally provide a return adequate for economically viable operations during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production.
- e) Land capable of producing an unprocessed plant production adequate for economically viable operations.

- f) Additional lands in proximity to a, b, or c above which are necessary to provide for physically and economically viable, coherent agricultural areas. These lands are included to prevent the establishment of incompatible land uses within an area defined by natural or man-made boundaries.

### **Agricultural Soils on the Project Site**

According to a soil map for Humboldt County from the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), there are 13 soil types on the project site. These soil types are identified on Figure 2, Soils Map, and described in Table 1, Soil Types on the Southern Humboldt Community Park Site, in the LESA (Appendix B).

Based on the agricultural land definitions described above, using the results from the NRCS soil survey (NRCS, 2013) and the LESA results (see Appendix B), approximately 35.7 acres of the project site are considered “farmland of statewide importance;” 188.7 acres of the project site are considered “prime farmland (if irrigated),” and 45.3 acres are irrigated; and approximately 8.5 acres are “prime agricultural land” based on Section 51201(c)(5) of the Government Code (i.e., the approximate acreage being used for hay production with annual gross greater than \$200 per acre for 3 of the previous 5 years at the time this analysis was prepared). **Figure 4.2-1** illustrates farmland classifications on the project site, and **Figure 4.2-2** shows the area that was used for hay production on the site between 2008 and 2012.

## **FORESTRY RESOURCES**

### **Overview**

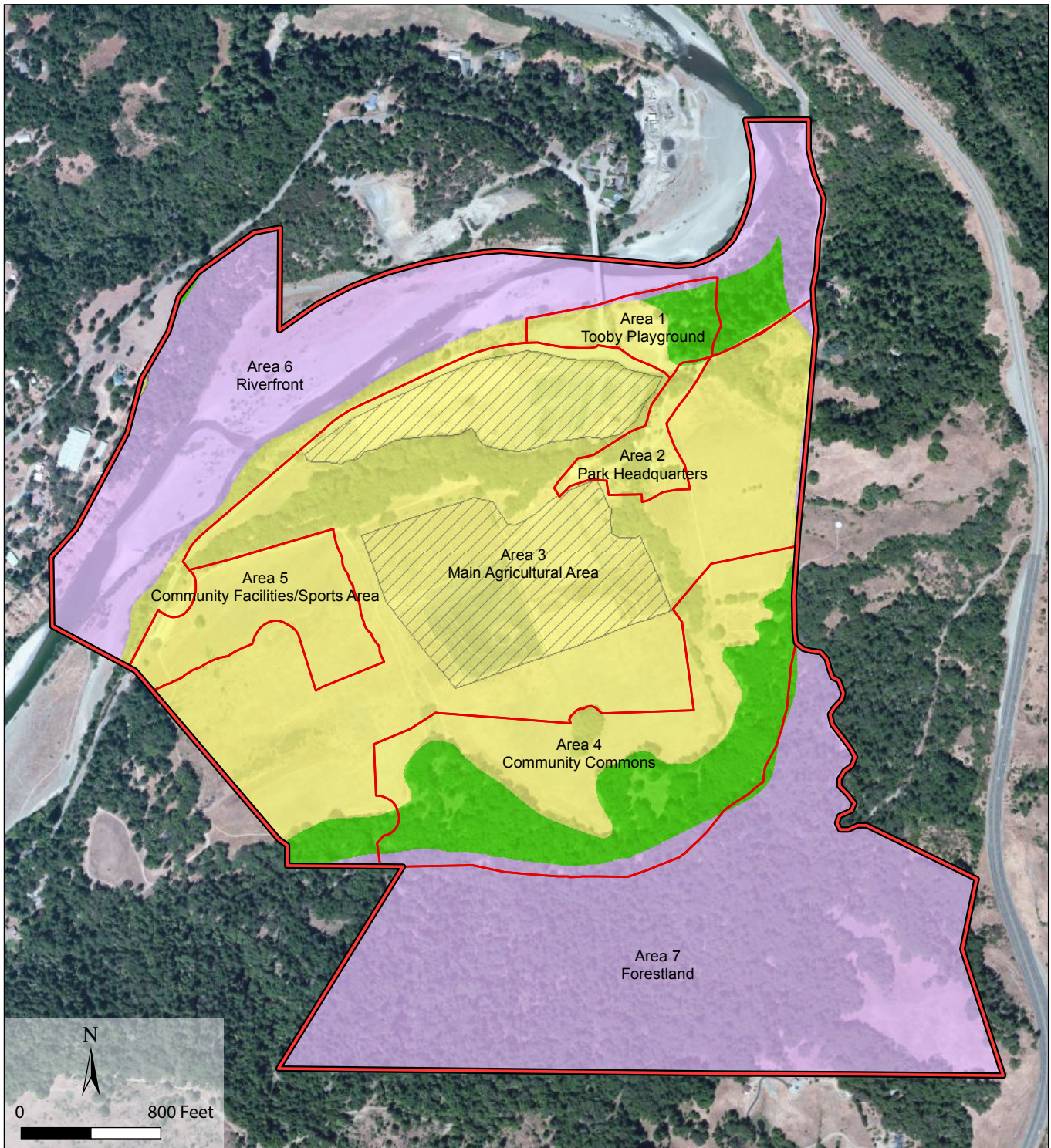
The forest product industry represents 8 percent of the total economy in Humboldt County (Humboldt County, 2012). The total forest land acreage is approximately 1.9 million acres, covering more than 80 percent of the county’s total land area (Humboldt County, 2012). The total acreage with a Timber Production land use designation in the Garberville/Redway/Alderpoint/Benbow Community Planning Area is approximately 2,073 acres, covering approximately 17 percent of the planning area’s total land area (Humboldt County, 1987).

### **Forestry Resource Definitions**

#### *California Public Resources Code*

Under California Public Resources Code Section 12220(g), forest land is defined as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.


Under California Public Resources Code Section 4526, timberland means land, other than land owned by the federal government and land designated by the State Board of Forestry and Fire Protection as experimental forest land, that is available for, and capable of, growing a crop of trees





Legend

 Project boundary

Farmland Classifications

 Farmland of statewide importance

 Not prime farmland

 Prime farmland (if irrigated)


 Irrigated

Figure 4.2-1

SOURCE: Manhard Consulting Ltd., March 2013

**REDUCED AREA ALTERNATIVE SOIL RATING**



AMY SKEWES-COX  
ENVIRONMENTAL PLANNING

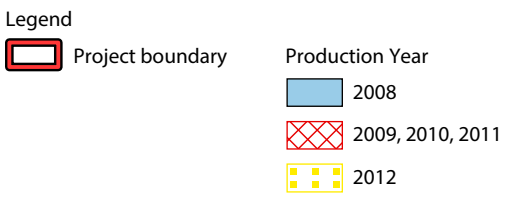


Figure 4.2-2

**HAY PRODUCTION (2008 - 2012)**

SOURCE: Manhard Consulting Ltd., March 2013

of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species must be determined by the Board on a district basis.

#### *California Government Code*

Section 51104(g) of the Government Code defines a Timberland Production Zone (TPZ) as an area that has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses.

### **Forestry Resources on the Project Site**

The project site contains approximately 186 acres of forest land that supports native tree cover. The project site does not contain timberland or TPZs. There is no area within the project site that has zoning or a land use designation for forest or timber land.

## **REGULATORY FRAMEWORK**

### **FEDERAL REGULATIONS AND POLICIES**

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) administers the Farmland Protection Policy Act (FPPA), which addresses farmland in the following categories: prime farmland, farmland of statewide importance, and unique farmland.

The FPPA is in place to reduce the impact that federal programs have on the unnecessary conversion of farmland to non-agricultural uses. The FPPA assures that federal programs are administered in a manner that is similar to state and local government and private programs and policies established to protect farmland (7 U.S.C. Section 4201). Projects are subject to the FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and review of compliance is completed by a federal agency or with assistance from a federal agency. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners (U.S. Department of Agriculture, 2013).

There are no federally owned lands or federally funded projects within the project site vicinity.

### **STATE REGULATIONS AND POLICIES**

To conserve California's farmland and open space resources, the California Department of Conservation's Division of Land Resource Protection (DLRP) operates the Farmland Mapping and Monitoring Program (FMMP), the Williamson Act Program, and the Farmland Conservancy Program (Herson and Lucks, 2008).

Non-federal timberland in California is governed by the Forest Practice Act (Public Resources Code Section 4511 et seq.) and the Timberland Productivity Act (Government Code Section 5110 et seq.) (Herson and Lucks, 2008).



### **Farmland Mapping and Monitoring Program**

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called prime farmland. The maps are updated every 2 years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

At the time that this EIR section was prepared, Humboldt County was not included in the FMMP (Humboldt County, 2012; State of California Department of Conservation, 2014).

### **Williamson Act Program**

The Williamson Act, also called the California Land Conservation Act (Government Code Section 51200 et seq.), offers agricultural landowners reduced property tax assessments if they contract with counties or cities to voluntarily restrict their land to agriculture and open spaces uses.

The project site is not under a Williamson Act contract.

### **Farmland Conservancy Program**

The California Farmland Conservancy Program (CFCP) seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agriculture easements. Funding for the program is available under the CFCP Act (Public Resource Code Sections 10200-10277). The CFCP provides grant funding for projects that use and support agricultural conservation easements for protection of agriculture lands.

There are no agricultural conservation easements within the project site vicinity.

### **Forest Practice Act**

The Forest Practice Act, also known as the Z'berg-Nejedly Forest Practice Act of 1973, governs harvesting of non-federal timberland in California. The Forest Practice Act is designed to protect, enhance, and restore California's timberlands. The Forest Practice Act is implemented by the Board of Forestry and Fire Protection through a series of regulations called the California Forest Practice Rules.

The project site does not contain timber harvesting uses, and the project does not propose timber harvesting.

### **Timberland Productivity Act**

The Timberland Productivity Act implements a state policy to keep timberlands in production, rather than converted to other uses. The Timberland Productivity Act offers landowners within a TPZ property assessments based on the value of the land when restricted to timber growing. Uses within TPZs are limited to those compatible with timberland production, as defined by local ordinance.

There are no TPZs within the project site vicinity.

## LOCAL REGULATIONS AND POLICIES

Humboldt County implements the California Land Conservation Act and TPZ and oversees compliance with CEQA and the Humboldt County General Plan as they relate to agriculture and timber resources.

The Humboldt County General Plan (Humboldt County, 1983) contains goals and policies to protect agricultural and timber lands, as follows.

### Humboldt County General Plan – Agricultural Lands

The Humboldt County General Plan, Section 2522, states the following goal: “The optimum amount of agricultural land shall be conserved for and maintained in agricultural use to promote and increase Humboldt County’s agricultural production.” Policies listed in the General Plan relevant to the project site vicinity are as follows:

1. *Agricultural lands shall be conserved and conflicts minimized between agricultural and non-agricultural uses through the following:*
  - B. *By focusing future conversions in areas where land use conflicts would not threaten the viability of existing agriculture.*
  - C. *By promoting in-filling to achieve a more logical urban/agricultural boundary.*
  - E. *By assuring that public service facility expansions and non-agricultural development do not inhibit agricultural viability through degraded water supplies, access systems, air quality, and other relevant considerations, such as increased assessment costs.*
4. *Prime agricultural land should be retained in parcel sizes large enough to provide for an economic management base.*
10. *The conversion of agricultural land should only be considered where continued agricultural production is not economically feasible and proposed development is consistent with Remote Rural Development Section 2550.*

### Humboldt County General Plan – Timberlands

The Humboldt County General Plan, Section 2511, states the following goal: “To actively protect and conserve timberlands for long-term economic utilization and to actively enhance and increase county timber production capabilities.” Policies listed in the General Plan relevant to the project site vicinity are as follows:

1. *Timberlands shall be retained for timber production, harvesting and compatible uses, and reclassification of Timberland Production Zones (TPZ) shall be done in accordance with statutory requirements.*

2. *Avoid, wherever practical, the location of any state or local public improvements and any improvements of public utilities, and the acquisition of land therefore, in TPZs where the project will have a significant adverse effect on the production of timber.*
3. *Encourage the long-term management of timberlands.*
6. *Encourage, consistent with the Rural Development Section 2550, improved site productivity, timber growth and harvesting through intensive forestry management.*

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant impact on agriculture or forestry resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), or timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

### **LESS-THAN-SIGNIFICANT IMPACTS**

#### **Conflicts with Agricultural, Forest Land, or Timberland Zoning**

The project would not create any conflicts with existing agricultural, forest land, or timberland zoning. The impact would be less than significant, and no mitigation is required.

As discussed under “Environmental Setting” above, most of the 405.7-acre project site is currently zoned Agricultural Exclusive (AE); the only exception is a 12-acre area in the northern part of the site that is zoned MH-Q (Heavy Industrial-Qualified). None of the project site has forest land or timberland zoning.

Under the project, the 12-acre area would retain its MH-Q zoning, and approximately 307 acres of the site would remain zoned AE but would have a Qualified (Q) combining zone that would allow public recreation uses. Approximately 87 acres would be rezoned to a new Public Facility (PF)

zoning classification with a Q combining zone that would allow agricultural uses. (See further discussion in Chapter 3, Project Description, of this EIR.)

The project proposes to continue existing agriculture activities and forest land management on the project site. The project does not propose timber production.

With implementation of the project, the same areas of the site that are currently zoned for agricultural use would continue to have zoning that allows agricultural use. The proposed zoning of PF with a Q combining zone, which would apply to 87 acres of the site, would allow agricultural uses as well as recreational uses and would not cause significant conflict with the existing AE zone, which allows agricultural uses. Similarly, adding the Q combining zone to allow public recreation uses in the existing AE zone, as proposed by the project, would not cause significant conflict within the existing AE zone. The project includes rezoning as necessary to accommodate the proposed uses. The proposed project uses and zoning therefore would not conflict with the existing zoning of the project site. The project therefore would not create any conflicts with agricultural, forest land, or timberland zoning. The impact would be less than significant, and no mitigation is required.

The issue of project conversion of farmland to non-agricultural use is different from project consistency with existing agricultural zoning. The farmland conversion impact is addressed under Impact AGFR-1 below.

### **Conflict with Williamson Act Contract**

As discussed under “Regulatory Framework” above, the project site is not subject to a Williamson Act contract. The project therefore would not create a conflict with a Williamson Act contract. The impact would be less than significant, and no mitigation is required.

### **Conversion of Forest Land to Non-Forest Use**

The project would not result in conversion of forest land to non-forest use. The impact would be less than significant, and no mitigation is required.

As discussed under “Environmental Setting” above, the project site contains approximately 186 acres of land that supports native tree cover. No changes to the existing management of this land are proposed by the project. The impact would therefore be less than significant, and no mitigation is required.

## **POTENTIALLY SIGNIFICANT IMPACTS**

**Impact AGFR-1: The project would convert farmland (approximately 4 acres in Area 3 and 16 acres in Area 5) to non-agricultural use, reducing the overall inventory of agricultural land in Humboldt County and conflicting with Humboldt County General Plan policies for protecting agricultural land. (PS)**

The conversion of farmland can occur through direct conversion to urban uses or the land falling idle due to conflicts with nearby urban uses, subdivision of the land, or change in use to parkland

or open space. While the project would generally increase agricultural production on the project site, it would convert farmland to non-agricultural uses in certain limited areas of the site, representing a significant impact.

Appendix G of the CEQA Guidelines states that a project would have a significant impact if it would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resource Agency, to non-agricultural use (see “Significance Criteria” above). Humboldt County does not participate in the statewide FMMP; thus, it is not possible to analyze project impacts on these lands. However, the NRCS Soil Survey provides soil maps and data for the project area (NRCS, 2013). The NRCS soil survey data were used to analyze impacts on agricultural resources on the project site.

### **Significance of Farmland Conversion Based on LESA Model**

According to Appendix G of the CEQA Guidelines, in determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California LESA model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. The LESA model uses soil types and characteristics, relative project size, water availability, and surrounding uses as factors to rate the project based on its agricultural value. A final score is determined based on weighted ranks of the individual factors.

The LESA model was used to confirm the significance of the conversion of farmland on the project site. For the purpose of this analysis, the LESA model is used to assess the significance of the conclusions presented in this report. The LESA model report and findings are included in Appendix B.

The final LESA score for the project was 45, with a Land Evaluation subscore (soil types and characteristics to agriculture) of 27.9 and a Site Assessment subscore (project size, water availability, surrounding agriculture) of 17.1. This score is considered significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points. Since the Site Assessment subscore was less than 20 points for the project site, pursuant to the LESA model, the proposed conversion of the site to non-agricultural uses would not be considered significant.

### **Significance of Farmland Conversion Based on Humboldt County General Plan Policies**

Although the proposed project would not have a significant impact based on the LESA model results, it would conflict with the Humboldt County General Plan policies for protecting agricultural land. The policies state that “agricultural lands shall be conserved” and that “the conversion of agricultural land should only be considered where continued agricultural production is not economically feasible and the proposed development is consistent with the Remote Rural Development Section 2550” (see “Regulatory Framework” above).

In general, agricultural activities on the project site would continue as part of the project, and most of the existing agricultural buildings would remain in use. In addition, proposed physical changes to

the project site would allow expanded and new opportunities for agricultural uses of the site. The project proposes community uses of existing agricultural land to increase the productivity of the land by allowing multiple farmers, community groups, and individuals to use the land and existing facilities (see further discussion in Chapter 3, Project Description, of this EIR).

In Area 3, however, the project would include 500 spaces of temporary on-site parking for moderate- and large-sized events. This parking area would cover approximately 4 acres of Prime Farmland that are not irrigated (see Figure 4.2-1). According to the project applicant, this field is currently producing a hay crop every spring (see Figure 4.2-2), and the field would be used for parking after crop harvest (Lobato, 2014). Under the project, Area 3 would retain its AE zoning but have a Q combining zone to allow recreational uses. (See further discussion in Chapter 3, Project Description, of this EIR.)

In addition, in Area 5, the project proposes a community facilities and sports area. Area 5 has a soil rating of excellent and a farmland classification of "Prime Farmland (if irrigated)" (see Figure 4.2-1). According to the project applicant, however, Area 5 is not currently irrigated and is not under agricultural production, and similar soils in this area have had poor crop production (Lobato, 2014). Under the project, Area 5 would be rezoned to PF. (See further discussion in Chapter 3, Project Description, of this EIR.)

The total of approximately 20 acres of farmland (approximately 4 acres in Area 3 and 16 acres in Area 5) that would be converted to non-agricultural use by the project would represent less than 0.01 percent of Humboldt County's total agricultural acreage (approximately 345,238 acres) and the total acreage with an agricultural land use designation in the Garberville/Redway/Alderpoint/Benbow Community Planning Area of southern Humboldt County (approximately 7,146 acres).

### **Applicant Rationale for Farmland Conversion**

According to the project applicant, the project was designed so that many of the proposed activities would occur outside the areas of the site that are suitable for agriculture. The proposed Community Commons Area (Area 4) that would be used for educational camps and events is within a forested area that was selected for this proposed use to avoid impacts on agriculture. According to the applicant, Area 5 was chosen for the proposed community facilities and sports area in part due to the poorer soil compared to other areas of the site and the lack of agricultural productivity in this area of the site. Also according to the applicant, project timing would allow for compatible recreation and agricultural uses; for example, in Area 3, harvest of hay (conducted in mid-spring) would be completed before events that would use field parking (late spring through summer) (Lobato, 2015). (See Chapter 3, Project Description, of this EIR for further description of the timing of the hay harvesting and temporary parking use.)

### **Conclusion**

Although the LESA model score resulted in a scoring decision of "Less than Significant," the project would conflict with Humboldt County General Plan policies that encourage conservation of agricultural land and only allow the conversion of agricultural land where continued agricultural production is not economically feasible and the proposed development is consistent with the

Remote Rural Development Section 2550. While the project would generally increase agricultural production on the project site, conversion of farmland to non-agricultural uses in certain areas of the site would represent a significant impact.

*Mitigation Measure AGFR-1: The 4-acre temporary parking zone in Area 3 shall be not be used for parking until after the hay crop is harvested. The project applicant shall remove all trash and debris from fields used for parking and return the field to productive use for the next season.*

*To protect the continued agricultural use of Area 3, the applicant shall record a deed restriction on the Area 3 part of the property that would convey to the County the development rights for any development other than the existing uses. This restriction shall preclude any improvements in the area except those for agricultural purposes, such as greenhouses and barns. The restriction would allow the use of the area for parking for temporary events, and the use of ranch roads for moving people and equipment associated with those events, because no new development would be needed for these temporary uses. The deed restriction may include a clause releasing the restriction at the time the zoning and general plan are changed to limit the use of the property to agricultural uses.*

*No additional mitigation is available for the loss of farmland. This measure would help reduce the farmland conversion impact, but the project would still result in a net loss of farmland. The impact would therefore be significant and unavoidable. (SU)*

## **CUMULATIVE IMPACTS**

The potential impacts of proposed development on agriculture and forestry resources tend to be site-specific, and the overall cumulative effect would depend on the degree to which resources are protected on a particular site. Further environmental review of specific development proposals in the vicinity of the project site should serve to ensure that important agriculture and forestry resources are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts.

As discussed in the above project-specific analysis, the project would not result in a significant impact on existing forestry resources. The project would convert certain limited areas of farmland to non-agricultural use, representing a significant, unavoidable impact as discussed in Impact AGFR-1 above. Overall, however, the project could be expected to increase agricultural production on the project site. Therefore, the effect of the project on agriculture and forestry resources, in combination with other past, present, and foreseeable projects, would be less than significant. The project would not result in or contribute to any significant cumulative impacts on these resources.

## **REFERENCES**

Herson, A.I. and G.A. Lucks, 2008, California Environmental Law and Policy: A Practical Guide. Point Arena, CA. Solano Press Books, pages 287-292 and 365-367.

Humboldt County, 1983, *Humboldt County General Plan: Volume I Framework Plan*.

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## 4.3 AIR QUALITY

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### INTRODUCTION

This section provides background information regarding air resources within the project area, the regulations and programs that relate to air quality, and an assessment of the potential impacts of implementing the proposed project.

The project site is located within North Coast Air Basin (NCAB) which includes all of Humboldt, Del Norte, Trinity, and Mendocino counties, as well as a portion of Sonoma County. The North Coast Unified Air Quality Management District (NCUAQMD) regulates air quality in the Humboldt, Del Norte and Trinity County portions of the NCAB.

Air Quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

### ENVIRONMENTAL SETTING

#### HUMBOLDT COUNTY AND NCAB

In general, the climate of northern coastal California is characterized by cool summers and mild winters with frequent fog and significant amounts of rain. In coastal areas, the ocean helps to moderate temperatures year-round. Further inland, the summers are hotter and drier and the winters colder and more snowy. At higher elevations in inland areas, it is cooler in the summers and snowier in the winter. The average annual rainfall in the County ranges from 38 inches in Eureka to 141 inches in Honeydew. Approximately 90 percent of the annual precipitation falls between October and April. Higher rainfall in winter often influences high river levels. Winter snowfall is common at higher elevations. The dry season is between May and September.

Average temperatures on the coast in Eureka range from the low 60s in the summer to the low 40s during the winter. Inland average temperatures, such as in Willow Creek or Hoopa, range from the 90s to the 30s. On the coast, summer fog is common when inland temperatures rise.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to drive the movement and dispersal of air pollutants. Winds control the rate and dispersion of local pollutant emissions. In the California North Coast Air Basin, dominant winds exhibit a seasonal pattern, especially in coastal areas. In the summer months, strong north to northwesterly winds are common and during the winter, storms from the South Pacific increase the percentage of days with winds from southerly quadrants. Wind direction often assumes a daily pattern in the river canyons that empty into the Pacific. In the morning hours, cool air from higher elevations flows down the valleys while later in the day as the lower elevation air heats up, this pattern is reversed and the airflow heads up the canyon. These airflows are often

quite strong. Offshore and onshore flows are also common along the coast and are associated with pressure systems in the area. Onshore flows frequently bring foggy cool weather to the coast, while offshore flows often blow fog away from the coast and bring sunny warm days.

Humboldt County commonly experiences two types of inversions, vertical and horizontal, that affect the vertical depth of the atmosphere through which pollutants can be mixed. Vertical air movement is important in spreading pollutants through a thicker layer of air. Horizontal movement is important in spreading pollutants over a wider area. Upward dispersion of pollutants is hindered wherever the atmosphere is stable; that is, where warm air overlies cooler air below.

As a result of the region's topography and coastal air movements, inversion conditions are common in the NCAB. Inversions are created when warm air traps cool air near the ground surface and prevents vertical dispersion of air. Valleys, geographic basins, and coastal areas surrounded by higher elevations are the most common locations for inversions to occur. During the summer, inversions are less prominent, and vertical dispersion of the air is good. However, during the cooler months between late fall and early spring, inversions last longer and are more geographically extensive; vertical dispersion is poor, and pollution may be trapped near the ground for several concurrent days.

Radiation inversion occurs when the air layer near the surface of the ground cools and may extend upward several hundred feet. Radiation inversion in Humboldt County is found in the night and early mornings almost daily, but is more prominent from late fall to early spring when there is less sunlight and it is cooler. Radiation inversion tends to last longer into the morning during the winter months than in the summer.

Subsidence inversion is caused by downward moving air aloft, which is common in the area of high pressure along and off the coast. The air warms at a rate of 5.5 degrees Fahrenheit (°F) per 1,000 feet as it descends. Thus, it arrives at a lower height warmer than the air just below and limits the vertical mixing of air. Subsidence inversion often affects a large area and is more common during the summer months. This inversion, which usually occurs from late spring through the early fall, can be very strong and shallow given the cooling of the lower layers from the cool ocean water.

In the NCAB, air quality is predominantly influenced by the climatic regimes of the Pacific. In summer, warm ground surfaces draw cool air in from the coast, creating frequent thick fogs along the coast and making northwesterly winds common. In winter, precipitation is high, winter time surface wind directions are highly variable, and weather is more affected by oceanic storm patterns.

### **AIR POLLUTANTS OF CONCERN AND HEALTH EFFECTS**

The most problematic pollutant in the project area is particulate matter. The health effects and major sources of these pollutants, as well as other key pollutants, are described below. Toxic air contaminants are a separate class of pollutants and are discussed later in this section.

## Ozone

Ground-level ozone ( $O_3$ ), commonly referred to as smog, is greatest on warm, windless, sunny days.  $O_3$  is not emitted directly into the air, but is formed through a complex series of chemical reactions between reactive organic gases (ROG) and nitrogen oxides ( $NO_x$ ). These reactions occur over time in the presence of sunlight.  $O_3$  formation can occur in a matter of hours under ideal conditions. The time required for  $O_3$  formation allows the reacting compounds to spread over a large area, producing a regional pollution concern. Once formed,  $O_3$  can remain in the atmosphere for 1 or 2 days.

$O_3$  is also a public health concern because it is a respiratory irritant that increases susceptibility to respiratory infections and diseases, and because it can harm lung tissue at high concentrations. In addition,  $O_3$  can cause substantial damage to leaf tissues of crops and natural vegetation and can damage many natural and human-made materials by acting as a chemical oxidizing agent. The principal sources of the  $O_3$  precursors (ROG and  $NO_x$ ) are the combustion of fuels and the evaporation of solvents, paints, and fuels.

## Particulate Matter

Particulate matter (PM) can be divided into several size fractions. Coarse particles ( $PM_{10}$ ) are smaller than 10 microns in diameter and arise primarily from natural processes, such as wind-blown dust or soil. Fine particles ( $PM_{2.5}$ ) are less than 2.5 microns in diameter and are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces, and wood stoves produces fine particles.  $PM_{2.5}$ , and to some extent  $PM_{10}$ , contain particles formed in the air from primary gaseous emissions. Examples include sulfates formed from sulfur dioxide ( $SO_2$ ) emissions from power plants and industrial facilities; nitrates formed from  $NO_x$  emissions from power plants, automobiles, and other combustion sources; and carbon formed from organic gas emissions from automobiles and industrial facilities.

The level of  $PM_{2.5}$  in the air is a public health concern because it can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses such as bronchitis and asthma.

## Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicle emissions are the dominant source of CO in the NCAB. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can cause dizziness, headaches, unconsciousness, and even death. CO can also aggravate cardiovascular disease. Relatively low concentrations of CO can significantly affect the amount of oxygen in the bloodstream because CO binds to hemoglobin 220 to 245 times more strongly than oxygen.

CO emissions and ambient concentrations have decreased significantly in recent years. These improvements are due largely to the introduction of cleaner-burning motor vehicles and motor

vehicle fuels. CO is still a pollutant that must be closely monitored, however, due to its severe effect on human health.

Elevated CO concentrations are usually localized and are often the result of a combination of high traffic volumes and traffic congestion. Elevated CO levels develop primarily during winter periods of light winds or calm conditions combined with the formation of ground-level temperature inversions. Wintertime CO concentrations are higher because of reduced dispersion of vehicle emissions and because CO emission rates from motor vehicles increase as temperature decreases.

### **Nitrogen Dioxide**

Nitrogen dioxide (NO<sub>2</sub>) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO<sub>2</sub> are combustion devices such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Construction devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub>. The combined emissions of NO and NO<sub>2</sub> are referred to as NO<sub>x</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with O<sub>3</sub>, the NO<sub>2</sub> concentration in a particular geographic area may not be representative of the local NO<sub>x</sub> emission sources.

Inhalation is the most common route of exposure to NO<sub>2</sub>. Because NO<sub>2</sub> has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure can result in a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation. Symptoms that are more significant may include chemical pneumonitis or pulmonary edema with breathing abnormalities, cyanosis, chest pain, and rapid heartbeat.

### **Sulfur Dioxide**

Sulfur dioxide (SO<sub>2</sub>) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with exposure to SO<sub>2</sub> pertain to the upper respiratory tract. SO<sub>2</sub> is a respiratory irritant, with constriction of the bronchioles occurring with inhalation of SO<sub>2</sub> at 5 parts per million (ppm) or more. On contact with the moist mucous membranes, SO<sub>2</sub> produces sulfurous acid, which is a direct irritant. Similar to NO<sub>2</sub>, the severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure to high concentrations of SO<sub>2</sub> may result in edema of the lungs or glottis and respiratory paralysis.

### **Toxic Air Contaminants**

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of

exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel particulate matter (DPM) is a TAC of growing concern in California. According to the California Almanac of Emissions and Air Quality (CARB, 2009), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being DPM. In 1998, after a 10-year scientific assessment process, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. The exhaust from diesel engines contains hundreds of different gaseous and particulate components, many of which are toxic. Many of these compounds adhere to the particles, and because diesel particles are so small, they penetrate deep into the lungs. DPM has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships, and farm equipment, are by far the largest source of diesel emissions. Studies show that DPM concentrations are much higher near heavily traveled highways and intersections.

Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. No ambient monitoring data are available for DPM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses CARB's emissions inventory PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and the results from several studies to estimate concentrations of DPM. In addition to DPM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene pose the greatest existing ambient risk, for which data are available, in California. However, DPM poses the greatest health risk among the TACs mentioned. Since 1990, the health risk from DPM has been reduced by 52 percent. Overall, levels of most TACs have decreased since 1990 except for para-dichlorobenzene and formaldehyde (CARB, 2009).

Unlike criteria pollutants like carbon monoxide, TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. Two types of risk are usually assessed: chronic non-cancer risk and acute non-cancer risk. DPM has been identified as a carcinogenic material but is not considered to have acute non-cancer risks. The State of California has begun a program of identifying and reducing risks associated with DPM. The program consists of new regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles; new retrofit requirements for existing on-road, off-road, and stationary diesel-fueled engines and vehicles; and new diesel fuel regulations to reduce the sulfur content of diesel fuel as required by advanced diesel emission control systems.

Land uses where individuals could be exposed to high levels of diesel exhaust include:

- Railroad operations;
- Warehouses;
- Schools with a high volume of bus traffic;
- High-volume highways; and
- High-volume arterials and local roadways with a high level of diesel traffic.

### **Sensitive Receptors**

Some groups of people are more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks.

The project site is located within 0.25-mile of sensitive receptors, a residential subdivision – Rivercrest Drive, including a residence that is located within 1,000 feet to the northeast. Other sensitive receptor sites in the area are the Jerold Phelps Community Hospital and Cedar Street Senior Housing, 1.5 miles to the northeast, which is well outside the project area, across Highway 101 and on the northeast corner of the town of Garberville. Currently, there are no schools for young children in the Garberville area.

## **REGULATORY FRAMEWORK**

Air quality in the NCAB is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality in Humboldt County are discussed below along with their individual responsibilities.

### **AMBIENT AIR QUALITY STANDARDS**

Both the U.S. Environmental Protection Agency (EPA) and CARB established ambient air quality standards for common air pollutants. These ambient air quality standards are levels of contaminants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and State ambient air quality standards for important pollutants are summarized in **Table 4.3-1**. The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, federal and State standards differ in some cases. In general, California standards are more stringent. This is particularly true for nitrogen dioxide (NO<sub>2</sub>) and coarse particulate matter (PM<sub>10</sub>).

**TABLE 4.3-1 FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

<b>Pollutant</b>	<b>Averaging Time</b>	<b>Federal Primary Standard</b>	<b>State Standard</b>
Ozone (O <sub>3</sub> )	1-Hour	--	0.09 ppm
	8-Hour	0.075 ppm	0.07 ppm
Coarse Particulate Matter (PM <sub>10</sub> )	24-Hour	150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
	Annual Average	--	20 µg/m <sup>3</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	24-Hour	35 µg/m <sup>3</sup>	--
	Annual Average	12µg/m <sup>3</sup>	12 µg/m <sup>3</sup>
Carbon Monoxide (CO)	1-Hour	35 ppm	20 ppm
	8-Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.100 ppm	0.18 ppm
	Annual Average	0.053 ppm	0.03 ppm
Sulfur Dioxide (SO <sub>2</sub> )	1-Hour	0.075 ppm	0.25 ppm
	24-Hour	0.14 ppm	0.04 ppm
	Annual Average	0.03 ppm	--

Notes: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter  
Source: BAAQMD, 2014; EPA, 2013.

## AMBIENT AIR QUALITY MONITORING

Air quality monitoring has been conducted in the North Coast Air Basin since 1982 when the NCUAQMD was formed. The California Air Resources Board (CARB) operates a regional network of air pollution monitoring stations that provide information on ambient concentrations of criteria air pollutants and toxic air contaminants. Monitoring results have shown that the principal pollutant of the North Coast, including Humboldt County, is particulate matter 10 microns or less in diameter, designated as PM<sub>10</sub>. NCUAQMD measures PM<sub>10</sub> at sites in Crescent City, Eureka, and Weaverville. Data for Humboldt County is collected at air quality stations, located in Eureka on Jacobs Avenue and Humboldt Hill. The Eureka air quality stations also monitor for the federal Particulate Matter Standard (PM<sub>2.5</sub>). Data from the monitoring stations indicate that the air quality in the vicinity of the monitoring station is improving.

The NCUAQMD is considered in “attainment” for the criteria pollutants of ozone and PM<sub>2.5</sub>, attainment for the federal PM<sub>10</sub> standard, and in “nonattainment” for the State 24-hour particulate (PM<sub>10</sub>) standard. **Table 4.3-2** shows historical occurrences of pollutant levels exceeding State and federal ambient air quality standards for the 3-year period of 2011 through 2013. Monitoring data is reported from the Humboldt Hill site, unless otherwise noted as from the Jacobs Avenue site.

## AMBIENT AIR QUALITY ATTAINMENT STATUS

**Table 4.3-3** shows the federal and State attainment status for the NCAB. The region is nonattainment for State PM<sub>10</sub> standards.

Areas with air quality that exceeds adopted air quality standards are designated as “nonattainment” areas for the relevant air pollutants. Nonattainment areas are sometimes further classified by degree (marginal, moderate, serious, severe, and extreme for ozone, and moderate and serious for

**TABLE 4.3-2 AMBIENT AIR QUALITY MONITORING DATA IN EUREKA, 2011-2013**

Pollutant	Pollutant Concentration by Year		
	2011	2012	2013
<b>Ozone</b>			
Maximum 1-hour concentration (ppm)	0.047	0.053	0.055
Maximum 8-hour concentration (ppm)	0.043	0.049	0.049
<b>Coarse Particulate Matter (PM<sub>10</sub>)</b>			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	<b>53.9<sup>a</sup></b>	28.8	44.6
Annual average (µg/m <sup>3</sup> )	19.1 <sup>a</sup>	9.6	11.9
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>			
Maximum 24-hour average (µg/m <sup>3</sup> )	22.1	21.2	21.1
Annual average (µg/m <sup>3</sup> )	ND	6.7	ND

Note: ND = No data; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

**Bold** = in excess of standards; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>a</sup> Data reported from the Jacobs Avenue monitoring station.

Source: CARB, 2014.

**TABLE 4.3-3 FEDERAL AND STATE AMBIENT AIR QUALITY MONITORING ATTAINMENT STATUS FOR NCAB**

Pollutant	Federal	State
Ozone	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Particulate Matter 2.5 Microns or Smaller	Attainment	Unclassified
Particulate Matter 10 Microns or Smaller	Attainment	Non-attainment
Sulfates	Not applicable	Attainment
Lead	Attainment	Attainment
Hydrogen Sulfide	Not applicable	Attainment
Vinyl Chloride	Not applicable	Attainment
Carbon Monoxide	Attainment	Attainment

Source: NCUAQMD, 2014a and 2014b.

carbon monoxide and PM<sub>10</sub>) or status (“nonattainment-transitional”). Areas that comply with air quality standards are designated as “attainment” areas for the relevant air pollutants. “Unclassified” areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to comply with the ambient air quality standard. State Implementation Plans (SIPs) must be prepared by states for areas designated as federal



nonattainment areas to demonstrate how the area will come into attainment of the exceeded federal ambient air quality standard.

As detailed in the discussion below, both CARB and the EPA have established air pollution standards in an effort to protect human health and welfare. Geographic areas are designated attainment if these standards are met and nonattainment if they are not met. In addition, each agency has several levels of classifications based on severity of the problem.

## **FEDERAL REGULATIONS**

The EPA is responsible for enforcing the federal Clean Air Act and the 1990 amendments to it, as well as the national ambient air quality standards (federal standards) that the EPA establishes. These standards identify levels of air quality for six criteria pollutants, which are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants are O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead. The EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf) and sources that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking.

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs.

## **STATE REGULATIONS**

### **California Air Resources Board**

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the federal Clean Air Act (federal CAA) requirements, and regulating emissions from motor vehicles and consumer products within the State. CARB has established emission standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish ambient air quality standards for the State (State standards) and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same six criteria pollutants as the federal CAA and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride. They are more stringent than the federal standards and, in the case of PM<sub>10</sub> and NO<sub>2</sub>, far more stringent.

DPM emissions in California are projected to decrease in the future and are reflected in the EMFAC2011 emissions data. New CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet new 2010 engine standards that have much lower DPM and PM<sub>2.5</sub> emissions. This regulation will substantially reduce these emissions between

2013 and 2023, with the greatest reductions occurring in 2013 through 2015. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads much more quickly.

### **Tanner Air Toxics Act**

California regulates TACs primarily through the Tanner Air Toxics Act (Tanner Act) and the Air Toxics 'Hot Spots' Information and Assessment Act of 1987 (Assembly Bill (AB) 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level 1) prepare a toxic-emission inventory, 2) prepare a risk assessment if emissions are significant, 3) notify the public of significant risk levels, and 4) prepare and implement risk reduction measures. (See more discussion under "AB 2588 Air Toxics 'Hot Spots' Information and Assessment Act of 1987" below.) CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

### **Senate Bill 656**

In 2003, the California Legislature enacted Senate Bill (SB) 656 to reduce public exposure to PM<sub>10</sub> and PM<sub>2.5</sub>. In 2004, CARB approved a list of the most readily available, feasible, and cost-effective control measures that can be employed by air districts to reduce PM<sub>10</sub> and PM<sub>2.5</sub> (collectively referred to as PM). The list is based on rules, regulations, and programs existing in California as of January 1, 2004, for stationary, area-wide, and mobile sources. In 2005, air districts adopted implementation schedules for selected measures from the list. The implementation schedules identify the appropriate subset of measures and the dates for final adoption, implementation, and the sequencing of selected control measures. In developing the implementation schedules, each air district prioritized measures based on the nature and severity of the PM problem in their area and cost-effectiveness. Consideration was also given to ongoing programs such as measures being adopted to meet national air quality standards or the State ozone planning process.

### **Assembly Bill 2588 Air Toxics "Hot Spots" Information and Assessment Act of 1987**

In 1987, the California Legislature established the Air Toxics "Hot Spots" Information and Assessment Act of 1987, AB 2588 (Health and Safety Code Sections 44300-44394). It requires facilities to report their air toxics emissions, ascertain health risks, and notify nearby residents of significant risks. The emissions inventory and risk assessment information from this program has

been incorporated into this report. In 1992, the “Hot Spots” Act was amended by SB 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

## **REGIONAL REGULATIONS**

Humboldt County is located within the North Coast Air Basin. The North Coast Air Basin is comprised of Del Norte, Humboldt, Mendocino, and Trinity counties, as well as the northern and western portion of Sonoma County (as defined in the California Code of Regulations, Title 17, Division 3, Chapter 1, Article 1). The NCUAQMD is responsible for developing air quality plans, monitoring air quality, and reporting air quality data for the North Coast Air Basin. In addition, the NCUAQMD has the following responsibilities: overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality related sections of environmental documents required by CEQA.

## **Air Quality Plans**

According to the PM<sub>10</sub> Attainment Plan adopted by NCUAQMD (May 11, 1995), Humboldt County’s air quality has violated the California PM<sub>10</sub> ambient standard, and as a result, the district has been classified as a PM<sub>10</sub> non-attainment area. Humboldt County PM<sub>10</sub> emissions are generated by a variety of sources. The PM<sub>10</sub> Attainment Plan includes control strategies that are intended to achieve the attainment goals that are identified in the Plan. Control strategies include transportation control measures such as encouraging the use of public transit and replacing the diesel powered bus fleet with natural gas fueled models, encouraging car-pooling and bicycle commuting, removal or repair of vehicles with inefficient emission control systems, and traffic flow improvements that reduce idling and VMT. Land use control measures encourage mixed use or more dense development. The PM<sub>10</sub> Attainment Plan also includes measures that limit residential burning as well as various measures to encourage the installation of EPA certified woodstoves.

## **HUMBOLDT COUNTY GENERAL PLAN**

The adopted Humboldt County General Plan addresses air quality in Chapter 3260. However, no specific policies address air quality. The Plan discusses concerns about particulate matter and industrial air emissions.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, air quality impacts are considered significant if implementation of the proposed project would:

- Conflict with or obstruct implementation of an applicable air quality plan;

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

### **LESS-THAN-SIGNIFICANT IMPACTS**

#### **Conflict With or Obstruction of Implementation of Air Quality Plan**

As discussed below under Impact AIR-1, operation of the project would not involve substantial emissions of PM<sub>10</sub>, the only criteria pollutant for which the area is non-attainment. Construction emissions due to project implementation would be mitigated to a less-than-significant level. Therefore, it is determined that the project would not conflict with or obstruct implementation of the 1995 PM<sub>10</sub> Attainment Plan and this impact would be less than significant.

#### **Violation of Air Quality Standards**

As discussed under Impact AIR-1, operation of the project would not involve substantial emissions of PM<sub>10</sub>, the only criteria pollutant for which the area is non-attainment. Construction emissions due to project implementation would be mitigated to a less-than-significant level.

Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high, localized concentrations of carbon monoxide. However, the area is attainment from carbon monoxide standards at both the State and federal level. As a point of reference, Bay Area Air Quality Management District (BAAQMD) screening guidance indicates that a project would have a less-than-significant impact with respect to carbon monoxide levels if project traffic projections indicate traffic levels would not increase at any affected intersection to more than 44,000 vehicles per hour. Because intersection volumes in the project area are far less, the project would have a less-than-significant impact with respect to carbon monoxide.

#### **Objectionable Odors**

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses. The project's odor impacts would therefore be less than significant.

### **Exposure of Sensitive Receptors to Substantial Pollutant Concentrations**

Health risks from TACs are a function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks. The proposed project would have a significant effect if it would allow the exposure of sensitive receptors to substantial levels of TAC.

The use of construction-related off-road heavy-duty diesel equipment would be temporary and limited. In addition, the CARB adopted emission standards whereby engine manufacturers are now required to meet stricter exhaust standards for NO<sub>x</sub> and PM, making emissions from off-road engines substantially less. The closest sensitive receptors (residences) are located over 800 feet from proposed construction of the Community Facilities/Sports Area, the area with the greatest magnitude of proposed construction equipment. As a result, construction-related TACs emissions would not expose sensitive receptors to substantial emissions of TACs. It is also important to note that compliance with the construction dust mitigation requirements listed under Mitigation Measure AIR-1 below would also reduce PM exhaust emissions.

There would be no stationary sources of TACs as part of the project operation. Because construction-related sources are temporary in nature, and the majority of emissions would occur at a substantial distance from nearby receptors, the community health risk impact posed by temporary construction equipment would be a less-than-significant impact.

### **POTENTIALLY SIGNIFICANT IMPACTS**

This section addresses the potentially significant air quality impacts of the project and recommends mitigation measures.

#### **Construction Emissions**

**Impact AIR-1: During construction, the project could result in a cumulatively considerable net increase of criteria pollutants (i.e., PM<sub>10</sub>) for which the project region is nonattainment under an applicable national or State ambient air quality standard. (PS)**

Humboldt County is in attainment of all federal and State criteria air pollutant standards, except for State PM<sub>10</sub> levels, for which the entire North Coast Air Basin is currently designated as a non-attainment area.

During grading and construction activities, dust would be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the proposed project would be a potentially significant impact. Implementation of Mitigation Measure AIR-1 would assure that best management practices are implemented to feasibly control fugitive dust emissions, and this impact would be considered less than significant with mitigation.

Construction activities also generate exhaust emissions from construction equipment and the hauling materials to and from construction sites, and from motor vehicles transporting construction

crews. Exhaust emissions from construction activities vary daily as construction activity levels change. However, fugitive dust from a project construction site is typically the main source of PM<sub>10</sub> emissions and, for the most part, the proposed project would not require substantial use of heavy-duty construction equipment.

#### *Area 1 – Tooby Memorial Park*

Construction in this area would involve minimal grading, and heavy equipment would be limited to less than one single dump truck and small tractor.

#### *Area 2 – Park Headquarters*

The new construction and conversion of structures is expected to involve minimal grading, and heavy equipment would be limited to less than one single dump truck and small tractor.

#### *Area 3 – Main Agricultural Area*

Construction activity in this area is anticipated to be limited and is not expected to require heavy equipment.

#### *Area 4 – Community Commons*

The proposed new trail in this area would be constructed from hand tools and the bridge would be constructed using a flat-bed trailer.

#### *Area 5 – Community Facilities/Sports Area*

There would be direct exposure of soils when the ball fields, parking area, service road, skate park, playground, and proposed buildings are constructed. Substantial grading may be needed to create a level play field and parking areas.

While the depth of grading would be less than 24 inches, there is a large area that would be graded; approximately 9 acres (14,333 cubic yards) of soil may be disturbed during construction of the ball fields, structures, and parking area. Grading would be graduated from 0 to a maximum of 24 inches.

Construction would require the use of several types of heavy equipment, including graders, backhoes, loaders, and dump trucks.

After grading occurs, the exposed soils are proposed to be covered with material that would prevent dust emissions. The parking areas are proposed to be covered with 3 inches of gravel, and the ball fields would be covered by turf.

#### *Area 6 – Riverfront*

Construction in this area would be limited to a single dump truck and small tractor.

### *Area 7 – Forestland*

The proposed trails in this area would have unpaved surfaces and would be constructed with hand tools.

### *Installation of Water Tanks*

All tanks would be installed without soil removal or disturbance. Installation would require one pickup truck for materials.

### *Water Pipe Installation*

Installation of proposed pipeline and waterline is expected to take less than three days (with the installation of the waterline from Area 3 to the Sports Facilities – Area 5 occurring at the same time as installation of the ball fields). All soil removed during trenching would be replaced after installation, and equipment proposed for use includes two delivery trucks.

*Mitigation Measure AIR-1: The project lies within the jurisdiction of North Coast Unified Air Quality Management District (NCUAQMD). All project construction and management shall comply with NCUAQMD ordinances for dust control. Project grading and construction shall use best available fugitive dust control measures during operations in order to reduce the amount of particulate matter that is present in the air as a result of man-made fugitive dust sources.*

*The following best management practices shall be implemented to reduce emissions and control dust during all project construction and grading activities that involve ground disturbance of 1,000 square feet or more:*

- 1. Water all active construction areas at least twice daily;*
- 2. Maintain at least 2 feet of freeboard for haul trucks;*
- 3. Cover all trucks hauling soil, sand, and other loose materials;*
- 4. Plant vegetative ground cover in disturbed areas as soon as possible;*
- 5. Cover inactive soil storage piles; and*
- 6. Treat accesses to a distance of 100 feet from the paved or gravel road with a 6- to 12-inch layer of wood chips or mulch, or treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel. (LTS)*

## **Operational Emissions**

**Impact AIR-2: The project would result in the potential release of fugitive PM<sub>10</sub> emissions from temporary large and medium-sized events due to a temporary increase in the number of vehicles on dirt roads. (PS)**

The proposed project would lead to increases in the number of vehicle trips and the distance of vehicle trips in the vicinity of the project site. Visitors attending events at the site, or playing or watching games at the new ball fields, would result in increased PM<sub>10</sub> emissions, for which the North Coast Air Basin is in non-attainment for State standards.

The California Emissions Estimator Model (CalEEMod) version 2013.2.2 was used to predict greenhouse gas (GHG) emissions from operation of the project assuming full buildout. The project land use type and size, trip generation rate and other project-specific information were input to the model. The use of this model for evaluating emissions from land use projects is recommended statewide. Unless otherwise noted below, the CalEEMod model defaults for Humboldt County were used. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. CalEEMod output worksheets are included in **Appendix C**.

#### *Land Use Descriptions*

The proposed project land use was input into CalEEMod as 405.7 acres entered as “City Park.”

#### *Trip Generation Rates*

Trip generation rates were input to CalEEMod using the daily trip numbers provided in the project traffic report by W-Trans.

#### *Model Year*

The model uses mobile emission factors from the California Air Resources Board’s EMFAC2011 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. The year 2016 was analyzed since it is the first full year that the project sites could conceivably be occupied, assuming construction were to occur in 2015.

#### *Other Inputs*

Default model assumptions for emissions associated with area sources, solid waste generation and water/wastewater use were applied to the project.

#### *Computed Emissions*

**Table 4.3-4** shows computed project operational emissions. As shown in Table 4.3-4, PM<sub>10</sub> emissions from project operation would be 0.9 tons per year. For comparison, stationary sources in the air basin are restricted to 15.0 tons of PM<sub>10</sub> emissions per year (NCUAQMD 2014c). While there are no thresholds of significance established by the Air District for PM<sub>10</sub>, predicted operational emissions are relatively low. Operation of the project would include events ranging from small (800 people) to large (up to 5,000). The air quality impact would be potentially significant unless mitigated. Implementation of Mitigation Measures AIR-2a and AIR-2b would reduce this impact to a less-than-significant level.

***Mitigation Measure AIR-2a:** On-site access roads used for movement of people and goods shall be watered at least twice daily for large and medium-sized events to reduce PM<sub>10</sub> emissions. Access roads shall be treated to a distance of 100 feet from the paved or gravel road with a 6- to 12-inch layer of wood chips or mulch, or accesses shall be treated to a distance of 100 feet from the paved road with a 6-inch layer of gravel.*



**TABLE 4.3-4 PROJECT OPERATIONAL EMISSIONS (ANNUAL TONS PER YEAR)**

	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Total Emissions	90.6	2.7	0.9	0.3

Note: ROG = reactive organic gases, NO<sub>x</sub> = nitrogen oxides, PM<sub>10</sub> = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM<sub>2.5</sub> = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less

Source: Illingworth & Rodkin, Inc., 2014.

*Mitigation Measure AIR-2b: For large and medium-sized events, the Traffic Control Plan (see Appendix E) shall be implemented. The Traffic Control Plan demonstrates how shuttle ridership and carpools would be strongly encouraged in an effort to reduce traffic on Sprowel Creek Road; how the use of shuttle buses from both Redway, Garberville, Benbow, and Richardson Grove campground would help reduce the impact of vehicles on park properties, and how all attendees and volunteers would be encouraged to use the shuttle (e.g., by charging parking fees while shuttles would be free).*

*The combination of the two measures would reduce this impact to a less-than-significant level. (LTS)*

## CUMULATIVE IMPACTS

Project emissions of criteria air pollutants or their precursors would not make a considerable contribution to cumulative air quality impacts. Air pollution, by nature, is mostly a cumulative impact. While the Air District has no significance thresholds applicable to construction and operational aspects of a development project, such as the proposed project, as discussed under Impact AIR-2, project operational PM<sub>10</sub> emissions would be well below those established for stationary sources. The proposed project's construction- and operational-period fugitive dust emissions would be adequately controlled through implementation of Mitigation Measures AIR-1, AIR-2a, and AIR-2b. Therefore, project construction and operation would not make a considerable contribution to cumulative air quality impacts.

A review of cumulative construction projects that are planned and approved in the project vicinity (see Chapter 6 of this Draft EIR) revealed the Garberville Sanitary District Water System Improvement Project, which is adjacent to the proposed project site and currently under construction. Because the Garberville Sanitary District project would implement Mitigation Measure III-01 to control PM<sub>10</sub> and fugitive dust emissions (Garberville Sanitary District, 2010), and because the nearest sensitive receptors to the project site are located over 800 feet from the proposed Community Facilities/Sports Area, as described above under "Less-than-Significant Impacts" above, the potential cumulative construction health risk impact would be considered less than significant.

## REFERENCES

Bay Area Air Quality Management District (BAAQMD), 2011. *California Environmental Quality Act Air Quality Guidelines*.

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United States Environmental Protection Agency (EPA), 2013. *Federal Register Vol. 78, No. 10, 40 CFR Parts 50, 51, 52 et al, National Ambient Air Quality Standards for Particulate Matter, Final Rule*, January 15.

## 4.4 BIOLOGICAL RESOURCES

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### INTRODUCTION

This section of the EIR addresses existing biological resources at the project site and provides an evaluation of the potentially significant impacts on sensitive resources. Biological resources were identified through the review and compilation of existing information and by conducting a field reconnaissance survey of the project site. The review provided information on general resources in the area, the extent of sensitive natural communities, jurisdictional wetlands, and the distribution and habitat requirements of special-status species that have been recorded from or are suspected to occur in the South Humboldt County area and Garberville vicinity. Documents prepared by the applicant's consulting biologist and arborist were also reviewed, and are available for the public to review at the Humboldt County Planning and Building Department. These provided detailed information on the extent of jurisdictional waters, results of systematic surveys for special-status plant species and habitat assessment for special-status animal species, and descriptions of existing vegetation and wildlife habitat on the project site. These consist of the following:

- *Southern Humboldt Community Park Feasibility Study (SHCPFS)* (Mad River Biologists, 2002) which provides descriptions of existing vegetation and wetland habitat types on the entire site, potential for occurrence of special-status plant and animal species, and conclusions and management recommendations.
- *Botanical Survey, Wetland Delineation, and Stream Assessment Results (BSWDSAR), Southern Humboldt Community Park* (Wear, 2011) provides descriptions of vegetation and site conditions on the 186-acre portion of the site proposed for zoning changes and possible future development, methods used in conducting systematic surveys for special-status plant species, wetlands and streams, and results and recommendations.
- *Special-Status Wildlife Survey Report (SSWSR)* (Lovelace & Associates, 2012) provides an update the potential for occurrence of special-status animal species on the site, including the results of field surveys performed in 2012.
- *Independent Review of Southern Humboldt Community Park Water Supply and Demand Analysis and Potential Impacts on Surface Water and Aquatic Habitat (WSDAPISWAH)* (Pacific Watershed Associates, 2015) provides a description of existing aquatic habitat conditions, an assessment of the potential impacts associated with projected water demand from the proposed project, and recommendations to minimize potential cumulative impacts on surface water and aquatic habitat of South Fork Eel River.

A field reconnaissance survey was conducted by Environmental Collaborative for this Draft EIR on August 10, 2014, to confirm existing conditions, review the accuracy of mapping prepared as part of the BSWDSAR and descriptions provided in the SHCPFS, the SSWSR, and the WSDAPISWAH by the applicant's consulting biologists and hydrologists, and assess potential impacts of the proposed project.

## ENVIRONMENTAL SETTING

The discussion below addresses existing biological resources at the project site.

### VEGETATION

Vegetation on the site was most recently described in the BSWDSAR, but descriptions are also provided in the SHCPFS. Non-native grasslands dominate the majority of the site, bordered by areas of seasonal freshwater marsh where wetlands are present, riparian forest and scrub along stream channels and the banks of the South Fork Eel River, and woodland and forest on the southern slopes. Stands of coyote brush (*Baccharis pilularis*) scrub and thickets of introduced Himalayan blackberry (*Rubus americanus*) are scattered in grasslands, riparian corridors and forest margins. **Figure 4.4-1** shows the extent of wetland features, mapped streams and riparian corridors, extent of grassland and forested cover discernable in the aerial base map, and the relationship of the site to the South Fork Eel River. Figure 4.4-1 also shows a 100-foot buffer around all streams, riparian corridors and wetland features on the site. The following provides a summary of the various plant community types found on the site.

#### Non-Native Grasslands

The grasslands occupying a majority of the site are dominated by non-native grasses such as orchard grass (*Dactylis glomerata*), soft chess (*Bromus hordeaceus*), sweet vernal grass (*Anthoxanthum odoratum*), Italian ryegrass (*Lolium multiflorum*), rat's tail fescue (*Vulpia myuros*), harding grass (*Phalaris aquatica*), wild oats (*Avena fatua*), and colonial bent grass (*Agrostis capillaris*). The majority of the low-lying grasslands have been disturbed by past and on-going agricultural practices, including farming and grazing, which has affected the composition of the grassland cover.

#### Seasonal Freshwater Marsh

Much of the low-lying grassland areas support seasonal freshwater marsh where saturated soil conditions through the winter and spring months support transitional wetland indicator species such as harding grass and pennyroyal (*Mentha pulegium*). Stands of native perennial wetland species are also present in some locations where disturbance has been limited or saturated conditions remain for longer periods, dominated by western rush (*Juncus patens*), slough sedge (*Carex obnupta*), diffuse rush (*Juncus effusus*), and California blackberry (*Rubus ursinus*).

#### Riparian Vegetation

Riparian habitat along the South Fork Eel River includes a canopy of black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), and willows (*Salix* spp.). Understory species include California wild grape (*Vitis californica*) and Himalayan blackberry (*Rubus discolor*). The riparian canopy along the tributary seasonal streams is often not well developed, but stands of willows and Oregon ash (*Fraxinus latifolia*) are present. Smaller stands of willows and Oregon ash also occur away from seasonal streams on the site.

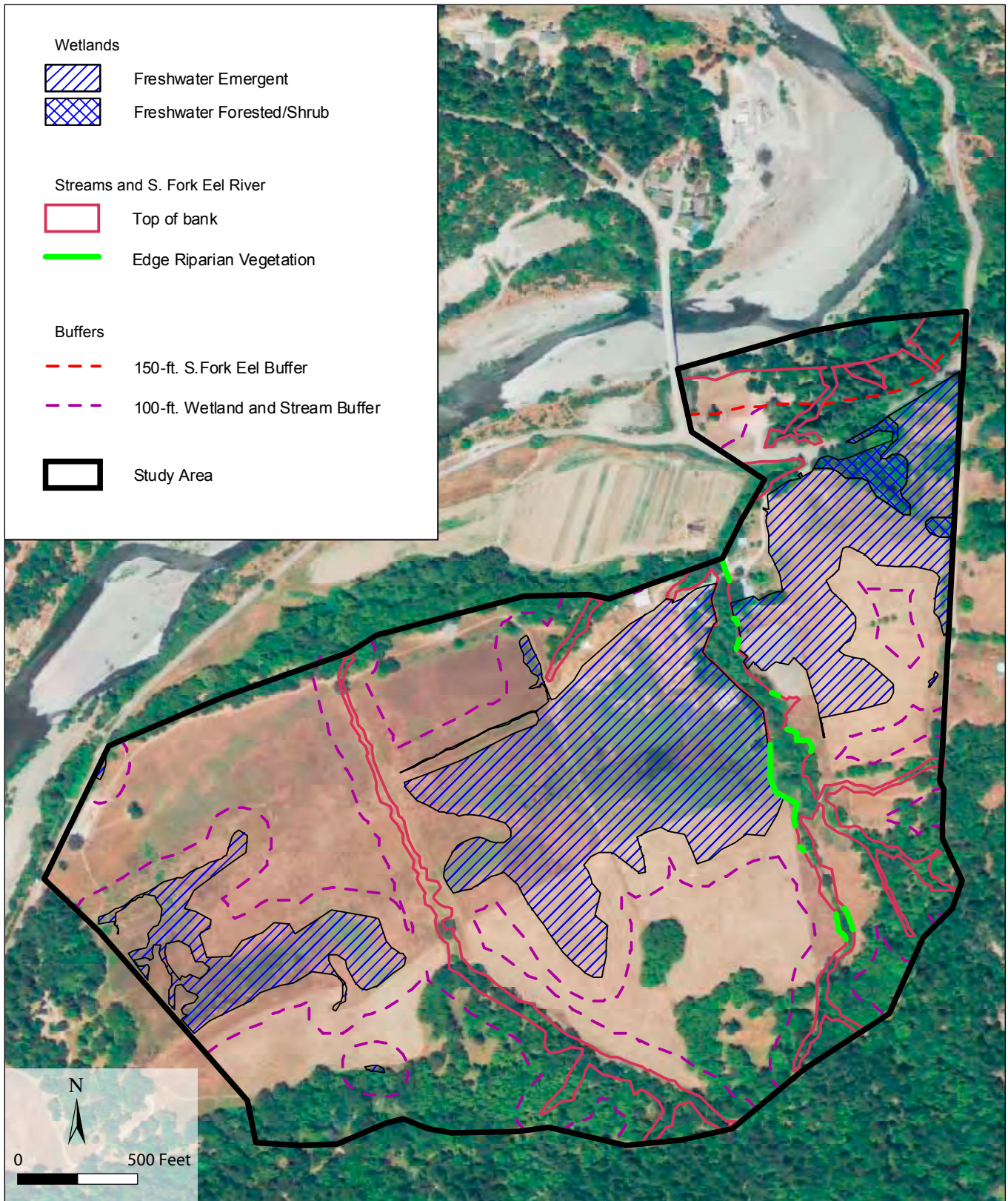


Figure 4.4-1

SOURCE: Huber C&D, 2014

**MAPPED WETLANDS/STREAMSIDE MANAGEMENT AREAS**

## Redwood Forest

The forest at Tooby Park is dominated by redwoods (*Sequoia sempervirens*). Characteristic understory species include sword fern (*Polystichum munitum*), redwood sorrel (*Oxalis oregana*), and Hooker's fairy bells (*Disproum hookeri*). California bay, Oregon ash and other mature trees occur along the fringe of the redwood forest.

## Mixed Douglas-Fir and Hardwood Forest

Mixed Douglas-fir (*Pseudotsuga menziesii*) and hardwood forest occurs on the southern slopes and in a band through the central portion of the site. Hardwoods occupy the lower to middle slopes where they transition into grasslands. These include black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), and Pacific madrone (*Arbutus menziesii*). Douglas fir becomes the dominant tree species in the upper elevations, where a multi-layered canopy is present with frequent gaps, providing a greater degree of stand structural complexity. The forest understory varies, but tends to be fairly open with a low shrub cover made up primarily of hazelnut (*Corylus cornuta*) and poison oak (*Toxicodendron diversilobum*). Herbaceous cover in the understory consists of various woodland species such as wood strawberry (*Fragaria vesca*), sanicle (*Sanicula crassicaulis*), mountain sweet cicely (*Osmorhiza berteroi*), honeysuckle (*Lonicera hispidula*), trail plant (*Adenocaulon bicolor*), yerba buena (*Satureja douglasii*), sword fern (*Polystichum munitum*), and wood fern (*Dryopteris arguta*).

## WILDLIFE HABITAT

The mosaic of wildlife habitat on the site supports a wide variety of resident and migrant wildlife species. Predominant wildlife habitat types on the site include grassland, riparian, forest and woodlands, redwood forest, and developed areas. Many species of wildlife utilize more than one vegetative cover type, foraging in grasslands and woodland openings, and finding protective cover in areas of dense shrubs, woodlands and forest. The following provides a summary of the various wildlife habitat types found on the site, and characteristic wildlife species.

### Grassland and Seasonal Freshwater Marsh Habitat

Grasslands and seasonal freshwater marsh provide habitat for a wide variety of wildlife adapted to low-growing herbaceous communities that tend to be structurally heterogeneous. Characteristic species include: common garter snake, western terrestrial garter snake, northern harrier, barn owl, burrowing owl, western kingbird, Say's phoebe, barn swallow, western meadowlark, savannah sparrow, grasshopper sparrow, broad-footed mole, Botta's pocket gopher, western harvest mouse, black-tailed jackrabbit, and black-tailed deer. In addition, grasslands and marshlands often serve as foraging habitat for raptors and other predatory species such as red-tailed hawk, American kestrel, western bluebird, big brown bat, striped skunk, coyote, bobcat and mountain lion.

### Riparian Habitat

Riparian habitats tend to have an exceptionally high value for both aquatic and terrestrial wildlife species. In general, riparian scrub/woodlands and aquatic habitats provide nesting opportunities, food, and shelter and may serve as corridors or islands during migration for a variety of fish and

wildlife species. Riparian vegetation provides foraging and nesting opportunities for migrant and resident birds. Birds often utilize the riparian scrub and forest for protective cover and nesting opportunities, and forage in nearby open grasslands. Typical mammals include western gray squirrel, dusky-footed woodrat, northern raccoon, black-tailed deer, and a variety of bat species. Terrestrial salamanders such as slender salamander and ensatina utilize adjacent woodlands, and aquatic salamanders such as rough-skinned newt and California giant salamander utilize channels seasonally.

The WSDAPISWAH provides a description of existing riparian habitat conditions on the site. With the exception of the South Fork Eel River, the streams on the site are seasonal in nature, which limits their suitability as permanent aquatic habitat and precludes occupation by resident and anadromous fish species. Dabbling ducks such as mallards and waterbirds such as belted kingfisher, herons, and egrets are frequently observed foraging along the permanent waters of the Eel River. River otters are closely tied to this aquatic system of the Eel River, foraging on fish and a variety of aquatic organisms, but most likely avoid dispersal along the on-site streams due to their seasonal nature and lack of foraging opportunities.

### **Forest and Woodlands**

Forest and woodlands provide habitat for a variety of wildlife species. Trees provide cover, roosting sites, food storage sites, and nesting opportunities for native wildlife. Oaks and bays have long been considered important to birds and mammals as a food resource, especially when acorn and nut crops are plentiful. Commonly associated species include: California quail, warblers, woodpeckers, gray and eastern fox squirrels, deer mouse, and black-tailed deer, among many others.

### **Redwood Forest**

Redwood habitats provide food, cover, or special habitat elements for numerous wildlife species for at least one or more seasons of the year. Characteristic species include: northern saw-whet owl, hairy woodpecker, flycatchers, Steller's jay, nuthatches, brown creeper, winter wren, chestnut-backed chickadee, dusky-footed woodrat, and deer mouse. Where intact stands existing, redwood forests provide habitat for a number of special-status species such as northern spotted owl and bats known to roost in tree cavities and under exfoliating bark, but the small size of the stand and on-going human activity in the stand at Tooby Memorial Park limits the likelihood of presence of any special-status species in this location.

### **Agricultural and Developed Areas**

The wildlife habitat value of developed areas is generally considerably less than that of the surrounding remaining natural habitats. Impervious surfaces, turf, and routine maintenance limit protective cover and foraging opportunities. Wildlife in these developed areas are typically more acclimated to human activity, and include species common in suburban habitats such as western scrub-jay, California towhee, mourning dove, house finch, house sparrow, American robin, mockingbird, Norway rat, house mouse, northern raccoon, and Virginia opossum. Mature trees do provide roosting and potential nesting substrate for numerous species of birds, particularly where they occur in close proximity to open space, riparian corridors and native woodlands, and other undeveloped lands.

## SPECIAL-STATUS SPECIES

A number of special-status species (see “Regulatory Framework” below for definition) are known or suspected to occur in the Garberville vicinity, occupying the aquatic habitats of the South Fork Eel River, riparian habitats along perennial and intermittent streams and marshlands, serpentine and other native grasslands, and forest and woodland habitats where suitable conditions are present. The BSWDSAR and SHCPFS provide detailed information on special-status species known from the South Humboldt County area, and conclusions regarding the potential for occurrence on the site.

### Special-Status Plant Species

A number of special-status plant species were considered to have varying potential for occurrence in the different habitat types on the site. These include: Humboldt milk-vetch (*Astragalus agnicidus*), dissected-leaved toothwort (*Cardamine pachystigma* var. *dissectifolia*), streamside daisy (*Erigeron bioletti*), coast fawn lily (*Erythronium revolutum*), Howell’s montia (*Montia howellii*), maple-leaved checkerbloom (*Sidalcea malachroides*), and beaked tracyina (*Tracyina rostrata*), among others. None of these have any legal protective status under the State and/or federal Endangered Species Acts, but most are considered rare and endangered by the California Native Plant Society and would be subject to review under Section 15380 of the CEQA Guidelines.

As described in the BSWDSAR, systematic surveys were conducted in 2011 of the portion of the site proposed for zoning changes and possible future development. The surveys were conducted according to the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. No special-status plant species were encountered, and based on the results of the systematic surveys, none are suspected to occur in areas proposed for zoning changes and possible future development.

- **Long beard lichen (*Usnea longissima*)**. An uncommon lichen, long beard lichen was encountered along a seasonal stream on the site, but this species has no special-status. It is mostly restricted to coastal regions that receive substantial amounts of precipitation in the form of fog and rain. In California it is generally restricted to forests along the coast dominated by redwood, Douglas-fir (*Pseudotsuga menziesii*), and Sitka spruce (*Picea sitchensis*), but occasionally is found inland along riparian corridors and drainages that receive sufficient fog from large river systems.

### Special-Status Animal Species

As described in the SHCPFS, a number of special-status animal species are known or suspected to possibly occur in the South Humboldt area. Detailed information on 40 special-status animal species was reviewed in the SHCPFS and SSWSR, consisting of three species of fish, four mammals, one reptile, four amphibians, and 28 species of birds. Eight of these species were observed on the site during the field surveys conducted as part of the SSWSR (see **Figure 4.4-2**). Information on the status, typical habitat characteristics and distribution of each of these species is summarized below, together with conclusions regarding their potential for occurrence on the site.



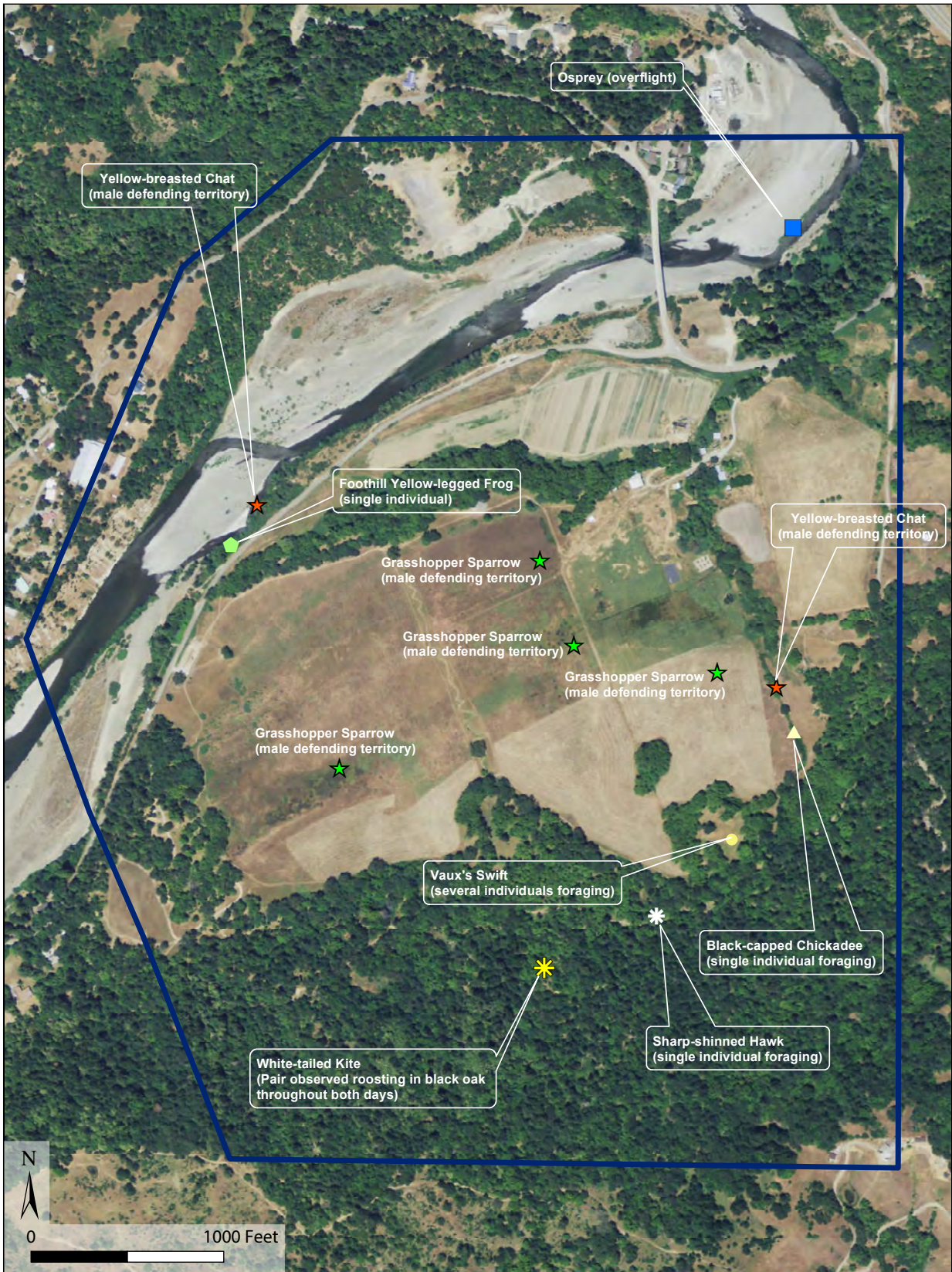


Figure 4.4-2

SOURCE: J. B. Lovelace & Associates, 2012

**SPECIAL-STATUS ANIMAL SPECIES OBSERVATIONS**

### Fish Species

- **Coho salmon – Southern Oregon/Northern California Evolutionarily Significant Units (ESUs) (*Oncorhynchus kisutch*).** Coho salmon are found in the North Pacific Basin from California to Alaska and from Russia to Japan. While populations seem relatively healthy in Alaska and parts of British Columbia, selected populations in the continental U.S. have declined dramatically and a few of the ESUs have been designated Threatened or Endangered, including the Southern Oregon/Coastal California ESU that was designated Threatened by the U.S. Fish and Wildlife Service (USFWS) in 1997. The CDFW has also designated this ESU as Threatened and considers it a Species of Special Concern (SSC) in California. Coho salmon are known to occur along the South Fork Eel River. “Fall run” Coho enter the estuary as early as August with the peak occurring in November.
- **Steelhead – Northern California ESU (*Oncorhynchus mykiss*).** Steelhead are found in the North Pacific Ocean from the Kamchatka Peninsula in Asia to the northern Baja Peninsula. Many of the populations in California have been designated as Endangered or Threatened. The Northern California Province ESU was listed as Threatened by the federal government in August 2000 and is considered a SSC by the CDFW. Northern California steelhead is known to occur in the South Fork Eel River. The winter steelhead start moving into the river in November running through March, with peak activity during January.
- **Chinook salmon – California Coastal ESU (*Oncorhynchus tshawytscha*)** Chinook (or King) salmon were historically distributed along the coast of North America from the Ventura River in southern California to Point Hope, Alaska, and the Mackenzie River area in Canada. In the western Pacific they were found in Northeast Asia from Hokkaido, Japan, to the Anadyr River, Russia. While populations seem relatively healthy in Alaska and parts of British Columbia, selected populations in the continental U.S. have declined dramatically. The California Coastal ESU was listed as Threatened in November 1999. Chinook are known to occur in the South Fork Eel River. Chinook generally start entering the river in August, where they tend to hold in the waters below Fernbridge until rains allow them upstream. The Chinook run from August through December, with the peak in late October.

### Amphibian and Reptile Species

- **Southern torrent salamander (*Rhyacotriton variegatus*).** The southern torrent salamander is found primarily along the coast from the Olympic Peninsula to Sonoma County, California. It is an inhabitant of cold, clear streams, springs and seeps in Douglas-fir and redwood forests, rarely straying away from the splash zone. The southern torrent salamander is recognized as a SSC by CDFW. Suitable habitat for the Torrent Salamander does not occur on the site due to the lack of perennial streams in forested habitat areas.
- **Tailed frog (*Ascaphus truei*).** Found in most of northwestern California, the tailed frog is typically common in suitable habitat. It is found in and near clear, cold streams in conifer or hardwood/conifer forests. The tailed frog is more often found in wet stands than in moderately wet stands and is absent from dry stands. Their distribution may be limited by the presence of cold, year-round flowing streams. The larvae, which are restricted to an aquatic existence, take 2 to 3 years to transform into adults. Tailed frog is recognized as a SSC by the CDFW. Suitable habitat for this species does not occur on the site due to the lack of perennial streams in forested habitat areas.

- **Northern red-legged frog (*Rana aurora*).** The northern red-legged frog is typically found in ponded areas along the Coast and Cascade Ranges from northern California to southern British Columbia. On the north coast of California it is widespread in ponds and along rivers where there is still water and emergent aquatic vegetation providing cover. When not breeding, individuals of this species disperse widely in damp woods, including riparian and coniferous forests. Breeding takes place in late winter and early spring. Red-legged frogs have a weak voice and are consequently inconspicuous. Egg masses are deposited in water up to six inches deep. Most young are completely transformed into adults by mid-summer or earlier. The diet of red-legged frogs consists primarily of insects captured near water. The northern red-legged frog is considered a SSC by the CDFW. There is a remote possibility that northern red-legged frog may be present on the site, but the absence of permanent ponds and streams precludes possible breeding locations.
- **Foothill yellow-legged frog (*Rana boylei*).** The Foothill yellow-legged frog is found in coastal and foothill habitats throughout northern California. Its preferred habitat is along perennial streams and rivers, especially where riffles are present. The yellow-legged frog escapes into the water and hides among vegetation or in the bottom when disturbed. It is less likely to use the riparian forests and other adjacent habitats than other frogs. Breeding takes place later in the spring, when high water flows have subsided. Eggs are laid in a masses attached to rocks in shallow, flowing water. Larvae transform into frogs during the summer. This species is considered a SSC by the CDFW. Yellow-legged frogs most likely occur along the South Fork Eel River in the site vicinity, but the absence of perennial flows in the seasonal creeks precludes their occurrence on the site. A single frog was observed along the South Fork Eel River during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).
- **Northwestern pond turtle (*Emys marmorata*).** Western pond turtle is the only native aquatic turtle in California. It is widely distributed west of the Cascades and Sierra Nevada. Pond turtles are found near and in water, especially slow moving or quiet waters, primarily ponds, small lakes, reservoirs, and quiet streams and rivers. They can be found basking on rocks, logs or on the bank along aquatic vegetation. Basking perches seem to be an important component of their habitat needs. Females lay a clutch of eggs between April and August in a small hole in a dirt bank, sometimes a considerably distance from their aquatic habitat. Northwestern pond turtle is considered a SSC by the CDFW. Along the north coast of California, the species is sparsely distributed, mainly at ponds in the interior. Northwestern pond turtle most likely disperse along the South Fork Eel River in the site vicinity, but the absence of perennial flows in the seasonal creeks precludes their occurrence on the site.

### Bird Species

- **Great egret (*Ardea alba*).** The great egret is a large, white heron that tends to return to communal roosting locations at night, and like many other herons will sometimes nest in mixed colonies, typically in undisturbed stands of tree. Great egret is considered a Sensitive Species by the California Department of Forestry (CDF), and communal roosts are considered sensitive habitat areas by the CDFW. This species is uncommonly found along the South Fork Eel River and may occasionally forage on the site, but no communal roosts have been reported from the vicinity.
- **Great blue heron (*Ardea herodias*).** Great blue herons are colonial nesters and sometimes nest in mixed colonies near wetland habitat. Nesting and roosting occur in undisturbed stands of trees or shrubs. They occur over much of North America and are the most widely distributed

heron in northwestern California. This species is a locally common resident and breeder. It is considered a Sensitive Species by the CDF, and communal roosts are considered sensitive habitat areas by the CDFW. This species is uncommonly found along the South Fork Eel River near the project site and in adjacent wetland habitats, but no communal roosts or nests have been reported from the vicinity.

- **Snowy egret (*Egretta thula*).** Snowy egret is a medium-sized wading bird with striking plumage. Suffering massive over-hunting in North America around the turn of the twentieth century, this species has made a dramatic comeback. Snowy egret is a gregarious bird and colonial nester. Although in some instances some populations may be recovering (due to enforced protection of nesting sites), their current or historic declining trend, combined with their vulnerability during the breeding season warrant on-going protection of nesting sites or “rookeries.” These “rookeries” are typically found in the tops of tall trees or those with few branches in the lower canopy to avoid predation by mammalian predators. Rookeries are considered sensitive habitat features by CDFW. This species is occasionally observed inland along the Eel River and in adjacent wetland habitats, but no roosts are known from the site vicinity.
- **Cooper’s hawk (*Accipiter cooperi*).** Cooper’s hawk is found throughout North America in a wide variety of forested and scrub habitats where it preys primarily on songbirds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of its major prey, songbirds. Locally, Cooper’s hawk is an uncommon winter resident and rare summer breeder. Cooper’s hawk is maintained on a Watch List by the CDFW. No records of raptor nests have been reported from the site vicinity, but suitable foraging and nesting habitat is present on the site.
- **Northern goshawk (*Accipiter gentilis*)** Northern goshawk is a rare resident and breeder in middle and higher elevation mature coniferous forests in northern California. It hunts in wooded areas, using snags and dead-top trees for observation and plucking perches. The status of northern goshawks in the coastal mountains of Southern Humboldt County is poorly known, but records at lower elevations along the Eel River are exceedingly scarce. Northern goshawk is considered a SSC by the CDFW. The few records of goshawks nesting in the coast range have been associated with meadow edges, and this species is not likely to be found breeding in the site vicinity.
- **Sharp-shinned hawk (*Accipiter striatus*).** Sharp-shinned hawk is found throughout North America. It is found in a wide variety of forested and scrub habitats where it preys primarily on small birds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of the hawks’ major prey, songbirds. Sharp-shinned Hawk is maintained on a Watch List by the CDFW. Locally, sharp-shinned hawk is an uncommon winter resident and rare summer breeder. No records of raptor nests have been reported from the site vicinity, but suitable foraging and nesting habitat is present on the site. A sharp-shined hawk was observed in the forested slopes in the southern portion of the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).
- **Golden eagle (*Aquila chrysaetos*).** Golden eagle is a widespread bird of North America that is uncommon in the site vicinity. Golden eagle is considered a Sensitive Species by CDF, a California Fully Protected Species by the CDFW, and nests in active use, birds, feathers and eggs are protected under the Bald Eagle Protection Act. Typically nesting habitat is generally absent from the site, and there have been no records of eagle or other raptor nests from the site vicinity.

- **White-tailed kite (*Elanus leucurus*).** White-tailed kite is a white, falcon shaped raptor with black shoulder patches, for which it was formerly named. Kites forage mostly on rodents that they catch by hovering over a field and dropping down on an unsuspecting animal. They nest and roost in trees or shrubs in semi-open areas. Kite populations exhibit swings in abundance. They are now uncommon to common throughout northern California, especially where open fields provide habitat for voles, their main prey. White-tailed kite is recognized as a California Fully Protected Species by the CDFW, which means it may not be taken at any time. No records of raptor nests have been reported from the site vicinity, but suitable foraging and nesting habitat is present on the site. A pair of white-tailed kites were observed foraging in open grasslands and roosting in an oak in the forested slopes in the southern portion of the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).
- **Northern harrier (*Circus cyaneus*).** Northern harrier is easily identified by its low, floppy, close-to-the-ground flight. It cruises low across fields, meadows and marshes often hunting by sound. They typically nest on the ground in shrubs, cattails or tall vegetation. This species has declined almost everywhere in North America. Losses have been attributed to urbanization and pesticide exposure. In northwestern California this species is a common migrant and winter visitor, but uncommon as a breeder and summer resident, with the only confirmed breeding record reported from around Humboldt Bay. This species is recognized as a SSC by CDFW. Northern harriers may occasionally forage over the open grassland and marshlands on the site, especially during winter months, but are not expected to nest in the site vicinity.
- **Bald eagle (*Haliaeetus leucocephalus*).** Bald eagles are found throughout North America and occur widely in California. Concentrations of bald eagles are found where their preferred food is concentrated, such as major waterfowl wintering areas and along major salmon streams and rivers with adjacent snags for perching. Large stick nests are established high in a tree, living or dead, with good access. Eggs can be laid as early as January; incubation is typically from 30 to 45 days; and the young take their first flight about 2 months after hatching. Their food consists largely of fish, either caught themselves or stolen from ospreys. Bald eagles also feed upon a wide variety of small mammals, aquatic birds, and even carrion. This species has been delisted on the federal level, but is listed as Endangered by CDFW and is protected under the federal Bald Eagle Protection Act. The closest known nest sites for bald eagle are along the South Fork Eel River near Benbow, along the Mad River near Blue Lake, near the coastal lagoons near Orick, and along the South Fork of the Trinity River. Bald Eagles are known to forage along the South Fork Eel River in winter, and given their apparent increase in numbers, could potentially nest in the site vicinity in the future.
- **Osprey (*Pandion haliaetus*).** Osprey is a well-known fish-eating bird found throughout the world. Locally, it is a common nesting bird along all the major rivers, bays and lakes in northern California. Once considered in danger of extinction in North America, it has made an impressive comeback since the decline in use of DDT. Osprey is maintained on a Watch List by CDFW. No records of raptor nests have been reported from the site vicinity, but suitable foraging and nesting habitat is present for this species along the South Fork Eel River. An osprey was observed flying over the South Fork Eel River in the northern portion of the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).
- **Merlin (*Falco columbianus*).** Merlin is found throughout North America in a wide variety of open habitats where it preys primarily on shorebirds and songbirds. Populations in North America have declined due to pesticide residues and habitat destruction. Merlin is maintained

on a Watch List by CDFW. They are occasionally seen in winter in Humboldt County and may use the project site for winter foraging, but are not expected to nest in the site vicinity.

- **American peregrine falcon (*Falco peregrinus anatum*).** Peregrine falcon is found throughout North America. It is often associated with aquatic habitats where it preys primarily on water birds, both shorebirds and ducks. Populations in North America had declined due to pesticide residues, nest disturbances, and habitat destruction. Recovery of the species led to its delisting on the federal and State endangered species lists. It remains a California Fully Protected Species by the CDFW, which means it may not be taken at any time. Suitable nesting habitat for this species is absent on the site, but it may occasionally forage in the site vicinity.
- **Western snowy plover (*Charadrius alexandrinus nivosus*).** Western snowy plover is a small shorebird that nests along sandy marine and estuarine, and alkali lake shores. In California, their nesting and roosting habitats are distributed along the length of the coast and at scattered inland localities—including selected gravel bars of the lower Eel River. The western snowy plover is listed as Threatened by the USFWS and is considered a SSC by the CDFW. Suitable nesting habitat for this species is not believed to occur in the site vicinity, although individuals may occasionally forage along the South Fork Eel River.
- **Marbled murrelet (*Brachyramphus marmoratus*).** Marbled murrelet is an uncommon and reportedly declining marine bird that depends on old growth forests for nesting sites. In North America, it is distributed between Alaska and central California. This species is federally listed as Threatened and State-listed as Endangered. Nest locations have been detected up to 52 miles inland in Washington. Marbled murrelet is typically associated with late successional/old-growth forests throughout most of their range, and must be available within flight distance of the ocean. There is no suitable nesting habitat for this species on the site.
- **Northern spotted owl (*Strix occidentalis caurina*).** Northern spotted owl is a medium-sized forest owl that occurs along the Pacific Coast from southwestern British Columbia to central California. It is strongly associated with late successional/old-growth forests. In northern California spotted owl also occurs in some types of relatively young forests, especially where those forests are structurally similar to late successional/old-growth forests. Northern Spotted Owl is federally-listed as a Threatened species and is recognized as a SSC by CDFW. The forested habitats on the site are marginally suitable for spotted owl roosting and foraging, although no nests have been reported from the site vicinity. Six northern spotted owl activity centers have been reported from within five miles of the site (HUM0282, HUM0477, HUM0756, HUM0757, HUM0927, and HUM 0991), with the closest (HUM0991) located approximately two miles to the west-south-west of the site.
- **Vaux's swift (*Chaetura vauxi*).** Vaux's swift is a small, insect-eating, summer resident bird of the coastal forests of northwestern California. It feeds high in the air, often above the canopy of the forests and over meadows, water, and many other habitats. It roosts and nests in hollow trees and snags, especially those that have been burned. Vaux's swift is recognized as a SSC by CDFW. Areas of forest habitat on the site and surrounding area provide suitable nesting habitat for this species. Although no nesting colonies were observed, Vaux's swifts were seen foraging in the southern portion of the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).
- **Olive-sided flycatcher (*Contopus cooperi*).** Olive-sided flycatcher tends to breed in ecotonal transitions between forested and more open landscapes. Tall perches (emergent trees or

snags) with unobstructed views are often used by this species, from which they forage for insect-prey or defend breeding territory. This species has one of the longest migrations of all Nearctic migrants: breeding in western North America and wintering from southern Central America to the northern South American Andes Mountains. Their populations have declined significantly in recent years, and it is recognized as a SSC by CDFW. No olive-sided flycatchers have been reported from the site, but suitable habitat is present.

- **Willow flycatcher (*Empidonax trailii*).** Willow flycatcher was listed as Endangered by the State in 1990. Due to its rarity in northwestern California and the lack of breeding records, little attention has been paid to characteristics of nesting habitat in our region. The first record of possible nesting willow flycatchers historically was of egg sets taken along the Eel River near Miranda and Burlington in the southern part of Humboldt County. These egg sets were apparently taken in “typical” willow flycatcher habitat, described as large thickets of willows where all habitat requirements could be met. Although nesting in the site vicinity is unlikely for this species, it could occur along the South Fork Eel River during migration.
- **California horned lark (*Eremophila alpestris actia*).** Horned lark is a small ground-loving gregarious bird of open country. Horned Larks nest on the ground in shallow depressions lined with grass, plant fibers and roots. This species is maintained on a Watch List by the CDFW. The breeding range of this species extends along the California coast north to Humboldt Bay. Locally, the only known breeding records are along Bear River Ridge, in short-grass meadows, south of Humboldt Bay. This species is not expected to occur on the site due to lack of suitable habitat.
- **Purple martin (*Progne subis*).** Purple martin is a large swallow, uncommon to rare and locally distributed in northern California. It feeds and nests in a wide variety of habitats, including Douglas-fir forests. It nests in cavities (usually old woodpecker holes) in tall trees, often near water. Purple martin is recognized as a SSC by CDFW. No colonial nests of this species have been reported from the site vicinity, but individuals would be expected to forage in the area and could establish nests in forest habitat with suitable snags and large trees.
- **Bank swallow (*Riparia riparia*).** Bank Swallow is a scarce and local summer visitor to California. Although it is more widespread during migration, nesting localities are restricted to a few places, especially along riparian habitats. Bank swallows excavate their own nesting holes in dirt or sand banks. Nests are typically, but not always, in a colony and near water. Nesting requirements include vertical banks with soft-textured soil suitable for burrow excavation. Bank Swallow is listed as Threatened in California. Only two colonies of bank swallows are known in northwestern California – both in Del Norte County. Bank swallows could infrequently forage over the open fields in the site vicinity, especially during migration, but no suitable nesting locations are present on the site.
- **Black-capped chickadee (*Parus atricapillus*).** Black-capped chickadee is possibly the most abundant and best-known chickadee in North America. In California, it is found almost exclusively in willow/cottonwood habitats along the immediate north coast south to the vicinity of Ferndale, as well as locally inland along the larger streams and rivers. Black-capped chickadee is maintained on a Watch List by CDFW. Humboldt County is considered to represent the southern limit of the range of this species in California. An individual was observed foraging in the riparian-forested habitat on the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2).

- **California yellow warbler (*Dendroica petechia*).** Found throughout North America, yellow warbler has been declining as a breeding bird in California due to habitat destruction and brood parasitization by the brown-headed cowbird. It nests in deciduous riparian forests of almost any size. Yellow warbler is recognized as a SSC by CDFW. They are an uncommon breeding bird of coastal riparian habitats. This species may occasionally breed in the alder and willow thickets in riparian habitat on the site.
- **Yellow-breasted chat (*Icteria virens*).** Found throughout North America, yellow-breasted chat has been declining as a breeding bird in California due to habitat destruction. It nests in deciduous riparian forests of moderate or larger size. Yellow-breasted chat is recognized as a SSC by CDFW. This species could be expected to nest in dense thickets of blackberry and willow on the site. Singing male yellow-breasted chats were observed at two locations on the site during the field surveys conducted as part of the SSWSR (see Figure 4.4-2), located along a small riparian stream within the grassland habitat and along the riparian forested gravel bar along the South Fork Eel River. Given that these males appeared to be defending territories, it can be reasonably assumed that nesting was occurring in the vicinity of these locations in 2012.
- **Tricolored blackbird (*Agelaius tricolor*).** Tricolored blackbird is very closely related to the well-known red-winged blackbird but has a much more restricted range. With the exception of small scattered populations in southern Oregon, Washington and Baja California, its distribution is limited to California. Their decline is largely attributed to the draining of productive marsh lands for agriculture. A disjunct breeding population of less than 100 adults was discovered near Fortuna in blackberry brambles in 1992, but has not been documented since 1999. Occasionally, individuals are detected in mixed blackbird flocks. This species is recognized as a SSC by CDFW. Tricolored blackbirds are not expected to utilize the site for nesting due to the lack of developed freshwater marsh habitat with open water, their typical breeding habitat.
- **Grasshopper sparrow (*Ammodramus savannarum*).** Grasshopper sparrow is recognized as a SSC species by the CDFW. It inhabits grasslands with both barren, exposed areas allowing for ease while foraging, and more densely vegetated areas, where it makes its nest of woven grasses. It is an uncommon, but locally numerous, summer resident and breeder. Throughout its range, however, populations are in decline, primarily as a result of development and conversion of native grassland habitats such as prairies, and low-moderately-stocked agricultural pasturelands into intensive agricultural operations. Singing male grasshopper sparrows were observed in at least four locations on the site during field surveys conducted as part of the SSWSR (see Figure 4.4-2). These occurrences were somewhat widely dispersed throughout the open grassland habitats on the site, and given that these males appeared to be defending territories, it was assumed that nesting was occurring in the vicinity of these locations in 2012. Mowing and agricultural production may affect the suitability of the site for grassland nesting species, such as the grasshopper sparrow.
- **Migratory breeding birds.** In addition to the above described birds, a variety of other bird species occur throughout the various habitats on the site. Numerous bird boxes attached to trees and fence posts hosted some of these resident and migratory bird species, and it is assumed that many native bird species nest on the site. While most of these are relatively common and not considered to be of special-status, nests in active use are protected under the federal Migratory Bird Treaty Act (MBTA) and CDFW code. The breeding and nesting season varies depending on species and annual fluctuations in temperature, rainfall and other



factors, but the typical breeding and nesting season for most bird species extends from about February 15 to August 31.

### Mammal Species

- **Pallid bat (*Antozous pallidus*).** Throughout California, the pallid bat is usually found in low to middle elevation habitats below 6,000 feet. It is known from a variety of habitats, including grasslands, shrublands, woodlands, and coniferous forests. They are a year-long resident in most of their range and hibernate in winter near their summer roost. Pallid bats are unusual in that most of their food consists of large insects captured on the ground. Day roosts may vary but are commonly found in rock crevices and tree hollows; and have been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and cavities in oaks. This species, like many other bats, is extremely sensitive to disturbance at daytime and maternity roosting locations. Pallid bat is recognized as a SSC by CDFW. Suitable foraging and possible roosting habitat for the pallid bat occurs on the project site, although no occurrences have been reported from the site vicinity.
- **Townsend's big-eared bat (*Plecotus townsendii townsendii*).** Townsend's big-eared bat is widespread in California, and tends to be most abundant in mesic habitats. They roost in caves, mines, tunnels, and buildings, feeding along habitat edges. They are extremely sensitive to disturbance of roosting sites. This species is recognized as a SSC by CDFW. Suitable foraging and possible roosting habitat for the big-eared bat occurs on the project site, although no occurrences have been reported from the site vicinity.
- **Pacific fisher (*Martes pennanti pacifica*).** The Pacific fisher is a candidate for Federal listing and is recognized as a SSC species by CDFW. Once more numerous throughout boreal forests, populations of this species are in decline due to habitat loss as a result of timber harvesting, development, and wildfire. Pacific fisher is found from southern Canada, south to Wyoming in the Rocky Mountains, and into the southern Klamath Mountains and North Coast Ranges, and even further south into the Sierra Nevada Mountains. This species requires intact forests, typically late-seral and mature coniferous forests, with home ranges as large as 75 miles (diameter). Individuals can travel widely, revisiting some locations only once every 2 to 3 weeks. Dens are made in hollow trees and logs, brush piles, and cavities beneath boulders or rock ledges. Although no Pacific fisher have been reported from the site, occurrences have been reported elsewhere from southern Humboldt County, and there is a possibility that this species could frequent or establish a den in the more mature coniferous forested portions of the site.
- **California red tree vole (*Arborimus pomo*).** The red tree vole is a little-known rodent of the coastal fog belt in California with a range extending north from Sonoma County. It occurs in old growth and other Douglas-fir and redwood forests. Its diet is almost exclusively needles of Douglas-fir and grand fir. Nests are built of Douglas-fir needles in trees, sometimes at considerable heights. The red tree vole is a Species of Special Concern in California. This species could possibly occur in areas of established, older Douglas-fir forest habitat.

### SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are natural community types considered by the CDFW to have a high inventory priority because of their rarity and vulnerability to disturbance and loss. The most current version of the CDFW *List of California Terrestrial Natural Communities*, which was last

updated in 2010, indicates which natural communities have a high inventory priority and are therefore considered sensitive.<sup>1</sup>

With the exception of the old growth stand of redwoods in Tooby Memorial Park, which has a CDFW vegetation alliance ranking of G3S3 and is therefore considered sensitive, no distinct stands of sensitive natural community types are present on the site. Areas of seasonal freshwater marsh and well-developed stands of riparian woodland are considered to have a high inventory priority by the California Natural Diversity Data Base of the CDFW. These wetland areas are also considered jurisdictional waters by regulatory agencies, as discussed below. Indicators of several vegetation alliances with State ranking of 3 are present on the site, including Black Cottonwood Forest Alliance along the South Fork Eel River and Slough Sedge Herbaceous Alliance scattered in the seasonal freshwater marshlands. However, these do not form distinct stands that could be mapped as separate vegetation alliances.

## **JURISDICTIONAL WATERS**

Based on the BSWDSAR, a total of 48.6 acres of potential jurisdictional wetlands were identified on the portions of the site proposed for zoning changes and possible future development (see Figure 4.4-1). This consists of 47.1 acres of seasonal freshwater wetlands mapped as “Freshwater Emergent Wetlands” and 1.5 acres of perennial riparian wetlands mapped as “Forested/Shrub” wetlands. These potential jurisdictional wetlands are predominately 3-parameter wetlands, meaning that they contain all three criteria (hydrology, vegetation, and soils) to qualify as a wetland by the U.S. Army Corps of Engineers (Corps). Some of the data points were in areas that did not meet the hydrophytic vegetation criteria, but had indicators of hydric soil and wetland hydrology. These areas meet the CDFW wetland definition and were included in the wetland boundaries, providing a conservative estimate of the limits of State and federal jurisdictional waters on the site. An additional 13.4 acres are regulated as waters along seasonal creeks and the South Fork Eel River, extending to the top of bank or edge of riparian vegetation, whichever is greater. The Corps, CDFW and Regional Water Quality Control Board (RWQCB) regulate fills or modifications to jurisdictional waters, as discussed below under the “Regulatory Framework” section.

## **REGULATORY FRAMEWORK**

Local, State, and federal regulations have been enacted to provide for the protection and management of sensitive biological and wetland resources. This section outlines the key local, state, and federal regulations that apply to these resources.

## **FEDERAL AND STATE REGULATIONS**

The USFWS is responsible for protection of terrestrial and freshwater organisms through implementation of the federal Endangered Species Act (ESA) and the MBTA. The National Marine

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<sup>1</sup> CDFW ranks natural communities (also referred to by CDFW as alliances) based on rarity rank, using a system derived from NatureServe, an established network of biological inventories. In this ranking system, an alliance is given both a global (“G”) and a state-level (“S”) rank of 1 to 5; 1: critically imperiled; 2: imperiled; 3: vulnerable; 4: apparently secure; 5: secure. CDFW considers alliances ranked 1, 2, or 3 at the State level to be sensitive. Those alliances ranked 4 and 5 at the State level are considered common enough to not be of concern.

Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish and marine wildlife. The Corps has primary responsibility for protecting wetlands under Section 404 of the Clean Water Act (CWA). The Corps also regulates navigable waters under Section 10 (33 U.S.C. 403) of the Rivers and Harbors Act.

The CDFW is responsible for administration of the California Endangered Species Act (CESA), and for protection of streams and water bodies through the Streambed Alteration Agreement process under Section 1600 of the California Fish and Wildlife Code.

Certification from the RWQCB is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the CWA and U.S. Environmental Protection Agency (U.S. EPA) Section 404(b)(1) Guidelines. The RWQCB also has jurisdiction over waters of the state not regulated by the Corps under the Porter-Cologne Act.

The following discusses in more detail how state and federal regulations address special-status species and wetlands.

### **SPECIAL-STATUS SPECIES**

Special-status species are plants and animals that are legally protected under the state and/or federal ESAs, the MBTA, the California Fish and Wildlife Code (Sections 3503, 3503.5, 3511, 3513, 3515, and 4700), or other regulations. In addition, pursuant to CEQA Guidelines Section 15380, special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the federal and state ESAs often represent major constraints to development, particularly when the species are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

### **WETLANDS AND OTHER WATERS OF THE UNITED STATES**

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration and purification functions. The CDFW, Corps, and RWQCB have jurisdiction over modifications to river banks, lakes, stream channels and other wetland features. Technical standards for delineating wetlands have been developed by the Corps and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

The CWA was enacted to address water pollution, establishing regulations and permit requirements regarding construction activities that affect storm water, dredge, and fill material operations, and water quality standards. The regulatory program requires that discharges to surface waters be controlled under the National Pollutant Discharge Elimination System (NPDES)

permit program, which applies to sources of water runoff, private developments, and public facilities.

Under Section 404 of the CWA, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term “waters” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the United States. The type of permit is determined by the Corps depending on the amount of acreage and the purpose of the proposed fill.

Jurisdictional authority of the CDFW over wetland areas is established under Section 1600 of the Fish and Wildlife Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Wildlife Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the CDFW, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. The Wetlands Resources Policy of the CDFW states that the Fish and Wildlife Commission will strongly discourage development in or conversion of wetlands, unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage. The CDFW is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

In addition, the RWQCB is responsible for upholding state water quality standards. Pursuant to Section 401 of the CWA, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB. The RWQCB is also responsible for regulating wetlands under the Porter-Cologne Act, which may include hydrologically isolated wetlands no longer regulated by the Corps under Section 404 of the CWA. Recent federal Supreme Court rulings have limited the limits of Corps jurisdiction, but the RWQCB in some cases continues to exercise jurisdiction over these features.

## **LOCAL REGULATIONS**

### **Humboldt County Code**

The Humboldt County Streamside Management Area (SMA) Ordinance (Title 3, Chapter 6, Section 314.16.1 of the County Code) sets minimum development and setback standards adjacent to blue line streams in unincorporated areas of County. The purpose of the Ordinance is to protect sensitive fish and wildlife habitats, and to minimize erosion, runoff, and other conditions detrimental to water quality. In Urban Development and Expansion Areas (UDEA), the outer boundaries for stream setbacks extend 100 feet from the stream transition line on either side of perennial streams and 50 feet for intermittent streams. For areas inside the UDEA, the setback distance is 50 feet on each side of perennial streams and 25 feet for intermittent streams. These widths may be modified (increased or decreased as appropriate) based on the results of a site-specific biological survey, mapping and habitat analysis prepared for specific projects.

## Humboldt County General Plan

The Biological Resources section of the Humboldt County General Plan includes policies and standards related to biological and wetland resources. Most of the provisions in this section pertain to the protection and management of sensitive resources. These include the following policies and standards, numbered here as they are in the General Plan.

### Section 3431 Policies

1. *Maintain values of significantly important habitat areas by assuring compatible adjacent land uses, where feasible.*
2. *Habitats for "critical species" shall be protected under provisions of NEPA and CEQA.*
3. *Development within stream channels shall be permitted when there is no less environmentally damaging feasible alternative, where the best feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to essential, nondisruptive projects as listed in Standard 6.*
4. *To protect sensitive fish and wildlife habitats and to minimize erosion, runoff and interference with surface water flows, the County shall maintain Streamside Management Areas (SMA), along its blue line streams as identified on the largest scale USGS topographic maps most recently published, and any significant drainage courses identified through the CEQA process.*
5. *Development within the Streamside Management Areas shall be permitted where mitigation measures (Standard 8) have been provided to minimize any adverse environmental effects, and shall be limited to uses as described in Standard 7.*

### Project Review

7. *The County should request the Department of Fish and Game, as well as other appropriate agencies and organizations to review plans for development within sensitive habitat areas or Streamside Management Areas. Recommended mitigation measures shall be considered prior to project approval.*

### Section 3432 Standards

#### *Applicability*

1. *Proposed development occurring within areas containing sensitive habitats shall be subject to conditions and requirements of this policy except for the exclusions as follows.*
  - A. *Timber management and harvest activities regulated by the Forest Practices Act.*
  - B. *Any area proposed for development which upon examination of the Biological Resource Maps and field inspection is not actually within or does not contain the indicated habitat, then the development is exempt from the requirements of this section.*
  - C. *Forest management activities needed to improve timber productivity regulated by other agencies.*
  - D. *Agricultural operations needed to improve agricultural productivity.*

2. *Recommendations from the Department of Fish and Game, agencies, and organizations shall be specific and cite relevant code sections and standards.*
3. *Critical habitats are sensitive habitats essential for a Federal or State designated endangered, threatened or rare species. This includes the portion of a critical species range which is essential to the existence of that species.*
4. *Sensitive habitats are defined as a unique, limited or economically important habitat type for a species whose habitat requirements, if significantly changed, would cause a threatening change to the species population and may include the following:*
  - A. *Critical Habitat*
  - B. *Migratory Deer Winter Range*
  - C. *Roosevelt Elk Range*
  - D. *Sensitive Species Rookery and Nest Sites*
  - E. *Streams and Streamside Areas*
  - F. *Natural ponds, springs, vernal pools, marshes, and wet meadows exhibiting standing water year-long or riparian vegetation.*
  - G. *Other sensitive habitat and communities listed in the Department of Fish and Game California Natural Diversity Data Base, if and when adopted.*
5. *Streamside Management Areas are identified and modified as follows:*
  - A. *In areas outside of Urban Development and Expansion Areas, the outer boundaries shall be defined as:*
    1. *100 feet, measured as the horizontal distance from the stream transition line on either side of perennial streams.*
    2. *50 feet, measured as the horizontal distance from the stream transition line on either side of intermittent streams.*
  - B. *In areas inside of Urban Development and Expansion Areas, the outer boundaries shall be defined as:*
    1. *50 feet, measured as the horizontal distance from the stream transition line on either side of perennial streams.*
    2. *25 feet, measured as the horizontal distance from the, stream transition line on either side of intermittent streams.*
  - C. *Where necessary, the width of Streamside Management Areas shall be expanded to include significant areas of riparian vegetation adjacent to the buffer area, slides and areas with visible evidence of slope instability, not to exceed 200 feet measured as a horizontal distance.*
  - D. *The Streamside Management Area may be reduced or eliminated where the County determines, based on specific factual findings, that:*

1. *The USGS mapping of the stream as perennial or intermittent is not accurate, and typical stream flow can be shown to be less than that required to be classified as either perennial or intermittent, or*
2. *It will not result in a significant adverse impact to fish, wildlife, riparian habitat, or soil stability.*

#### Stream Channels

6. *Development within stream channels is limited to the following projects.*
  - A. *Fishery, wildlife, and aquaculture enhancement and restoration projects.*
  - B. *Road crossings consistent with Standard 9 of this section.*
  - C. *Flood control and drainage channels, levees, dikes and floodgates.*
  - D. *Mineral extraction consistent with other County regulations.*
  - E. *Small scale hydroelectric power plants in compliance with applicable County regulations and those of other agencies.*
  - F. *Agricultural diversions and wells.*
  - G. *New fencing, so long as it would not impede the natural drainage or would not adversely affect the stream environment or wildlife.*
  - H. *Bank protection, provided it is the least environmentally damaging alternative.*
  - I. *Other essential projects, including municipal groundwater pumping stations, provided they are the least environmentally damaging alternative, or necessary for the protection of the public's health and safety.*

#### Streamside Management Areas

7. *Development within Streamside Management Areas shall be limited to the following uses:*
  - A. *Development permitted within stream channels.*
  - B. *Timber management and harvests not otherwise excluded by Applicability Section as well as noncommercial cutting of firewood and clearing for pasturage, provided:*
    1. *Cottonwoods are retained.*
    2. *Remaining willows and alders, as well as other unmerchantable hardwoods or shrubs should be protected from unreasonable damage.*
  - C. *Road and bridge replacement or construction, when it can be demonstrated that it would not degrade fish and wildlife resources or water quality, and that vegetative clearing is kept to a minimum.*
  - D. *Removal of vegetation for disease control or public safety purposes.*

8. *Mitigation measures for development within Streamside Management Areas shall, at a minimum, include:*
- A. *Retaining snags unless felling is required by CAL-OSHA, or by California Department of Forestry forest and fire protection regulations, or for public health and safety reasons, approved by the appropriate County department. Felled snags shall be left on the ground if consistent with fire protection regulations as long as they have no economic value.*
  - B. *Retain live trees with visible evidence of use as nesting sites by hawks, owls, eagles, osprey, herons, or egrets.*
  - C. *Replanting of disturbed areas with riparian vegetation (including such species as alders, cottonwoods, willows, sitka spruce, etc.) shall not be required unless natural regeneration does not occur within 2 years of the completion of the development project.*
  - D. *Erosion control measures (Standard 9).*
9. *Erosion control measures for development within Streamside Management Areas shall include the following:*
- A. *During construction, land clearing and vegetation removal will be minimized.*
  - B. *Construction sites will be planted with native or naturalized vegetation and mulched with natural or chemical stabilizers to aid in erosion control and insure revegetation.*
  - C. *Long slopes will be minimized to increase infiltration and reduce water velocities down cut slopes by such techniques as soil roughing, serrated cuts, selective grading, shaping, benching, and berm construction.*
  - D. *Concentrated runoff will be controlled by the construction and continued maintenance of culverts, conduits, nonerodible channels, diversion dikes, interceptor ditches, slope drains or appropriate mechanisms. Concentrated runoff will be carried to the nearest drainage course. Energy dissipaters may be installed to prevent erosion at the point of discharge where discharge is to natural ground or channels.*
  - E. *Runoff shall be controlled to prevent erosion by on-site or off-site methods. On-site methods include, but are not limited to, the use of infiltration basins, percolation pits, or trenches. On-site methods are not suitable where high groundwater or slope stability problems would inhibit or be aggravated by on-site retention or where retention will provide no benefits for groundwater recharge or erosion control. Off-site methods include detention or dispersal of runoff over non-erodible vegetated surfaces where it would not contribute to downstream erosion or flooding.*
  - F. *Disposal of silt, organic, and earthen material from sediment basins and excess material from construction will be disposed of out of the Streamside Management Area to comply with California Fish and Game and Regional Water Quality Control Board.*
- Winter operations (generally October 15 thru April 15) shall employ the following special considerations:*
- G. *Slopes will be temporarily stabilized by stage seeding and/or planting of fast germinating seeds such as barley or rye grass; and mulched with protective coverings such as natural or chemical stabilizations.*



*H. Runoff from the site will be temporarily detained or filtered by berms, vegetated filter strips, and/or catch basins to prevent the escape of sediment from the site. Drainage controls are to be maintained as long as necessary to prevent erosion throughout construction.*

#### *Other Wet Areas*

*10. For natural ponds, springs, vernal pools, marshes and wet meadows (exhibiting standing water yearlong or riparian vegetation): Development except for wells and springboxes shall be consistent with the standards for streamside management areas, where appropriate.*

### **Humboldt County Code**

The Humboldt County Streamside Management Area (SMA) Ordinance (Title 3, Chapter 6, Section 314.16.1 of the County Code) sets minimum development and setback standards adjacent to blue line streams in unincorporated areas of County. The purpose of the Ordinance is to protect sensitive fish and wildlife habitats, and to minimize erosion, runoff, and other conditions detrimental to water quality. Outside the Urban Development and Expansion Areas, the outer boundaries for stream setback areas is defined in the SMA as 100 feet from the stream transition line for perennial streams and 50 feet for intermittent streams. Other wet areas such as marshes and wet meadows are also regulated under the SMA. The standard setback distances may be modified (increased or decreased as appropriate) based on a site-specific biological survey, mapping and habitat analysis prepared for specific projects. There are no perennial or intermittent blue-line streams on the site according to the U.S. Geologic Survey mapping of the Garberville vicinity. But the County considers each of the seasonal streams on the site to qualify as an intermittent stream under the SMA Ordinance. As the site is located outside the Urban Development and Expansion Area for Garberville, a 50-foot stream setback zone would apply to the streams and wetland features on the site.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## **LESS-THAN-SIGNIFICANT IMPACTS**

### **Special-Status Species**

In general, no significant impacts on special-status species are anticipated with implementation of the proposed project. No special-status plant species were encountered or are suspected to occur on the portion of the site proposed for zoning changes and future development, and no adverse impacts are anticipated. The uncommon long beard lichen would be retained in buffer areas established along the riparian corridors and the forested habitat that would remain largely undisturbed as part of the project.

Essential habitats for State or federally-listed special-status animal species are generally absent from the portions of the site proposed for zoning changes and future development, and none have been reported from these areas. Northern spotted owl may occasionally forage in the forested habitat in the southern portion of the site, but these areas would remain as natural habitat. The proposed Environmental Camp, Wedding Grove, and Temporary Event location would be dispersed along the edge of the forest and woodland cover where suitable foraging and roosting opportunities for northern spotted owl are limited. Modifications along the edge of the South Fork of Eel River, which is known for dispersal and possible foraging by bald eagle, are limited to improving existing parking areas and improvements to the facilities at Tooby Memorial Park, and would result in minimal changes to this important riparian corridor, known as dispersal and foraging habitat for bald eagle and State and federally-listed anadromous fish species. Potential impacts on State or federally-listed special-status animal species would be less than significant.

The WSDAPISWAH provides an assessment of the potential impacts of the project on aquatic habitat and a determination on the effects of the anticipated demand on surface water flows, including the South Fork Eel River. As described above, the on-site streams are ephemeral in nature and do not support suitable habitat conditions for special-status fish and amphibian species, and project implementation is not expected to result in any adverse impacts on existing aquatic habitat conditions along these riparian corridors. For potential effects on the aquatic habitat of the South Fork Eel River, even if the park's infiltration gallery were being pumped at the maximum diversion rate of 0.24 cfs as allowed under the applicant's Lake and Streambed Alteration Agreement with CDFW, the riffle crest water surface elevation would drop roughly about 1/8-inch when based on the low flows in July 2015 where the shallowest observed segment of channel was about 30 square feet with a minimum riffle crest depth of about 8 inches. The conclusion in the WSDAPISWAH was that this worst-case reduction in water depth during the critical dry period was unlikely to affect summertime juvenile fish passage along the reach of the South Fork Eel River on the site, and even under the projected maximum diversion rate allowed by the park's water rights, would not lead to a break in surface flows. Therefore, the project is not expected to result in any significant adverse impacts on surface water flows or aquatic habitat in the South Fork Eel River, including suitable habitat for state and federally listed anadromous fish species. Most of the special-status animals known or suspected from the site are bird and bat species recognized as

SSC species or maintained on a Watch List by CDFW. Proposed improvements have been sited to avoid most of the riparian corridors formed by the seasonal creeks and the broad expanse of seasonal freshwater marshlands on the site, protecting foraging, roosting and possibly nesting opportunities for most of these species. Suitable nesting and maternity roosting habitat for most of these species occurs in areas of dense riparian woodland and scrub, including potential nesting by olive-sided flycatcher, willow flycatcher, yellow warbler, yellow-breasted chat, pallid bat and Townsend's big-eared bat. **Figures 4.4-3 through Figure 4.4-6** show the mapped wetlands and riparian corridors in relation to proposed improvements, and demonstrate that both a 50-foot setback buffer called for under the County's SMA Ordinance and a minimum 100-foot buffer is achieved in most instances around these features. Similarly, the riparian and wetland avoidance and buffers would serve to protect the potential dispersal and foraging habitat for northern red-legged frog and other amphibians in the seasonal creeks and seasonal freshwater marshlands on the site. And most of the woodland and forest habitat would also be avoided by proposed improvements, protecting suitable roosting and nesting substrate for Cooper's hawk, sharp-shinned hawk, white-tailed kite and other raptors protected under the MBTA.

There remains a potential that vegetation clearing, construction of proposed improvements, and future maintenance and operations could result in inadvertent loss of nests in active use if careful controls are not implemented. This would be a violation of the MBTA and CDFW Code, and would be a potentially significant impact if active nests are located in the immediate vicinity of construction and other project-related activities as assessed further below under Impact BIO-1.

### **Sensitive Natural Communities**

In general, the areas of sensitive natural communities, including the stand of old growth redwoods in Tooby Memorial Park and regulated waters would be avoided, and no adverse impacts are anticipated on sensitive natural communities (see Figure 4.4-3 through Figure 4.4-6). Areas of seasonal freshwater marsh and riparian forest/scrub are regulated by State and federal agencies, as discussed above under "Regulatory Framework". A review of the potential impacts of the project on regulated waters is assessed below under Impact BIO-2 and Impact BIO-3.

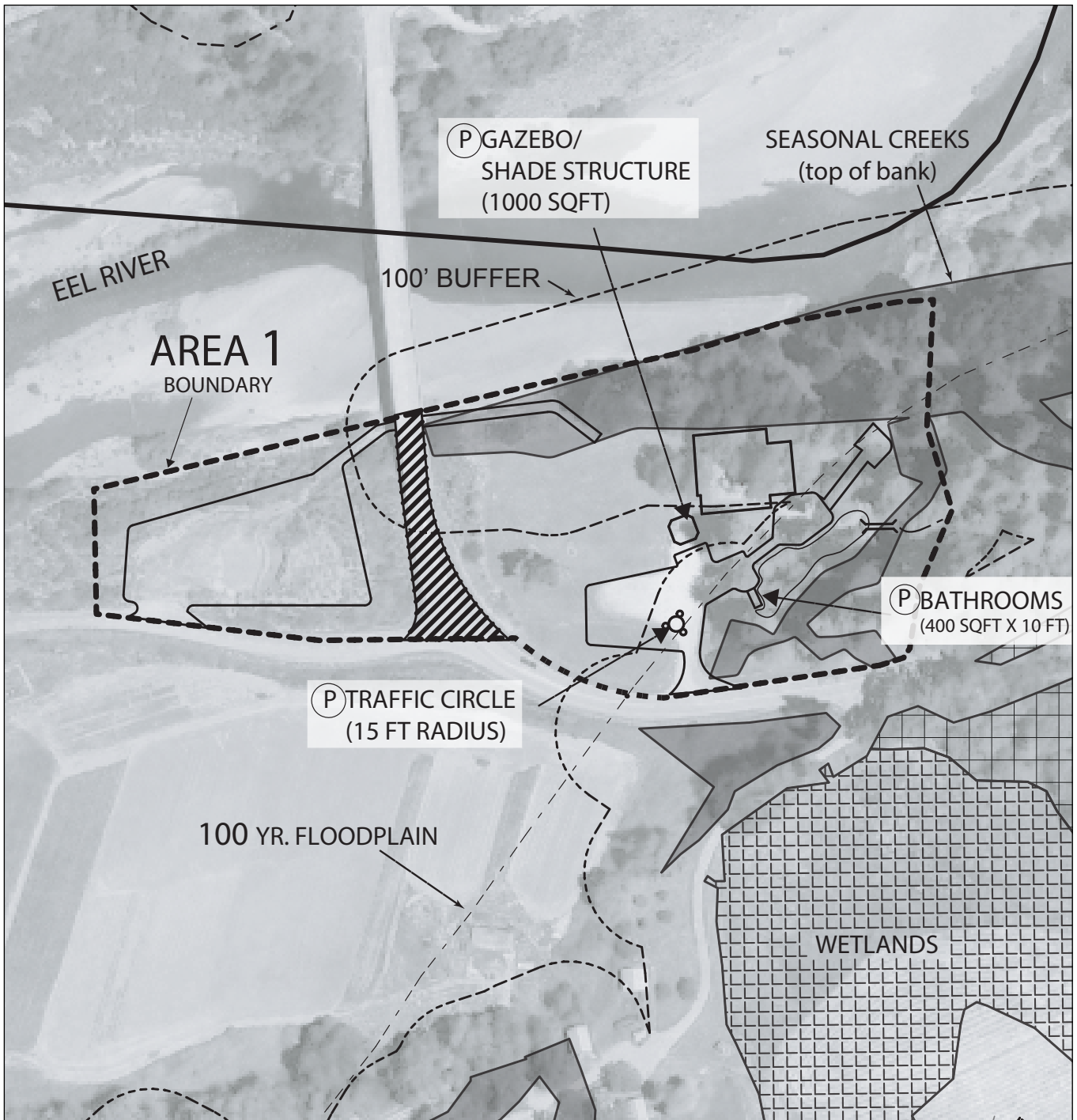
### **Adopted Habitat Conservation Plans**

There are no adopted habitat conservation plans, natural community conservation plans, or other approved conservation plans encompassing the site or vicinity, and therefore there are no related potential impacts.



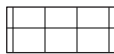


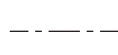
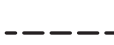

## **POTENTIALLY SIGNIFICANT IMPACTS**

**Impact BIO-1: Construction activities and site fire fuel management activities could result in the loss of bird nests in active use, which would be a violation of the federal Migratory Bird Treaty Act (MBTA) and State Code. (PS)**

Proposed improvements are generally located in areas of past disturbance and non-native grassland cover. These include: the traffic circle and bathroom in the Tooby Memorial Park Area (Area 1); the temporary stage, new bathroom, improved parking and road improvements in the Park Headquarters Area (Area 2); the Wedding Grove and Temporary Event location in the



Legend

- |   |                         |   |                     |
|---|-------------------------|---|---------------------|
|  | Emergent wetlands       |  | Area boundary       |
|  | Forested/scrub wetlands |  | Property boundary   |
|  | Seasonal creek          |  | 100 year floodplain |
|  | 100' buffer             |  | Existing road       |

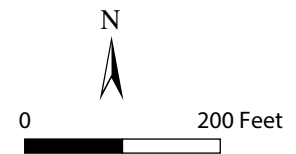
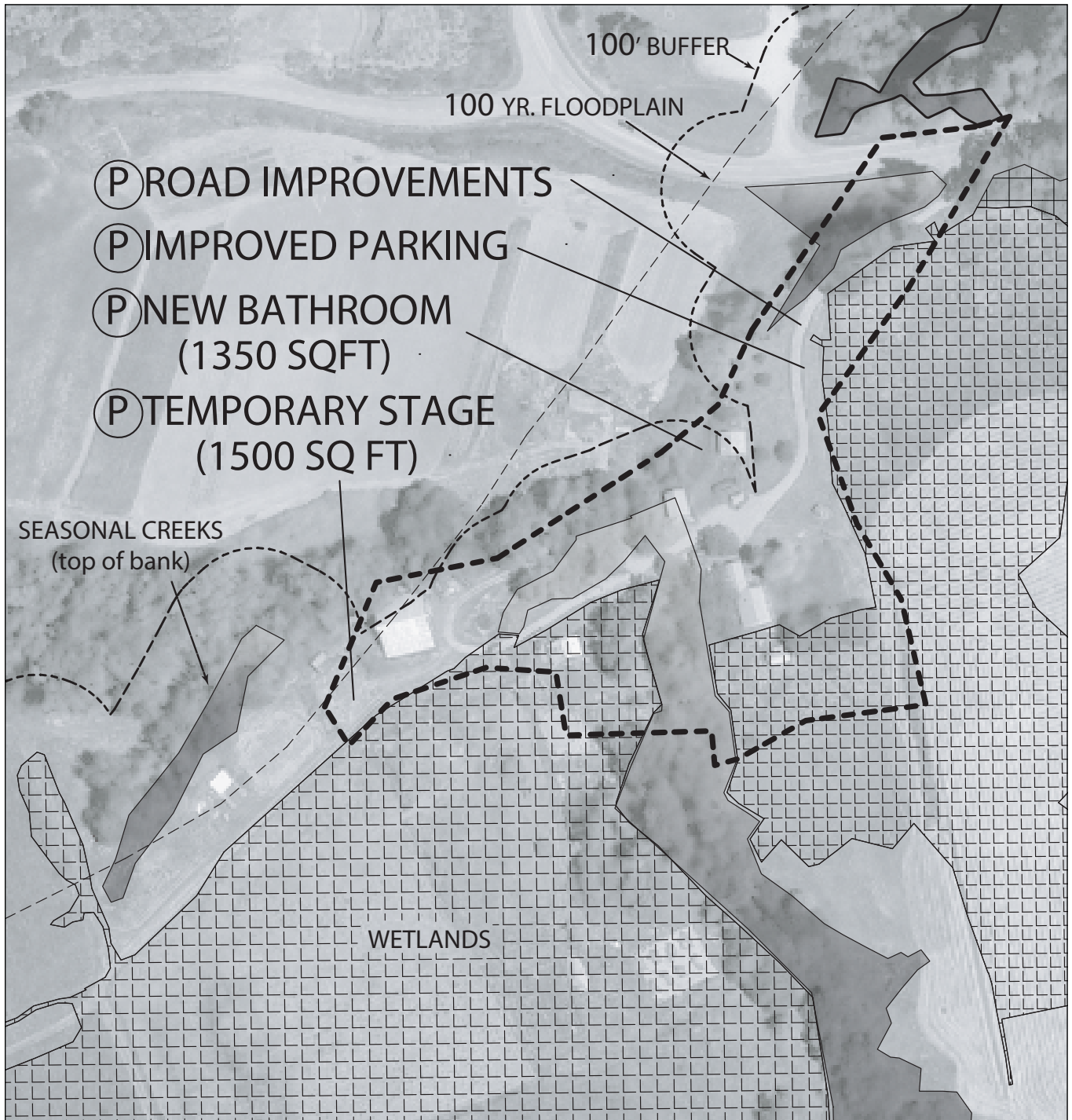


Figure 4.4-3

SOURCE: Huber C&D, 2014

**REGULATED WATERS IN TOOBY MEMORIAL PARK AREA (AREA 1)**



**Legend**

-  Emergent wetlands
-  Forested/scrub wetlands
-  Seasonal creek
-  100' buffer
-  Area boundary
-  100 year floodplain

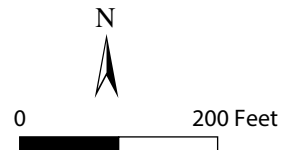


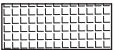


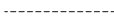




Figure 4.4-4

SOURCE: Huber C&D, 2014

**REGULATED WATERS IN PARK HEADQUARTERS AREA (AREA 2)**



**Legend**

- |   |                   |   |                     |
|---|-------------------|---|---------------------|
|  | Emergent wetlands |  | Property boundary   |
|  | Seasonal creek    |  | 100 year floodplain |
|  | 100' buffer       |  | Existing road       |
|  | Area boundary     |  | Existing trail      |

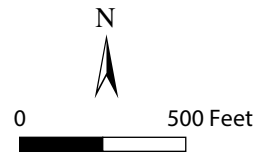
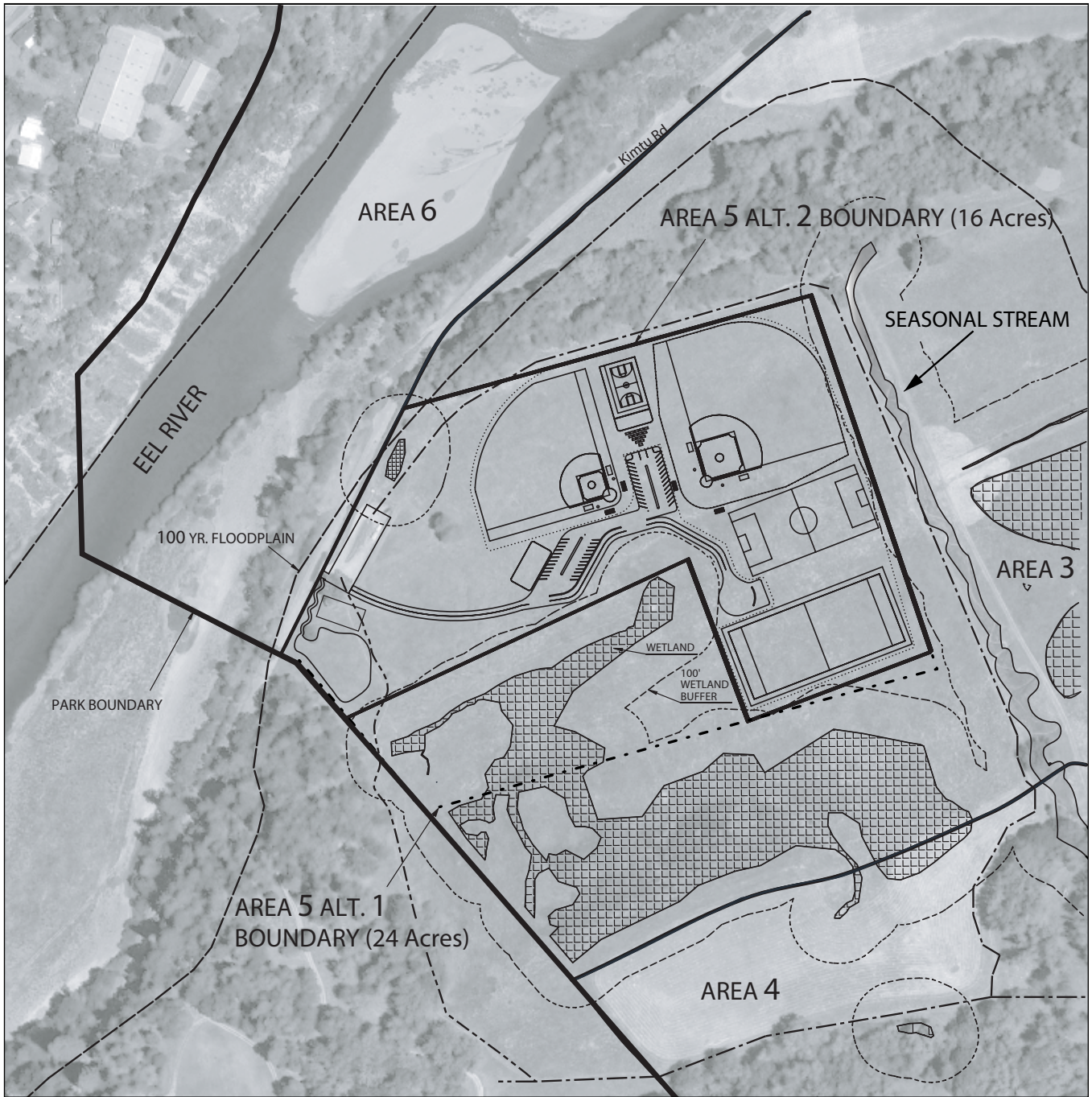




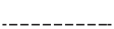




Figure 4.4-5

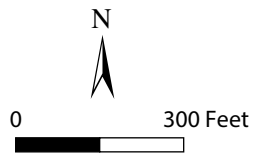
**REGULATED WATERS IN COMMUNITY COMMONS AREA (AREA 4)**

SOURCE: Huber C&D, 2014



Legend

-  Emergent wetlands
-  Seasonal creek
-  100' buffer
-  Area boundary
-  Property boundary
-  100 year floodplain
-  Existing road



SOURCE: Huber C&D, 2014

Figure 4.4-6  
REGULATED WATERS IN SPORTS AREA (AREA 5)

Community Commons Area (Area 4); and the play fields, roadways, buildings and other facilities in the Sports Area (Area 5). The likelihood of bird nesting is expected to be relatively low in these disturbed areas, and also low in areas subject to on-going activities and events where birds would either avoid nesting those areas or would have acclimated to the disturbance level and not be significantly affected by human presence. But locations where new, substantial disturbance to existing vegetative cover would occur, such as vegetation grubbing and grading associated with major construction activities initiated during the bird nesting season (generally from February 15 to August 31) could result in inadvertent loss of eggs and young of birds if present within the limits of construction, or abandonment of nests in active use if in close proximity to noise, movement, dust and other disturbance generated during construction. This could include loss or abandonment of nests of birds recognized as SSC species by CDFW and more common resident and migratory species protected under the MBTA and CDFW Code. The MBTA prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the USFWS; this prohibition includes whole birds, parts of birds, and bird nests and eggs. This would be considered a potentially significant impact.

In addition to the relatively short-term construction-generated disturbance, vegetation management activities associated with fire fuel reduction could result in inadvertent loss or disturbance to nests in active use. Fire fuel management activities would typically occur in the spring and summer months when bird breeding and nesting occurs. Ideally, construction and vegetation removal for fire fuel management activities would be initiated during the non-nesting season (September 1 to February 14) to avoid the potential for disturbance to bird nests in active use. However, conduct of preconstruction surveys and implementation of appropriate avoidance measures would serve to ensure nests in active use during the breeding and nesting season are adequately avoided in compliance with the MBTA and CDFW Code. Birds typically acclimate to on-going vegetation management practices associated with farming and property maintenance, such as mowing for trail clearance, on-going maintenance of specific use areas, and set-up for special events that occur in designated areas. and no special avoidance measures are considered necessary for these activities.

The following mitigation measure has been recommended to recognize the potential for birds nesting on the site and to provide adequate avoidance for both construction and on-going management activities that could result in inadvertent take of nests in active use.

*Mitigation Measure BIO-1: Major construction activities and vegetation management for fire fuel reduction shall be performed in compliance with the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Wildlife Code to avoid loss of bird nests in active use. This shall be accomplished by preferably scheduling vegetation removal for fire fuel management and major construction activities outside of the bird nesting season (which occurs from February 15 to August 31) to avoid possible impacts on nesting birds if new nests are established in the future.*

*Alternatively, if these activities cannot be restricted to the non-nesting season (September 1 to February 14), a pre-construction nesting survey shall be conducted depending on the proposed activity as defined below. The pre-construction nesting survey(s) shall include the following:*

- *A qualified biologist (Biologist) shall conduct a pre-construction nesting bird (both passerine and raptor) survey within 14 days prior to major construction and fire fuel*



management activities. Construction activities requiring pre-construction surveys include: sports field improvements in the Sports Area; Environmental Camp and concession stand in the Commons Area; the new restroom, new parking, and roadway improvements in the Park Headquarters Area; and traffic circle and replacement restroom in Tooby Memorial Park. Major tree limbing and brush thinning for fire fuel management shall also require a pre-construction nesting survey when performed during the nesting season. Birds typically acclimate to on-going vegetation management practices associated with farming and property maintenance, such as hay crop harvest, field tilling, and mowing for trail clearance, special event area maintenance and other property maintenance, and no preconstruction surveys or special avoidance measures are considered necessary for these activities.

- If no nesting birds are observed, no further action is required and scheduled activities shall be initiated within 14 days of the survey to prevent take of individual birds that could begin nesting after the survey.
- Another nest survey shall be conducted if more than 14 days elapse between the initial nest search and the beginning of the scheduled major construction activities or fire fuel management activity during the nesting season. Follow-up nest surveys are not required for on-going maintenance activities and events because birds typically acclimate to these activities or would avoid nesting in the vicinity if sensitive to the associated noise, increase in human activity and other disturbance levels.
- If any active nests are encountered, the Biologist shall determine an appropriate disturbance-free buffer zone to be established around the nest location(s) until the young have fledged. Buffer zones vary depending on the species (i.e., typically 75 to 100 feet for passerines and 300 feet for raptors) and other factors such as on-going disturbance in the vicinity of the nest location. If necessary, the dimensions of the buffer zone shall be determined in consultation with the California Department of Fish and Wildlife.
- Orange construction fencing, flagging, or other marking system shall be installed to delineate the buffer zone around the nest location(s) within which no construction-related equipment or operations shall be permitted. Continued use of existing facilities such as occupied buildings, existing parking, and site maintenance may continue within this buffer zone where the nesting birds have acclimated to these activities.
- No restrictions on activities outside the prescribed buffer zone are required once the zone has been identified and delineated in the field and workers have been properly trained to avoid the buffer zone area. But additional controls on lighting, noise amplification and other possible disturbance sources that could affect the viability of nest success shall be considered by the Biologist, and recommendations and restrictions defined, if necessary.
- Construction activities shall be restricted from the buffer zone until the Biologist has determined that young birds have fledged and the buffer zone is no longer needed.
- A survey report of findings verifying that any young have fledged shall be submitted by the Biologist for review and approval by the County prior to initiation of major construction activities and major fire fuel vegetation management within the buffer zone. Following written approval by the County, restricted activities within the nest-buffer zone may proceed. (LTS)

**Impact BIO-2: Proposed development could result in filling or modifications to regulated waters, including areas of freshwater emergent wetland and seasonal creek channels. (PS)**

Proposed improvements have generally been sited to avoid most of the riparian corridors formed by the seasonal creeks, the riparian forest along the edge of the South Fork Eel Creek, and the broad expanse of seasonal freshwater marshlands on the site. Figures 4.4-3 through Figure 4.4-6 show the mapped wetlands and riparian corridors in relation to proposed improvements, and demonstrate that both a 50-foot setback buffer called for under the County's SMA Ordinance and an even larger minimum 100-foot buffer is achieved in most instances around these features. The few exceptions to this larger 100-foot setback adherence include: the proposed traffic circle and replacement bathroom in Tooby Memorial Park (see Figure 4.4-3); the temporary stage, new bathroom, and the parking and roadway improvements in the Park Headquarters Area (see Figure 4.4-4); the pedestrian bridge crossings over the seasonal creeks, most of the temporary stage and booths associated with the Temporary Event location, and the layout of a portion of the Environmental Camp where about 9 tent sites would be located near the top of bank to the adjacent seasonal creek within the buffer setback in the Community Commons Area (see Figure 4.4-5); and a new irrigation line that would cross over the seasonal creek for the sports fields in Area 5 (see Figure 3-11).

Of these exceptions to the setback adherence, only the proposed new bridge crossings in Area 4, the irrigation pipeline in Area 5, and the roadway improvements in Area 2 would directly affect regulated waters. Detailed plans have not been prepared for these improvements, but the new bridges and irrigation pipeline crossing could affect existing riparian vegetation and aquatic habitat if initiated when surface waters are still present in the channels. For Area 2, the roadway improvements could result in loss of limited areas of seasonal freshwater marsh habitat for a distance of several hundred feet along the south side of the main entrance road to the Park Headquarters.

Proposed fills and modifications to jurisdictional waters would require authorizations from regulatory agencies, including the Corps, RWQCB, and CDFW as described above under "Regulatory Framework." Given the size of the proposed fills to areas of seasonal freshwater marsh, the project may qualify under the Nationwide Permitting Program of the Corps, which typically allows for smaller fills of up to half an acre in size as long as all standard and regional conditions are met. This includes compliance with the federal Endangered Species Act and provisions for adequate compensatory mitigation.

In addition to the potential for direct impacts on regulated waters, construction and long-term management activities could have indirect effects on the water quality of receiving waters. Improper drainage both during and after construction could interrupt important surface water flows or result in significant discharges of sediment-laden water into the downstream reaches of seasonal creeks and ultimately the South Fork Eel River. Adequate best management practices would be required to prevent transport of sediments into receiving waters, and to prevent long-term degradation as a result of increased urban pollutants, including oil and gasoline from vehicles parked in permanent and temporary parking areas, and fuel and lubricant spills from construction and property management equipment fueling and maintenance. A detailed discussion of the potential water quality impacts of the project is provided in Section 4.9, Hydrology and Water Quality. Collectively, these represent significant direct and indirect impacts on regulated waters.

Potential impacts on jurisdictional waters would be significant, and any modifications would require appropriate authorization by regulatory agencies, compensatory mitigation, and adherence to best management practices during construction, as indicated in the following mitigation measures.

*Mitigation Measure BIO-2a: A Wetland Protection and Replacement Program (WPRP) shall be prepared by a qualified wetland specialist and implemented to provide compensatory mitigation for modifications to any areas of jurisdictional waters affected by the project, and to ensure compliance with County General Plan policies and the SMA Ordinance related to stream and wetland protection and mitigation. At a minimum, the WPRP shall contain the following components:*

- *If on-site avoidance of jurisdictional waters, streams and wetlands identified in the SMA ordinance is not feasible, the WPRP shall provide compensatory mitigation at a minimum 2:1 ratio (ratio of mitigation acreage or credits to affected jurisdictional waters, streams and wetlands identified in the SMA ordinance), subject to the review and approval by the Planning Director in consultation with CDFW and other regulatory agencies. Any habitat created as compensatory mitigation shall be monitored for a minimum of 5 years or until success criteria are met, as defined in the WPRP to ensure successful establishment. The WPRP shall specify success criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures necessary to achieve a minimum survival rate of 85 percent of planted species following the first year of planting and 75 percent following the fourth year of planting.*
- *Annual monitoring reports shall be provided to the Planning Director, CDFW and other regulatory agencies before December 31 of each monitoring year, summarizing the status of revegetation efforts, and any maintenance activities performed or required. Photographs of the location from either side of the treatment area shall be included. Maintenance and monitoring shall continue until the area is completely revegetated with a minimum of 80 percent absolute cover of plants comprised of species similar to the undisturbed affected area as reviewed and approved in writing by the Planning Director in consultation with CDFW and other regulatory agencies.*
- *Orange construction fencing shall be installed at the edge of adjacent jurisdictional waters to be preserved to ensure no disturbance to these features. The construction fencing shall remain in place for the entire duration of construction to ensure construction equipment avoids these areas.*
- *A qualified biologist/restoration specialist shall meet with heavy equipment operators prior to the beginning of site-disturbing activities to explain the required mitigation, and be available during the initial phase of construction to provide situation-specific avoidance measures.*
- *Installation of the pedestrian bridges and other seasonal creek crossings or modifications shall be performed during the summer and fall months when the channels are dry, to minimize disturbance to aquatic habitat and avoid the need for temporary coffer dam and possible dewatering during construction.*
- *Any areas to be retained as natural habitat and disturbed as part of construction shall be restored to prevent erosion and contamination of nearby receiving waters. Monitoring shall be provided as part of the larger WPRP for a minimum of 5 years to ensure the disturbed area is successfully revegetated.*

- *Authorization for modifications to jurisdictional waters on the site shall be obtained by the applicant from the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act, the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act, and the California Department of Fish and Wildlife (CDFW) under Section 1602 of the State Fish and Game Code.*
- *All legally required permits or other authorizations shall be obtained by the applicant from the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NOAA Fisheries), and CDFW for the potential “take” of protected species under the federal and California Endangered Species Acts, if required. Although considered unlikely given the absence of suitable habitat for State- or federal-listed special-status species, the resource agencies make the determination on the need for any consultation or incidental take permits. This EIR specifically does not allow development that would require an incidental take permit. Subsequent environmental review would be required for approval of any development that requires an incidental take permit.*
- *Proof that all appropriate authorizations have been secured from the Corps, RWQCB, and CDFW and that adequate compensatory mitigation has been defined shall be furnished to the County prior to the issuance of a grading permit for any component of the project affecting jurisdictional waters.*

*Mitigation Measure BIO-2b: To address potential indirect impacts on water quality and downgradient receiving waters in the vicinity of the site, the applicant shall implement best management practices under the Storm Water Pollution Prevention Plan (SWPPP) called for in Mitigation Measure HYDRO-1a and the Stormwater Control Plan (SCP) called for in Mitigation Measure HYDRO-1b.*

*The combination of the measures above would reduce this impact to less than significant.  
(LTS)*

**Impact BIO-3: Proposed development would replace areas of existing natural habitat and could disrupt wildlife use of the site unless adequate controls are taken to prevent significant disruption. (PS)**

Installation of large playfields and other improvements, on-going recreational use, and temporary events would degrade the value of the remaining natural habitats on the site. Possible undesirable activities could include planting of highly invasive non-native plant species, vegetation clearance beyond that needed to accommodate proposed improvements, and unauthorized off-road vehicle activity. Sporting activities and the temporary special events would introduce additional visitors to the site, resulting in intensified human presence and disturbance from vehicles and event-generated noise, lighting, and other sources.

Detailed revegetation and landscaping plans have not been prepared for areas proposed for improvement areas such as the sports area, but many species used in landscaping are highly invasive, and could spread into open space areas to be retained as natural habitat, further reducing the habitat values of the site. The California Exotic Pest Plant Committee has identified plant species considered to be unsuitable due to their invasive character and tendency to out-compete native flora (California Exotic Pest Plant Council, 2006.). Although species such as Scotch broom (*Cytisus scoparius*) and French broom (*Genista monspessulana*) are currently not a severe

problem on the site, grading would create preferred habitat for these species and further development of the site could contribute to their spread. Unauthorized off-road vehicle activity could destroy groundcover vegetation, damage shrubs and trees, and contribute to sedimentation in drainages.

Wildlife species dependent on the resources currently available on the site would be displaced during construction and possibly as a result of special event activities when occupied. If not properly secured, trash and garbage generated by construction activities and events may attract opportunistic wildlife species and adversely affect healthy behaviors for these species. Increased vehicle and human activity, night-time lighting, and uncontrolled pets could all contribute to the reduction in value of the developed and adjacent undeveloped portions of the site to many wildlife species. Uncontrolled dogs and cats could contribute to loss of birds and small terrestrial wildlife, and harassment of larger mammals unless they are restricted or leashed on trails and natural areas. These would be potentially significant impacts on the existing wildlife habitat values of the site.

The following mitigation measures are recommended to minimize disruption to existing natural areas to be retained and to native wildlife use of the site:

*Mitigation Measure BIO-3a: A qualified landscape architect or restoration ecologist who specializes in native habitat restoration shall be retained to incorporate the following provisions into the Landscape and Revegetation Plans for the project:*

- *Prohibit the use of highly undesirable species in landscape improvements on the site which could spread into the adjacent open space areas. Unsuitable species include: blue gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia spp.*), pampas grass (*Cortaderia selloana*), broom (*Cytisus spp.* and *Genista spp.*), gorse (*Ulex europaeus*), bamboo (*Bambusa spp.*), giant reed (*Arundo donax*), English ivy (*Hedera helix*), German ivy (*Senecio milanioides*), cotoneaster (*Cotoneaster pannosus*), and periwinkle (*Vinca spp.*), among others identified in the CalEPPC List.*
- *Define maintenance and monitoring provisions to ensure the successful establishment and long-term viability of native plantings and the control and eradication of highly aggressive non-native broom and other noxious weeds. The maintenance and monitoring program shall be implemented during a minimum 5-year monitoring required as part of tree replacement and wetlands mitigation, and shall continue as part of long-term maintenance of open space areas.*
- *Provide adequate controls to prevent unauthorized vehicle access to natural areas to be retained. These can include appropriately placed bollards, gates, and wildlife friendly fencing that serves to control unauthorized vehicle access but allows for movement by larger terrestrial wildlife.*
- *Provide for reseeding of all graded slopes not proposed for roadways and other improvements with a mix of native grasses and forbs appropriate for the site rather than a conventional seed mix typically used for erosion control purposes to replace and improve existing habitat values of grasslands disturbed on the site.*

*Mitigation Measure BIO-3b: Measures recommended in Mitigation Measures BIO-1, BIO-2a, BIO-2b, BIO-3a, and BIO-4 would serve to partially protect important natural habitat on the site*

*for wildlife, avoid the potential loss of nests in active use, and minimize disturbance to wetlands and provide for replacement of affected jurisdictional waters. The following additional provisions shall be implemented to further protect wildlife habitat resources that could otherwise be compromised as part of the project:*

- *Permanent and temporary lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to the immediate vicinity of areas necessary to provide the minimum level necessary for safety purposes to illuminate pathways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.*
- *Dogs and cats shall be kept on leash at all times when on trails and natural areas on the site.*
- *All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source. This shall include trash generated during temporary special events.*

The combination of the measures above would reduce this impact to less than significant.  
(LTS)

**Impact BIO-4: Proposed development has the potential to conflict with local regulations related to Stream Management Areas and the intent of relevant policies in the Humboldt County General Plan related to streams and wetlands. (PS)**

The project generally complies with the relevant policies and standards in the County General Plan. As discussed above under Impact BIO-2, proposed improvements have generally been sited to avoid most of the riparian corridors formed by the seasonal creeks, the riparian forest along the edge of the South Fork Eel Creek, and the broad expanse of seasonal freshwater marshlands on the site. Figure 4.4-3 through Figure 4.4-6 show the mapped wetlands and riparian corridors in relation to proposed improvements, and demonstrate that a 50-foot setback called for under the County's SMA Ordinance and even a larger minimum 100-foot buffer is achieved in most instances around these features. The few exceptions to this setback adherence include: the proposed traffic circle and replacement bathroom in Tooby Memorial Park (see Figure 4.4-3); the temporary stage, new bathroom, and the parking and roadway improvements in the Park Headquarters Area (see Figure 4.4-4); and the pedestrian bridge crossings over the seasonal creeks, most of the temporary stage and booths associated with the Temporary Event location, and the layout of a portion of the Environmental Camp where about 9 tent sites would be located near the top of bank to the adjacent seasonal creek within the buffer setback in the Community Commons Area (see Figure 4.4-5).

The County's SMA Ordinance sets minimum development and setback standards adjacent to blue line streams in unincorporated areas of County. The SMA Ordinance defines development allowed within the designated setbacks and requires that a permit be secured for any development within or affecting SMAs or other wet areas. Development allowed within the SMA setback area is generally restricted to aquatic and habitat-related functions, such as restoration, agricultural diversions and wells, new crossings, bank stabilization, and other essential public projects. No blue line streams occur on the site, with the exception of the South Fork Eel River.

Most of the Temporary Event improvements and a portion of the Environmental Camp in the Community Commons (Area 4) and the temporary stage and improved parking in the vicinity of the Park Headquarters (Area 2) all occur within the 50-foot setback called for under the SMA Ordinance and some fall within the mapped 100-foot setback from the seasonal creeks in the area as well (see Figure 4.4-4 and Figure 4.4-5). However, none of these seasonal creeks are technically blue-line streams used in defining setback distances under the SMA Ordinance. The mapped 100-foot buffers in Figures 4.4-3 through Figure 4.4-6 were based on a recommendation made by CDFW in their response to the Notice of Preparation for the project in 2010 (CDFW, 2010) that a 100-foot buffer be provided from all drainages on the site, rather than the development restrictions under the SMA Ordinance that call for a 50-foot setback from intermittent streams.

Adjustment to some of these proposed facilities in the immediate vicinity of the seasonal creek features would be appropriate, together with seasonal restrictions on temporary activities when surface water is present. But the temporary events would presumably be scheduled during the late spring and summer, and would have only limited adverse effects on the nearby seasonal creek and associated riparian habitat. In some instances, there are no alternatives available to provide important improvements to existing facilities, such as replacing the existing bathroom in seasonal creek setbacks at Tooby Memorial Park (Area 1) and the road improvements and parking at the Park Headquarters (Area 2). Where direct fills and modifications to jurisdictional waters would occur, authorizations would be required from regulatory agencies, which would serve to ensure that appropriate controls and mitigation are incorporated into improvement plans.

The following measures are recommended to ensure compliance with the County General Plan policies and intent of the SMA Ordinance.

*Mitigation Measure BIO-4: Implementation of Mitigation Measures BIO-3a and BIO-3b would ensure adequate mitigation is provided for the direct loss of jurisdictional waters on the site, that protection and restoration of nearby waters is provided by the project, and that required authorizations are secured by regulatory agencies with evidence of compliance provided to the County prior to issuance of a grading permit. The following additional provisions shall be implemented to ensure conformance with relevant policies and standards in the County's General Plan and to meet with the intent of the SMA Ordinance:*

- *Provide compliance with Section 314-61.1, Streamside Management Area Ordinance of the Zoning Code and secure all required permits for any modifications to regulated habitat areas along streams and other wet areas.*
- *Relocate the portion of the Environmental Camp in Area 4 so that it is sited outside of the 50-foot buffer setback along the adjacent seasonal creek to the east. Although potential impacts associated with the few tents and other improvements near the top of bank are relatively minor, the buffer area is important to minimize vegetation removal, trampling and concentrated human activity along the seasonal creek.*
- *Restrict use of the Temporary Event facilities in Area 4 to the dry season (May 1 to October 31) to minimize disturbance to nearby seasonal aquatic habitat associated with the seasonal creeks. Exception to this restriction period may be authorized if field inspection verifies that surface water is no longer present in the spring months and that rains are not forecast in the fall months.*

- *Provide pedestrian bridge crossings over the seasonal creeks in the vicinity of the Temporary Event facilities and the Environmental Camp along designated trails to avoid concentrated pedestrian activity in the channel bottom.*
- *Install split rail fencing and interpretive signage to direct park users to designated creek crossing locations and minimize the potential for concentrated informal crossings of the creek channels. (LTS)*

## CUMULATIVE IMPACTS

The analysis of potential cumulative impacts on biological resources considered anticipated development in the surrounding area, including the pending or approved developments. The potential impacts of proposed development on biological resources tends to be rather site-specific, and the overall cumulative effect would depend on the degree to which significant vegetation and wildlife resources are protected on a particular site. This includes preservation of well-developed native vegetation (marshlands, native grasslands, oak woodlands, riparian scrub and woodland, etc.), populations of special-status plant or animal species, and wetland features (including seasonal wetlands and drainages). Further environmental review of specific development proposals in the vicinity of the site should serve to ensure that important biological resources are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts.

To some degree, cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. Additional development may also contribute to degradation of the aquatic habitat in the tributary creeks. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development could reduce water quality if not properly treated and managed. Recommendations to control erosion and sedimentation after grading should serve to minimize the potential for water quality degradation.

With regard to development of the project site and its relationship to surrounding habitat, no cumulatively considerable impacts on biological or wetland resources are expected as a result of anticipated development. Terrestrial wildlife in the area have already become acclimated to human activity on the site, and proposed development is not expected to disrupt important movement corridors or access to surrounding habitat. Mitigation measures recommended above to address potential impacts on regulated waters, potential bird nesting activities, and wildlife habitat would serve to address project-specific impacts and mitigate them to less-than-significant levels, and would address any contribution the project would otherwise make to cumulative impacts.

### **BIO-5: The project would contribute to a cumulative reduction in the surface water flows to the South Fork Eel River, creating the potential for a significant cumulative impact on aquatic life. (PS)**

As discussed above, the WSDAPISWAH provides an assessment of the potential impacts of the project on aquatic habitat and a determination on the effects of the anticipated demand on surface



water flows, including the South Fork Eel River. Project implementation is not expected to result in any adverse impacts on existing aquatic habitat conditions along the on-site ephemeral streams. And no significant adverse impacts on surface water flows or aquatic habitat in the South Fork Eel River are anticipated for the project itself. However, the project would contribute to a cumulative reduction in the surface water flows to the South Fork Eel River, including during the dry summer months when conditions become critical. As acknowledged in the WSDAPISWAH, the low-flow conditions that have existed for the past several summers are a limiting factor for survival of juvenile Coho and Chinook salmon, steelhead trout, and other aquatic species. During drought conditions, any reduction in flow could exacerbate the undesirable conditions of high water temperatures, low dissolved oxygen levels, and elevated nutrient concentrations, and could contribute to the creation of conditions that could be lethal for salmonids and other aquatic life. Because of these extreme low flows in the South Fork Eel River during current drought conditions, any further reduction in surface flows, including the relatively small diversion volume associated with the proposed project, could be cumulatively considerable and result in a significant cumulative impact on aquatic life.

The WSDAPISWAH included detailed recommendations to address the perception of using water to irrigate future playfields on the site, based on the principles of good environmental stewardship and water conservation, and to recognize that water use in the park must be adjusted based on the availability of water necessary to support the conservation values of the South Fork Eel River. These consist of 1) general recommendations for design and operation of the park, 2) adaptive management practices during times of water scarcity, and 3) controls on water availability through increased water storage capacity and restrictions on flow diversions from the South Fork Eel River during the dry season. Collectively, implementation of these recommendations from the WSDAPISWAH would serve to fully mitigate any project contribution to the potentially significant cumulative impact on aquatic life in the South Fork Eel River.

The following mitigation measure is recommended to minimize the project contribution to potentially cumulative impacts on aquatic life in the South Fork Eel River.

*Mitigation Measure BIO-5: Recommendations contained in the Water Supply and Demand Analysis and Potential Impacts on Surface Water and Aquatic Habitat (WSDAPISWAH) shall be implemented to address the project's contribution to cumulative impacts on aquatic life in the South Fork Eel River. These consist of the following and are described in more detail below: 1) general recommendations for design and operation of the park, 2) adaptive management practices during times of water scarcity, and 3) controls on water availability through increased water storage capacity and restrictions on flow diversions from the South Fork Eel River during the dry season.*

#### **General Recommendations**

*The following are general recommendations to address the project contribution to cumulative impacts on aquatic life in the South Fork Eel River and to improve the beneficial effects of the project on improving habitat conditions. Some of these must be rigidly enforced, such as use of appropriate drought-tolerant turfgrass species and appropriate irrigation design that can substantially reduce water demand. These are very specific recommendations where compliance with the recommendation can be established as a performance standard for the measure.*

- **Improvements to Water Storage Capacity** – As a goal of improving habitat conditions, the applicant shall work with the appropriate specialists to improve water storage capacity on the site. The project vicinity typically receives an average of 58 inches of precipitation, but the majority of the precipitation occurs between mid-October and mid-May. Thus, retaining water on-site during the wet season and allowing it to discharge back into the river during the dry season is the best means of further enhancing the hydrologic benefits that the park already provides. Water can be retained on-site by enhancing wetlands, restoring riparian areas, constructing infiltration or water storage ponds, and storing water in tanks. It is likely that enhancing groundwater recharge by enhancing wetlands, and restoring riparian areas would be the least expensive and infrastructure-intensive means of accomplishing this goal and would bring with it a suite of additional environmental benefits.
- **Installation of Drought-tolerant Turfgrass** – Drought-tolerant cool turfgrass species, such as Native Bentgrass™ from Delta Bluegrass, Zoysia 'De Anza', and/or Buffalo grass 'UC Verde' shall be used for turf plantings in the playfields and other areas of irrigated turf on the site. Each species and cultivar has differing benefits and advantages, but factors that shall be considered when selecting the type(s) of grass to be planted include evapotranspiration potential, drought tolerance, dormancy, soils structure and fertility, fertilizer demand, mowing height, invasive weed potential, and durability. Species that are recognized as an invasive species by the California Invasive Plant Council shall not be used. A landscaping firm experienced in turfgrass cultivation in similar Mediterranean climate zones shall be consulted by the applicant in selecting the exact species and cultivars for the playfields. Hybridized drought-resistant grass species and cultivars typically use about 70 percent of the water required by non-hybridized species.
- **Appropriate Design of Irrigation Systems** – Irrigation systems shall be designed with best available irrigation technologies, and be low-to-the ground and subsurface to reduce the potential for evaporation. Generally, sprinkler systems that apply water as close to the ground surface as possible will result in less evaporative loss. In addition, watering shall occur at night or in the early morning hours, which also reduces evaporation.
- **Seasonal Restrictions for Irrigation** – Most importantly, the irrigation allowance shall be determined based on the characteristics of each water year (when and how much precipitation falls) as that should influence how playfields are managed. Deciding when to cease irrigating the playfields is one of the most critical adaptive management measures for mitigating the potential adverse impacts associated with turf irrigation, and restrictions are defined further below under recommendations for adaptive management.

### **Adaptive Management Practices**

*There is a hierarchy of need for water in most communities during times of water scarcity. While sports fields are important for communities to congregate, turfgrass can be replanted after a drought in which irrigation is halted and grass dies. Water needed for direct human consumption often overrides most other uses, trailed closely by irrigation for food crops, and water needed to support instream beneficial uses. However, while alternative water supplies may sometimes be available for human needs, requirements for aquatic organisms can only be met through maintenance of life-sustaining minimum flows and viable water quality. Given the drought conditions that have been ongoing for at least 3 years (at the time of this writing),*

*irrigation of the sports field during extended drought conditions is likely to be highly scrutinized and of reduced priority compared to other needs.*

*For this reason, the WSDAPISWAH recommends establishing a water budget for various irrigation demands on the site, as well as a triggering mechanism for the reduction or cessation of irrigation during periods of water shortage, based on higher priority uses. There are likely to be several tiers of demand within the beneficial uses that currently need to be serviced at the site including direct human consumption, residential uses, irrigation of trees and other established semi-permanent vegetation, irrigation of annual row crops, irrigation of turfgrass, and irrigation of pasture/wetlands. This water budget and management procedures would be defined as part of an Adaptive Management Plan for the site, as required below.*

*The monitoring and management strategy defined in the Adaptive Management Plan shall consider current riverine, atmospheric, and antecedent precipitation conditions when determining the quantity of water available to irrigate turfgrass on the playfields. When the design and construction of new facilities is initiated, they shall be informed by the findings contained in the Adaptive Management Plan, and the findings shall be used in determining what type of and how many playfields are to be constructed. Phasing of the playfield construction would also allow field capacities to equilibrate with user demand and resource availability.*

*The WSDAPISWAH recommends that the irrigation cutoff threshold for the playfields be significantly higher than the 17-cubic-foot-per-second (cfs) flow conditions in the South Fork Eel River observed in July 2015. A threshold of 30 cfs beyond which the playfields could only be irrigated with stored or recycled water is recommended. This threshold would result in less vigorous turf at the onset of the wet season. One adaptation could be rotating the location(s) and layout(s) of fields in active use throughout the dry season in a manner that spreads the recreational impact on desiccated turf throughout the entire playfield area.*

*The following measures are recommended to provide adaptive management in future water use at the site:*

- *Develop an Adaptive Management Plan by a qualified hydrologist/landscape contractor that establishes a reliable means of determining the annual irrigation water diversion cutoff date. The Adaptive Management Plan shall be in place by the onset of construction of any playing fields.*
- *Consult with turfgrass and sports field irrigation system experts before laying out sports fields and designing irrigation systems in order to determine the best drought-tolerant turfgrass and irrigation strategies to reduce water consumption.*
- *Refine the water demand summary for agricultural areas and turfgrass (from the 2014 "Water Supply and Demand Analysis Memorandum" prepared for the project applicant by GHD; see Appendix G of the Draft EIR) using the WSDAPISWAH Estimated Water Demand to provide more detail for the site.*

#### **Future Water Storage and Restrictions on Flow Diversions**

*The Lake and Streambed Alteration Agreement (LSAA) with the California Department of Fish and Wildlife (CDFW) allows up to 2,000 gallons per day to be diverted from the spring*

currently used by the applicant between November 1 and July 1 of each year. The other diversion serving the site is from an infiltration gallery in the South Fork Eel River that is allowed to operate at a maximum diversion rate of 0.24 cfs. Use of the infiltration gallery currently does not have a specified period of diversion in the LSAA.

The following measures are recommended to improve future water storage and ensure adequate restrictions on in-channel diversions that could otherwise result in a cumulatively significant contribution to adverse effects on the aquatic habitat of the South Fork Eel River during the dry season:

- The applicant shall install additional non-potable water storage facilities on the site for irrigation and as a source of fire suppression water for the Main Agricultural and Forestland areas.
- Diversion from the South Fork Eel River infiltration gallery shall cease when the flow at Sylvandale (USGS Gauge #11476500) is nominally less than 30 cfs, contingent on calculation of a more robust metric.
- Staff will track streamflow at Sylvandale (USGS Gauge #11476500), available from USGS website) between July 1<sup>st</sup> and October 31<sup>st</sup>. If streamflow drops below 40 cfs, streamflow data will be checked daily before diverting water from the South Fork Eel River infiltration gallery for sports field irrigation. No diversion from the South Fork Eel River infiltration gallery will occur when the collected streamflow data shows the flow at Sylvandale (USGS Gauge #11476500) is less than 30 cfs.
- The LSAA with the CDFW requires that streamflow be measured prior to any diversion if water is diverted between July 1 and October 31. Measurements shall be taken at USGS Gauge 11476500.
- A report consisting of streamflow measurements and diversion data will be submitted annually on December 31<sup>st</sup> to the Planning Director and the CDFW. The report shall also assess the effectiveness of the mitigation measure, and make recommendations for increasing the efficacy of the mitigation, if needed. This report shall be subject to the approval of the Planning Director in consultation with the CDFW.
- The applicant shall seek funding to install additional water storage tanks and other on-site facilities to improve availability during the dry season. The additional water storage capacity can be defined as part of the Adaptive Management Plan, and preferably implemented in conjunction with construction of the future sports fields. Depending on the location selected for these tanks and other storage facilities, additional environmental review may be required. Any necessary environmental review shall be conducted before the facilities are installed.
- The Southern Humboldt Community Park is a senior water rights holder on the South Fork Eel River. Complying with any and all agreements to conserve water in an effort to protect fish and wildlife during periods of prolonged drought has no effect on existing senior water rights.

The combination of the measures above would reduce the project's contribution to the cumulative impact to less than significant. (LTS)

## REFERENCES

- California Department of Fish and Game (CDFW), 2010. *Notice of Preparation for the Southern Humboldt Community Park (SCH#2010092037)*, letter to Mr. Michael Richardson, Senior Planner, Humboldt County Planning and Building Department from Neil Manji, Regional Manager, October.
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- Mad River Biologists, 2002. *Southern Humboldt Community Park Feasibility Study*, prepared for Southern Humboldt Working Together, Incorporated, November.
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- Wear, K.S., 2011. *Botanical Survey, Wetland Delineation, and Stream Assessment Results, Southern Humboldt Community Park*. Prepared for Southern Humboldt Community Park, October.



## 4.5 CULTURAL RESOURCES

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### INTRODUCTION

This section evaluates the proposed project's potential impacts on cultural resources. Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value due to their historical significance. Cultural resources in the project site consist of prehistoric archaeological sites, historical archaeological sites, and historical buildings and structures associated with the Wood/Tooby Ranch Complex. The California Environmental Quality Act (CEQA) requires that effects on cultural resources by projects subject to discretionary action be considered in the planning process.

This section describes existing cultural resources conditions at the project site and the pertinent state and local laws and regulations related to cultural resources. Potentially significant impacts that could result from the proposed project are described and mitigation measures to reduce these impacts to less-than-significant levels are identified, as appropriate.

The following reports were prepared for the project site and, along with other references listed at the end of this section, were used to identify the baseline conditions for cultural resources in the analysis:

- Van Kirk et al., 2001. *A Cultural Resources Investigation of the Proposed Community Park at Tooby Flat, Garberville, Humboldt County, California.*
- Verwayen and Whiteman, 2008. *A Cultural Resources Management Plan for the Southern Humboldt Community Park.*

### ENVIRONMENTAL SETTING

The prehistoric, ethnographic, and historical contexts for the project site and vicinity are summarized below.

#### PREHISTORY AND ETHNOGRAPHY OF PROJECT SITE AND VICINITY<sup>1</sup>

Native Americans inhabited the region that encompasses the project site for millennia before the arrival of white settlers, including tribes such as the Wailaki, Lassik, Nongatl, and Sinkyone. These tribes traditionally lived near the Eel River and its tributaries, which, with its abundant plant and animal life, supported many villages along its banks.

Archaeological studies have provided insight into some of the major environmental and archaeological trends within the region over the past 8,000 years. The archaeological sequence for the region is divided as the Paleoindian Period (13,500 to 8,500 B.P.); the Archaic Period, which is

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<sup>1</sup> The prehistory, ethnography, and historical settings are adapted from Van Kirk et al. (2001) and Verwayen and Whiteman (2008).

subdivided as the Lower Archaic (8,500 to 5,000 B.P.), Middle Archaic (5,000 to 2,500 B.P.), and Upper Archaic (2,500 to 1,100 B.P.); and the Emergent Period.

Native American sites from the Paleoindian Period occur in coastal and interior wetlands. Characteristic artifacts of this period include large, lanceolate, concave-base, fluted projectile points and chipped stone crescent tools. Subsistence adaptation during this period was highly mobile hunting and plant gathering within lacustrine or coastal habitats. Exchange between groups presumably took place on an individual, one-to-one basis, with social groups not being heavily dependent upon exchange.

The Lower Archaic Period is characterized as generalized hunting and gathering by small, highly mobile family groups. Lower Archaic assemblages include wide-stem projectile points, handstones and milling-slabs, ovoid and domes scrapers (usually chert), and cobble spalls, handstones and milling-slabs.

During the Middle Archaic Period, land and resource use was oriented toward low-elevation villages along salmon-bearing streams near acorn crops and occupied by larger concentrations of people during the winter months. During this period, storage facilities, particularly for fish and acorns, were developed to feed the population during the lean winter months. The variety and productivity of upland resources declined, whereas annual salmon runs were more productive and reliable in local rivers. Middle Archaic assemblages are marked by a greater variety of small projectile point forms and greater reliance on mortars and pestles (associated with acorn processing) over milling-slabs and handstones.

During the Upper Archaic Period, the growth of sociopolitical complexity is evidenced by development of status distinctions based upon wealth, and emergence of group-oriented religions. Obsidian became the preferred toolstone in many parts of the central North Ranges, often manifested by an elaborate obsidian biface reworking industry. This is seen as reflecting greater complexity of exchange systems characterized by occurrence of regular, sustained exchange between groups. Upper Archaic assemblages include large, side- and corner-notched projectile points, medium-to-large, shouldered lanceolate points, and leaf-shaped points. Mano-metate grinding technology is replaced by bowl mortars and pestles. During the early Late Holocene, non-utilitarian features and artifacts (e.g., beads, pendants, and rock art) begin to appear. In particular, shell beads become an important grave-good artifact<sup>2</sup> and may be indicators of sustained exchange and social status differentiation.

The Emergent Period in northwest California is characterized by complex hunter-gather populations that relied heavily on marine and/or riverine resources; these populations are ethnographically linked to the Wiyot, Yurok, Tolowa, and other north-coast tribes. Populations were concentrated in permanent villages around Humboldt Bay and coastal lagoons, along the coast, and adjacent to the major rivers. Significant traits include a well-developed wood-working technology, riverine fishing specialization, wealth consciousness, and distinctive artifact types including zoomorphs, large obsidian ceremonial blades, antler spoons, steatite bowls and pipes, and small "Gunther Series" projectile points. Trade is documented both archaeologically and ethnographically, with exchange relationships reaching north to Vancouver Island for Dentalium

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<sup>2</sup> Grave-good artifacts can include *Olivella* shell beads, abalone ornaments, and tools made of obsidian and chert.



shells, east to the Warner Mountains and Medicine Lake Highlands for obsidian, and south to the San Francisco Bay region for clam shell disc beads.

Based on interviews by anthropologists with local Native Americans during the early 20<sup>th</sup> century, the area that is now the Southern Humboldt Community Park was the Sinkyone village site of *Kunteltcobi* or *Ken-tes-chang tahng-ah-te* (Baumhoff, 1958:190). More recently, when asked about the project site, Wailaki Elder Fred "Coyote" Downey reported the community park flat had been used as a Native American stickball court for games and thought that the use of the park flat for ball fields was appropriate to the site's history as it resembles indigenous people's use for ball games throughout the area.

## **HISTORY OF PROJECT SITE AND VICINITY**

With the arrival of early white settlers, many changes occurred including the displacement of the indigenous people. Some were sent to distant reservations, such as Round Valley. Early pioneers routinely kidnapped and raised young Native American children as workers, and young kidnapped women were often kept as unwilling wives.

James E. Wood and Peter J. Wood were among the early settlers and where the first known white family to occupy the project site. The brothers came to the southern Humboldt area to establish homesteads and raise families. Both brothers had wives of native origins who bore them sons. James Wood's son, Wilson Wood, was born at Wood Ranch—which includes the project site—in 1866. While little is known of Wilson's mother, Nellie Woods, local stories suggest that she is buried on the project site. Wilson Wood is listed in the 1900 Federal Census as Wailaki. In 1870, James E. Wood married his second wife, Lucy. Together they had 17 children. At the time of Lucy's death in 1934, she left behind 69 grandchildren, 65 great grandchildren and one great, great grandchild.

As white settlers arrived in large numbers to southern Humboldt County and began to acquire and settle large portions of the land for ranching, more native people lost their way of life. Land ownership combined with ranching practices was highly destructive to the native ways and undermined native people's ability to provide for themselves.

### **Wood Brothers**

In the years between 1872 and 1888, Peter J. Wood and James E. Wood began acquiring land in southern Humboldt County. At the time, settlers who inhabited and improved lands were given grants of public lands under Preemption Laws. Once the settler erected a dwelling and paid the fee of \$1.25 per acre, they were awarded a patent on the land that could be sold at market value. By 1888, the Wood brothers had either settled or purchased nearly 10,000 acres. Tax assessments show that the brothers were well on their way to developing a major livestock business, which included sheep, horses, mules, and hogs.

However, an 1882 tax assessment shows that the brothers had been financing their purchases with mortgages. As their land holdings and ranching operations grew in size, their financial position became tenuous. Fully aware of their predicament, they sold 9,681 acres to the mortgage holder, a businessman named James W. Henderson, for \$10,000 in 1896. In 1897, Henderson leased the

ranch and its livestock to Harry Hurlbutt. There also was an orchard on the ranch and equipment for processing and drying fruit for market. The 1897 lease agreement included many farming implements, but it is clear that, at that time, farming was subordinate to the livestock operation.

### **Tooby Brothers**

In 1910, Henderson sold the ranch to Ernest Norton Tooby ( $\frac{1}{2}$  interest), Frank H. Tooby ( $\frac{1}{4}$  interest) and William G. Dauphiny ( $\frac{1}{4}$  interest). The Tooby brothers and Dauphiny formed a corporation—Western Live Stock Company—and the ranch was part of the corporation. The ranch remained under that name until the corporation dissolved in 1967. The ranch remained in the Tooby family, in the names of Ernest Norton's children Arthur J. and Florence Tooby, with partner Harold Prior having a 12 percent ownership. Arthur Tooby managed the ranch, and the Tooby family retained ownership until its sale in 2000.

In 2000, the Southern Humboldt Community Park raised more than \$600,000 in community donations for the purchase of a 452-acre portion of Tooby Ranch. This land has been operated as a community park since the purchase. Currently, there are 11 buildings on the project site, 9 of which are of historical significance (Van Kirk et al., 2001). These historical buildings—as described under “Project Site Cultural Resources” below—serve as good examples of vernacular, utilitarian architecture due in part to their long association with ranching and farming operations at the site.

### **PROJECT SITE CULTURAL RESOURCES**

Roscoe and Associates completed two cultural resource studies for the community park in 2001 and 2008 (Van Kirk et al., 2001; Verwayen and Whiteman, 2008). In 2001, Van Kirk et al. conducted a cultural resource investigation of the project site, which was designed to (1) identify all archaeological resources or sites of ethnic significance, (2) perform preliminary significance evaluations of identified cultural resources, (3) assess potential adverse effects to cultural resources, and (4) provide recommendations to reduce or eliminate adverse impacts on significant cultural resources. In 2008, Verwayen and Whiteman prepared a Cultural Resources Management Plan (CRMP) for the community park to identify existing and potential impacts on cultural resources identified in Van Kirk's 2001 study and provide management recommendations for these resources. The CRMP provides the basis for mitigation measures recommended in this section.

These previous studies identified prehistoric and historical resources on the project site, consisting of three archaeological sites (CA-HUM-316, CA-HUM-1257/H, and CA-HUM-1267/H) and the Wood/Tooby Ranch Complex. These cultural resources are described in greater detail below.

Five additional cultural resource investigations have also been conducted of portions of the current project site, consisting of studies for the Moody Bridge Project (Flynn, 1976, 1977); a proposed community park water intake site for the Garberville Sanitary District (Burns, 2008); a water pipeline installation along Kimtu Drive for the Kimtu Meadows Mutual Water Company (Roscoe, Rich, and Verwayen, 2008); and an *Arundo donax* removal project at Tooby Memorial Park for the Department of Fish and Game (Salisbury and Roscoe, 2012). Flynn (1976, 1977) identified prehistoric archaeological site CA-HUM-316 within the current project site, observing midden (culturally modified soil) and artifacts. Roscoe, Rich, and Verwayen (2008) confirmed the presence of prehistoric sites CA-HUM-316 and CA-HUM-1257/H in the current project site. Burns (2008) and

Salisbury and Roscoe's (2012) surveys did not identify cultural resources in the portion of community park included within their study areas.

For the current project, an archaeologist with LSA Associates, Inc. (LSA) conducted an updated records search at the Northwest Information Center (NWIC) at Sonoma State University and a site visit to verify the current conditions of recorded cultural resources in the project site. The baseline conditions for cultural resources in the project site, as determined by previous investigations and LSA, are summarized below.

### **Historical Architectural Resources**

Eleven historic-period buildings were identified on the project site within Areas 2 and 3. All but two of these architectural resources—the Bunkhouse and Oil Storehouse—have historical significance, either individually or as contributing elements of the Wood/Tooby Ranch Complex (Kirk et al., 2001). The Wood/Tooby Ranch has a long history involving two prominent, early families of this area. James and Peter Wood financed the growth of the ranch to just under 10,000 acres when it was sold in 1897. The Tooby family purchased it in 1903 and, until its sale to the applicant, it was a working livestock ranch under family management. Both families and their ranching operation played important roles in the social, cultural, and economic life of the southern Humboldt community. Although none of the buildings appears to date to the original Wood Ranch period of the 19<sup>th</sup> century, features associated with the Wood's tenure, including a gravesite (described under "Archaeological Resources" below) and fencing, are recorded on the project site.

The Wood/Tooby Ranch Complex is significant under California Register of Historical Resources (CRHR) criteria 1 and 3 for its long association with local ranching operations and as a good example of vernacular, utilitarian architecture. (CRHR criteria are described in greater detail below.) **Figure 4.5-1** contains photographs of the Wood/Tooby Ranch Complex buildings.

The resources comprising the Wood/Tooby Ranch Complex are described below.

#### *Bunkhouse*

This one-story house measures 30 feet by 46 feet, including the front porch, which extends across the front of the house and within the roof line. It has a low, side gable roof covered with sheet metal. Entry is through a central door on the porch that is supported by posts and partially walled-in at its northern end. The house has both sliding aluminum and double-sash windows. Siding is v-rustic shiplap. This is a relatively modern house without architectural value.

#### *Oil Storehouse*

Sitting alongside the driveway, this hipped-roof building measures 8 by 14 feet, has exposed rafter ends, two entrances and small windows. It has a cement floor, v-rustic shiplap siding and interior work that indicates the use of previously used lumber. . The building appears to be contemporary and lacks architectural value.



Bunkhouse



Cabin



Chicken house



Garage



Haybarn



Horse barn

Figure 4.5-1

**WOOD/TOOBY RANCH COMPLEX BUILDINGS**



Oil storehouse



Old blacksmith shop



Ranch house



Scale shed



Slaughter house

Figure 4.5-1 (continued)

**WOOD/TOOBY RANCH COMPLEX BUILDINGS**

### *Horse Barn*

The barn measures 24 feet by 30 feet with a second-story loft. The barn has a steep, front-facing gable roof line, vertical board siding and loft doors on the front and east sides. A large sliding door on the front is of sufficient size to accommodate a modern vehicle. The loft is lit at both gable ends by small, fixed windows with six panes. There appears to be a ground-level door in the rear wall. The interior has a central row of three large posts and wide, rough-wood boards provide the flooring. The loft is accessed by a wall ladder. Like other ranch buildings, the roof is covered with sheet metal. There are no interior features, such as stalls or managers, to indicate past use.

This barn is significant for its simple, vernacular architecture and for its long association with the ranch. It is a noteworthy contributor to the cultural landscape as part of a complex of buildings that, through the years, sustained the day-to-day operations of the ranch.

### *Cabin*

Originally located about 100 yards southwest of its present location, this building was moved in 1987. It now sits at the south end of the main house. An 8-foot addition was built onto the west end of the cabin, so the building now measures 12 by 24 feet. It is a one-story, side-gable building with metal roof, exposed rafter ends, rough, unpainted v-rustic shiplap siding, and modern aluminum windows. A rear door is covered by a free-standing stoop and the front entrance by a porch.

As with the other ranch buildings, little information is available regarding the history of the cabin. However, it is a good example of vernacular, utilitarian construction, erected and adapted to provide housing for ranch workers. It is a contributor to the historical Wood/Tooby Ranch Complex.

### *Ranch House*

The center and primary section of the house faces east and measures roughly 35 by 45 feet, including a 6½-foot-wide front porch that is under the roof line of the house. There are four square posts across the front porch and four sliding aluminum windows. Siding is clapboard and the roof is sheet metal. The south end of the porch has a small enclosure with cove-rustic shiplap siding. On the south wall of the house are two sliding aluminum windows. The rear roof, originally with two pitches, has been raised to create a straight roof line, perhaps to provide more head space in the rooms below. On the north wall is a large, 40-pane fixed window.

Attached to the north end of the house to the west of the big, multi-paned window, are two “cabins.” Joined together at the roof line, they are accessed from the outside by a small, open doorway with steps to the left into the section that is part of the house and to the right into the woodshed. Together they measure almost 37 feet in length and at the north end about 20 feet in width. Clapboard siding, sheet metal roof, exposed rafter ends, and modified windows describe these extensions of the house. On the north wall of the woodshed is an open window that allows for unloading wood into the shed. The rear wall of the woodshed measures 13 feet.

At right angles to the woodshed is another section with a gabled roof and an open porch facing north. Entry into both the woodshed and gabled section is via paneled doors that are 19<sup>th</sup> century. Siding is clapboard; there is a single porch post, and exposed rafter ends extend beyond the sheet metal roof. The clapboard siding appears to be old; however, the exposed rafter ends are

reminiscent of Craftsman period construction. As with the front porch, this porch is recessed within the roof line and measures about 12 feet in length. The west wall measures 12 feet across and has a small, fixed window with three vertical panes. . The south wall has a small square window with six panes. These may be original windows and, if so, suggest the Craftsman period, roughly the late teens and 1920s.

On the west wall of the main house is an enclosed porch that measures 5 by 16½ feet. There are several fixed windows: two eight-pane vertical windows and a four-pane window on the west wall, along with the door which has an upper pane of glass. On the south wall is another fixed window of eight panes. This enclosure has both cove-rustic and clapboard siding and exposed rafter ends, and also recalls the Craftsman period. The rear wall of the main house measures 40 feet from the enclosed porch to the end of the house. It has cove-rustic shiplap siding and four sliding aluminum windows.

This house is an interesting mix of sections and materials, indicating enlargement of the original house with possibly moved-in additions, new construction, and the use of recycled lumber. Because the house is such a hodgepodge, it is not possible to use style or architectural features to date either the main house or its additions. Window styles are often used to date houses, particularly vernacular housing, but in this case, modern aluminum windows have replaced the original feature. However, the fixed, multi-paned windows in the enclosed porch and gabled section at the rear suggest Craftsman period construction, as do the exposed rafter ends. On the other hand, siding on the house includes clapboard, an early type of cladding in Humboldt County; cove-rustic shiplap, often found on 19<sup>th</sup>-century houses; and v-rustic shiplap that is late 19<sup>th</sup> and 20<sup>th</sup>-century siding. It is difficult to determine what is original and what is recycled.

Regardless of complexity of styles and materials, the house exemplifies a utilitarian resourcefulness embraced in rural areas. It has served well the various ranch families and workers over the years. Houses like this one, along with their associated agricultural buildings, are rapidly disappearing from the Humboldt County landscape, which contributes to the significance of this well-preserved example of rural, vernacular architecture.

### *Garage*

Located at the northwest corner of the Ranch House, the garage measures 18½ feet by 24½ feet. It is a side-gabled structure with metal roof and exposed rafter ends. A large sliding door on the front provides access to the floored interior. It has a combination of sidings: cove-rustic shiplap across the front and clapboard on the side. The north end of the garage has a small, fixed window of six panes. This building should be considered part of the historical Ranch House and is a contributor to the ranch complex as a whole.

### *Chicken House*

This farm building measures roughly 18 by 24 feet with vertical board siding and a gabled roof covered with sheet metal. Three doors on the east side access a feed room. Like the other unpainted ranch buildings, the siding has weathered to a rich brown. This building is a significant component of the historical Wood/Tooby Ranch Complex.

### *Old Blacksmith Shop*

Originally used as a blacksmith shop, the building now contains two box stalls and a tack room. A roof extension on the west covers an open area that connects the stalls and a corral at the rear. The building has a gable roof, covered with sheet metal, and vertical board and some board-and-batten siding. It measures 24 by 26 feet, including the 12-foot-wide covered area open at the ends and fenced with boards on the west. This building is a contributor to the historical Wood/Tooby Ranch Complex.

### *Hay Barn*

This large building measures 60 by 72 feet. From its ridge, the roof sweeps down to approximately 12 feet from the ground. At the two peaks, hay hoods cover loft doors and the pulley mechanism for loading hay into the loft. Covered with sheet metal and extending beyond exposed rafter ends, the roof dominates the building. On the east wall is a large, hinged loft door that opens downward, several smaller doors into the loft, and a gated drive-through that runs the length of the barn and exits through another gate on the west wall. Two small cutout windows and gate access to the drive-through are located on the south wall. The west wall has another large loft door beneath the hay hood, sliding doors, and the gated drive-through. The barn has a cement floor and enclosures provide space for a feed room and a tack room. Outside the barn on the west are corrals and chutes used for working cattle.

The hay barn is of modern construction; however, it is a vital component in the ranch complex and central to its operation, along with the corral and chute system. It is, therefore, a contributing element to the historical Wood/Tooby Ranch Complex.

### *Scale Shed*

Connected to the corral and chute system at the rear of the barn is a 17- by 19-foot building that houses scales. It has a gabled roof, vertical board siding, and gated openings at both ends. The chute-like scales occupy nearly all the interior space. Since recorded in 2001 by Van Kirk et al., the sheet metal roof covering has been removed as well as some of the vertical board siding. As such, this building's integrity has diminished somewhat since last recorded 13 years ago. For purposes of this analysis, however, the scale shed is considered a contributing element to the historical Wood/Tooby Ranch Complex.

### *Slaughter House*

This building is in poor condition and is generally in a state of disrepair, with much of the siding and roof covering gone. It measures 14 by 20 feet, and has a cement floor and lower wall, and an overhead mechanism for hanging and moving the carcasses. There is a large door on the north end. Although the building's integrity of materials and workmanship are compromised, for purposes of this project, the slaughter house is considered a contributing element to the historical Wood/Tooby Ranch Complex.



### *Fencing*

Van Kirk et al. (2001) and Verwayen and Whiteman (2008) note a section of old fencing along the southern edge of the flat where the trees begin in Area 4. This picket and wire fence is reminiscent of rural fencing in Humboldt County's early days. The 1897 lease from James Henderson to Harry Hurlbutt specified that the lessee could expend money for the construction of fence, which was to be "constructed of large and strong posts set not to exceed a distance of 10 feet apart. Pickets at least 4 feet in height shall then be fastened by double strands of wire at top and bottom and a barbed wire shall then be stretched over all."

This fencing on the project site is a contributing element of the historical Wood/Tooby Ranch Complex and may be one of the few extant structures associated with the 19<sup>th</sup>-century Wood family ownership of the ranch.

### **Archaeological Resources and Paleontological Resources**

Three archaeological sites are recorded on the project site and are described below.

To identify paleontological resources (fossils) in the project site, a search of the University of California Museum of Paleontology (UCMP) online fossil locality database was conducted. The purpose of the search was to assess the potential for the geological units underlying the project site to contain fossils.

Fossils have been identified in Humboldt County in Pleistocene sediments (UCMP, 2014). Pleistocene-age fossils in Humboldt County typically represent marine organisms, including a variety of bivalves, gastropods, and foraminifera. A Columbian mammoth, however, has also been identified in Pleistocene deposits in Humboldt County (UCMP, 2014). Holocene and Pleistocene deposits underlie the project site north of slopes bordering the southern third of the Community Park. Holocene deposits are too recent to contain significant fossils, although Pleistocene (~2.6 million to 10,000 years before present) deposits have the potential to contain fossils.

#### *CA-HUM-316*

CA-HUM-316 is a prehistoric archaeological site measuring approximately 21 meters long by 20 meters wide. This site was originally recorded in 1976 during an archaeological survey conducted for the Moody Bridge replacement project. Flynn's (1976) report indicates midden soil and artifacts, including a "Gunther Barbed" projectile point and a chert chopper. In 1977, an archaeological excavation was conducted at CA-HUM-316 that identified "a firepit feature and a fitted-stone pavement" (Flynn, 1977). Based on Flynn's findings, she recommended that the site be nominated to the National Register of Historic Places.

Archaeologists with Roscoe and Associates visited CA-HUM-316 in 2001 and observed five chert flakes, a flake tool, and fire-affected rock on the surface of this site. Currently there are no community park trails or other recreational facilities at this location, and brambles and poison oak make the site relatively inaccessible.

### *CA-HUM-1257/H*

CA-HUM-1257/H is a prehistoric archaeological site, with possible historic-period components, measuring approximately 750 meters long by 100 meters wide. The site was recorded during the cultural studies completed for Community Park (Van Kirk et al., 2001; Verwayen and Whiteman, 2008). The site includes a scatter of chert flakes, projectile points, a chert scraper, a pestle, a mortar fragment, rock cairns, and a possible stone-lined hearth. It is speculated that the cairns may represent human burial cairns (Van Kirk et al., 2001; Verwayen and Whiteman, 2008), although it is possible these also represent rock concentrations created during field or trail clearance to allow for agricultural uses of the property. .

Currently, recreational trails for hiking and biking, and modern structures are present at this site.

### *CA-HUM-1267/H*

CA-HUM-1267/H is a historic-period archaeological site measuring approximately 28 meters long by 43 meters wide. The site was recorded during the cultural studies completed for the Community Park (Van Kirk et al., 2001; Verwayen and Whiteman, 2008). The site consists of the circa 1867 rock cairn and grave of Nellie Woods, a Wailaki who was married to James Wood; two ceramic fragments; timber piles; and an engineered flat with railroad ties, possibly representing the foundation of a former structure.

When recorded in 2001, Ms. Woods' gravesite was marked with a wood sign that read, "In Memory of Nellie Woods, a Wailaki Indian" (Van Kirk et al., 2001). Currently, there is no authorized trail or recreational uses at this location, and the sign reported in 2001 is no longer present.

## **REGULATORY FRAMEWORK**

### **FEDERAL REGULATIONS**

No federal regulations relative to cultural resources would be applicable to the proposed project.

### **STATE REGULATIONS**

#### **California Environmental Quality Act**

CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations [CCR] Title 14(3) Section 15002(i)). Under the provisions of CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (CCR Title 14(3) Section 15064.5(b)).

CEQA Guidelines Section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources;

- Listed in a local register of historical resources (as defined at Public Resources Code (PRC)Section 5020.1(k));
- Identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
- Determined to be a historical resource by a project's lead agency (CCR Title 14(3) Section 15064.5(a)).

A historical resource consists of “Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California...Generally, a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources” (CCR Title 14(3) Section15064.5(a)(3)).

If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project would have on the resource. Generally, the use of drawings, photographs, and/or displays does not mitigate the physical impact on the environment caused by demolition or destruction of a historical resource. However, CEQA requires that all feasible mitigation be undertaken even if it does not mitigate impacts to less-than-significant levels (California Office of Historic Preservation, 2001:9; see also CCR Title 14(3) Section 15126.4(a)(1)).

### **California Register of Historical Resources**

Section 5024.1 of the PRC established the California Register of Historical Resources (CRHR). Generally, a resource is considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR (CCR Title 14(3) Section 15064.5(a)(3)). For a cultural resource to qualify for listing in the CRHR, it must be significant under one or more of the following criteria:

*Criterion 1:* Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;

*Criterion 2:* Associated with the lives of persons important in our past;

*Criterion 3:* Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

*Criterion 4:* Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to being significant under one or more of these criteria, a resource must retain enough of its historic character and appearance to be recognizable as a historical resource and be able to convey the reasons for its significance (CCR Title 14 Section 4852(c)). Generally, a cultural resource must be 50 years or older to be eligible for the California Register of Historical Resources.

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historical integrity to be considered eligible for listing in the California Register of Historical Resources. Historical integrity is defined as “the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance” (California Office of Historic Preservation, 2006). The evaluation of integrity must be grounded in an understanding of a resource’s physical features and its environment, and how these relate to its significance. There are seven aspects of integrity to consider when evaluating a cultural resource—location, design, setting, materials, workmanship, feeling, and association (National Park Service, 1997:44-45)—which are described as follows:

- *Location* is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.
- *Setting* is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.
- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan’s labor and skill in constructing or altering a building, structure, object, or site.
- *Feeling* is a property’s expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property’s historic character.
- *Association* is the direct link between an important historic event or person and a historic property.

### **California Public Resources Code Section 5097.5**

California Public Resources Code Section 5097.5 prohibits excavation or removal of any “vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

### **California Health and Safety Code Section 7050.5**

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

### **LOCAL REGULATIONS**

#### **Humboldt County General Plan**

The Humboldt County General Plan is a long-range statement of public policy for the use of public and private lands within the unincorporated areas of Humboldt County, including the project site. These public policies establish a generalized pattern of land use for a 20-year period, which is the foundation of more detailed implementation. According to the goal stated in Section 3530, the General Plan policies regarding cultural resources are established "To provide for the protection and enhancement of cultural resources for the historic, scientific, educational, and social contributions they render to the present generation and to generations that follow." These policies are stated in Section 3531 and consist of the following:

1. *Cultural resources (including but not limited to archaeological, paleontological and architectural sites, grave sites and cemeteries) shall be identified where feasible, assessed as to significance, and if found to be significant, protected from loss or destruction.*
2. *Concerned citizens, historical organizations and applicable agencies shall be consulted during project review for the identification and protection of cultural resources.*
3. *Projects located in areas found to have cultural resources shall be conditioned and designed to avoid loss or degradation of these resources.*
4. *Expert opinions and field reconnaissance at the applicant's expense may be required during environmental assessment to determine the presence, extent, and condition of cultural resources and the likely impact upon such resources.*
5. *Archaeological and paleontological resources shall not be knowingly destroyed or lost through a discretionary action unless (1) the site or resource has been found to be of insignificant value by relevant experts and representatives of the cultural resources community, or (2) there is an overriding public benefit from the project, an compensating mitigation to offset the loss is made part of the project.*
6. *Mitigation measures shall be required where new development would adversely impact archaeological or paleontological resources.*

## Community Plan

The Garberville/Redway/Alderpoint/Benbow Community Plan acknowledges the archaeological sensitivity of this area, stating that “Archaeological sites have been identified...along the lower river terraces of the planning area” (County of Humboldt, 1987). Consistent with the Humboldt County General Plan, Section 3500 of the Community Plan includes a policy that impacts on archaeological sites be avoided or a significance determination and—as appropriate—mitigation carried out.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section describes cultural resource impacts that could result from implementation of the proposed project. This section begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents the less-than-significant and potentially significant impacts that could result from project implementation. Mitigation measures are identified to avoid, minimize, or mitigate such impacts, where warranted.

### SIGNIFICANCE CRITERIA

The proposed project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

### LESS-THAN-SIGNIFICANT IMPACTS

No paleontological resources (fossils) or unique geological features would be affected by the project. Holocene and Pleistocene terrace deposits are mapped north of slopes bordering the southern third of the project site (McLaughlin et al, 2000). Although fossils have been identified in Pleistocene deposits in Humboldt County, these resources—if present—would likely underlie soil and Holocene sediment at a considerable depth. The project includes proposed construction that would result in earth-moving activities, including new bathroom facilities; entrance and driveway upgrades; new fencing for livestock security, public safety, and protection of riparian areas; and new trails. The proposed construction, however, does not involve deep, extensive excavations that have the potential to unearth significant fossils that may be associated with Pleistocene deposits. The project therefore would not directly or indirectly destroy a unique paleontological resource or geological feature.

## POTENTIALLY SIGNIFICANT IMPACTS

This section addresses the potentially significant impacts on historical resources, archaeological resources, and human remains and recommends mitigation measures.

**Impact CULTURAL-1: The project could cause a substantial adverse change in the significance of the Wood/Tooby Ranch Complex, a historical resource as defined in CEQA Guidelines Section 15064.5. Remodeling contributing properties to the Wood/Tooby Ranch Complex could cause a substantial adverse change in the significance of this resource. (PS)**

Portions of the ranch house, cabin, and garage may be remodeled to accommodate new uses in addition to residential uses. Use conversion may include physical alterations to these buildings to accommodate offices, meeting spaces, a community kitchen, restrooms, and reconfigured residential uses. These three buildings are contributors to the Wood/Tooby Ranch Complex, a resource that appears eligible for listing under CRHR criteria 1 and 3 for its association with early 20<sup>th</sup>-century local ranching operations and as a good example of vernacular, utilitarian architecture. Pursuant to CEQA Guidelines Section 15064.5(a)(3), "Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources." Remodeling and reconfiguring buildings associated with the Wood/Tooby Ranch Complex have the potential to materially alter in an adverse manner those physical characteristics that justify its inclusion in the CRHR.

*Mitigation Measure CULTURAL-1: Any remodel, reconfiguration, or rehabilitation of the ranch house, cabin, garage, or other contributing buildings to the historical Wood/Tooby Ranch Complex by the project shall be conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation (Standards) and undertaken with the assistance of an individual meeting the Secretary of the Interior's Professional Qualifications Standards for historic architecture (qualified architect). The qualified architect shall review the applicant's plans for work on the Wood/Tooby Ranch Complex buildings and provide written recommendations to the applicant and County to ensure that modifications to historical buildings are done in compliance with the appropriate standards. The qualified architect shall oversee remodeling, reconfiguration, or rehabilitation of the historical buildings to ensure that work is done in compliance with the standards. The County shall ensure that the recommendations of the qualified architect are followed as a condition of project approval. (LTS)*

**Impact CULTURAL-2: The project could cause a substantial adverse change in the significance of archaeological resources, resulting from construction-related ground disturbance. Also, increased use of and visitation to the property from public and private events as well as recreational uses have the potential to result in incidences of vandalism of resources, unauthorized collection of archaeological materials, and trampling of archaeological deposits. (PS)**

Three archaeological sites are recorded at the project site. Although no project ground disturbance is proposed at or within the boundary of these three sites, intensified use of the community park may occur and could result in indirect impacts on archaeological resources. Such indirect impacts could occur from an increase in general agricultural use, including grazing; mid-size to festival-size events accommodating between 800 and 5,000 persons; and recreational trail and track

construction. Collectively, these activities could result in increased exposure of archaeological deposits to trampling, surface collection, and vandalism.

Furthermore, project ground disturbance would occur from grading or trenching for proposed infrastructure upgrades and recreational facilities, which could unearth previously unidentified archaeological deposits or human remains. Trenching for proposed potable and irrigation lines, for example, would occur near archaeological sites CA-HUM-1257/H and CA-HUM-1267/H. To avoid direct impacts on these known archaeological resources, the project would construct the water lines outside of the recorded boundaries of these resources. Also, trenching for the proposed water lines would mostly occur within existing roads, which have a reduced potential for intact archaeological deposits due to previous disturbance. Despite these avoidance measures, however, the potential to unearth subsurface archaeological deposits during project trenching cannot be ruled out. Prehistoric materials that could be encountered include obsidian and chert flakes or chipped stone tools, grinding implements (e.g., pestles, handstones, mortars, slabs), bedrock outcrops and boulders with mortar cups, locally darkened midden, deposits of shell, dietary bone, and human burials. Historical materials that could be encountered include ceramics/pottery, glass, metal, can and bottle dumps, cut bone, barbed wire fences, building pads, structures, and trails/roads. Implementation of Mitigation Measures CULTURAL-2a and CULTURAL-2b would reduce the potential impact on archaeological resources to a less-than-significant level.

*Mitigation Measure CULTURAL-2a: The Site Monitoring and Protection Protocols described in the Community Park Cultural Resources Management Plan (Verwayen and Whiteman, 2008) shall be implemented for the project. These monitoring and protection protocols include the following:*

1. **Placement of Protective and/or Interpretive Signs:** Signs shall be placed at strategic locations in the community park—such as near restrooms, at kiosks, and at trailheads—prohibiting surface collection of artifacts or digging in archaeological sites.
2. **Site Patrols:** Community park staff shall routinely patrol archaeological resources, particularly during mid-size and festival-size events, to ensure that visitors remain on designated trails and away from archaeological deposits. Community park staff shall maintain a record of archaeological site inspections, including the date of inspection, observed damage or sources of potential damage (e.g., volunteer trails or cattle grazing) to archaeological resources. At its discretion, the County may request a copy of the inspection record(s) from the applicant. If damage or sources of potential damage to archaeological resources is observed, community park staff shall implement site-specific measures to mitigate or prevent further damage. Such measures may include fencing to prevent incursion on archaeological deposits, signs requesting that visitors stay on designated trails, and planting of dense vegetation near archaeological resources to reduce the potential for site incursion.
3. **Fencing:** A fence or section of fence shall be used to direct foot traffic away from archaeological resources on the project site. Temporary chain-link fencing or construction fencing could be used to keep people off archaeological sites during mid-size and festival-size events.
4. **Archaeological Survey:** Prior to project ground disturbance within 100 feet of a recorded archaeological resource, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards shall conduct a survey to ensure that archaeo-



*logical deposits would not be affected by the project. If an archaeological deposit is identified during the survey, project activities shall be redirected to avoid the deposit. If project activities cannot be redirected, the archaeological deposit shall be evaluated and mitigation carried out, as appropriate. Such mitigation may include a controlled excavation to recover archaeologically and historically significant information as well as public outreach and interpretation.*

*Mitigation Measure CULTURAL-2b: Prior to project approval, the County shall ensure that the following compulsory specification be included in the project construction contract plans:*

*If cultural resources greater than 50 years old, such as chipped or ground stone, historical debris, building foundations, or bone are discovered during project ground disturbance, work shall be stopped within 20 meters (66 feet) of the discovery. Work near the archaeological finds shall not resume until a professional archaeologist has evaluated the materials and offered recommendations for further action.*

*The combination of the two measures above would reduce this impact to a less-than-significant level. (LTS)*

**Impact CULTURAL-3: The project could disturb human remains interred outside of formal cemeteries. The project site includes one historical grave (CA-HUM-1267/H) and a prehistoric site with possible Native American human remains (CA-HUM-1257/H). Furthermore, previously unrecorded human remains, either in isolation or in association with archaeological deposits, may be unearthed during project ground disturbance. (PS)**

The project site includes the circa 1867 grave site of Nellie Woods (CA-HUM-1267/H), and possible grave sites have been observed at CA-HUM-1257/H during an archaeological survey of the property (Van Kirk et al., 2001). Although no project ground disturbance is proposed at or near known or potential grave sites, intensified use of the community park may occur from project implementation and could result in indirect impacts on archaeological resources containing human remains. Implementation of Mitigation Measures CULTURAL-2a and CULTURAL-2b, and compliance with Section 7050.5 of the California Health and Safety Code, would reduce this potential impact to a less-than-significant level.

*Mitigation Measure CULTURAL-3: Refer to Mitigation Measures CULTURAL-2a and CULTURAL-2b. Implementation of Mitigation Measures CULTURAL-2a and CULTURAL-2b would reduce this potential impact to human remains by (1) establishing controls and protocols that would decrease the likelihood of public intrusion or destruction of archaeological resources containing human remains, i.e., through the use of signs, site patrols, and temporary fencing; and (2) establishing notification procedures for construction personnel in the event that archaeological resources and/or human remains are identified during project implementation. (LTS)*

## **CUMULATIVE IMPACTS**

The proposed project would have a significant effect on the environment if it—in combination with other past, current, or reasonably feasibly foreseeable projects under review by the County—would

contribute to a significant cumulative impact on cultural resources. A significant cumulative impact would occur, for example, if other closely related projects would affect buildings or historical roads associated with the Wood/Tooby Ranch Complex or other similar historical ranch complexes within southern Humboldt County.

Aside from the current project, there are no current or reasonably foreseeable projects planned in the vicinity that would affect the Wood/Tooby Ranch Complex or associated features. A cabin and outhouse possibly associated with the Wood family were identified east of the community park during a survey for the Garberville Sanitary District Water Systems Project (Burns, 2008). This cabin and outhouse may be eligible for listing in the CRHR due to their association with the Wood family. Based on information provided by the County, however, it is not anticipated that current or reasonably foreseeable projects in the vicinity, including the Garberville Sanitary District Water Improvement Project, would affect significant elements of the Wood/Tooby Ranch or other similar historical resources. Therefore, the current project, which would have less-than-significant impacts on historical resources after mitigation, would not contribute to a cumulative effect on historical resources. No mitigation for cumulative impacts to historical resources is required.

The potential disturbance of subsurface cultural resources that may underlie the project site, including archaeological resources and human remains, could make a considerable contribution to a significant cumulative impact in the context of other past, present, or reasonably foreseeable local projects identified by the County. As described above, implementation of appropriate mitigation measures would reduce impacts on these resources through the use of protective signs, regular site patrols, fencing, focused archaeological surveys, and, in the case of human remains, compliance with Section 7050.5 of the Health and Safety Code. The current project would not contribute to a cumulative effect on archaeological resources or human remains, and no mitigation for cumulative impacts on such resources is required.

When development proposals are received by the County in the future, these will undergo environmental review pursuant to CEQA and, when necessary, mitigation measures will be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval will ensure that significant impacts on archaeological resources and human remains will be avoided or otherwise mitigated to less-than-significant levels with the recovery and analysis of important information through controlled excavation and reburial of human remains.

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## 4.6 GEOLOGY AND SOILS

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### INTRODUCTION

This section describes existing geologic conditions, including geologic and seismic hazards, for the project site; summarizes the applicable regulatory framework; identifies potentially significant geology, soils, and seismicity impacts of the project; and recommends mitigation measures to reduce these impacts to less-than-significant levels.

### ENVIRONMENTAL SETTING

The geology, topography, and soils of the project site are described below, along with potential seismic and geologic hazards. Information for this section is drawn from a technical report prepared for the Humboldt County General Plan Update (Humboldt County, 2002), regional geologic reports and maps from the United States Geological Survey (USGS), the California Geological Survey (CGS), the Natural Resources Conservation Service (NRCS), and other public sources.

### GEOLOGY

The project site is located within the Coast Range geomorphic province, which is characterized by the folded, faulted, sheared, and altered sedimentary, igneous, and metamorphic rock of the Franciscan Complex. The South Fork Eel watershed, which includes the project site, also contains some Tertiary-Cretaceous Coastal Belt rocks and Cenozoic Sedimentary Rocks (Humboldt County, 2002).

### TOPOGRAPHY

The topography of the project site varies from north to south. The northern two thirds of the project site (representing Areas 1-3 and 5-6) is relatively level, with elevations ranging from 350 to 380 feet above mean sea level (amsl) (Huber C&D, 2014). East of this part of the project site, the terrain slopes up to US Highway 101, which is located at an elevation of around 600 to 720 feet amsl. The southern third of the project site (Areas 4 and 7) is characterized by steep slopes, with the elevation ranging from about 400 feet amsl to 854 feet amsl in the southeast corner (Huber C&D, 2014).

### SOILS

Soil is generally defined as the unconsolidated mixture of mineral grains and organic material that mantles the land surfaces of the earth. Soils can develop on unconsolidated sediments, such as alluvium, and weathered bedrock. The characteristics of soil reflect the five major influences on their development: topography, climate, biological activity, parent (source) material, and time.

NRCS soil data identify ten different classes of soil at the project site (**Table 4.6-1**). Based on the NRCS data, 36.0 percent of the soils at the site are on slopes of 0 to 9 percent, 13.6 percent of the soils are on slopes of 10 to 30 percent, and 38.6 percent of the soils are on slopes over 30 percent (NRCS, 2014).<sup>1</sup> In general, soils on level parts of the site (Areas 1-3 and 5-6, having less than 10 percent slope) consist of 5 to 6 feet of sandy and silty clay loams, while soils overlying steeper slopes (Areas 4 and 7) consist of 1 to 2 inches of decomposed plant material over several feet of very gravelly loam (NRCS, 2014).

## SEISMIC CONDITIONS

The project site is located in the seismically active North Coast area. The main feature generating the seismic activity in the region is the tectonic plate boundaries between the North American, Gorda, and Pacific plates. Three major faults, including the San Andreas, the Mendocino fracture zone, and the southern end of the Cascade subduction zone meet just off shore of the Humboldt County coast (Humboldt County, 2002). Of these faults, the San Andreas is closest to the project site, located approximately 14 miles to the west (CGS, 2010).

Several minor and presumed inactive faults are located closer to the project site. The nearest is a highly-segmented fault referred to as the Garberville, one segment of which is located near the northeast corner of the project site (CGS, 2010). Based on available data, this fault has not shown evidence of surface displacement in over 700,000 years (CGS, 2010). As no significant movement has occurred along this fault in recent history, it would be considered unlikely to be the source of a significant earthquake during the expected life of the project.

## SEISMIC AND GEOLOGIC HAZARDS

This section describes the hazards associated with the seismic and geologic conditions and the potential for seismic events on the project site.

### Fault Rupture Damage

Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. As noted above, the nearest active fault to the project site is the San Andreas Fault, located approximately 14 miles to the west. No known active faults or fault rupture hazard zones are present at or immediately adjacent to the project site, and the fault rupture hazard is therefore considered to be very low.

### Seismic Shaking

Seismic shaking (or ground shaking) is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. Magnitude is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude

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<sup>1</sup> The numbers do not add up to 100% because 9.8% of the project site area mapped as water (the South Fork Eel River) is excluded.

**TABLE 4.6-1 SOIL TYPES AND SLOPES AT THE PROJECT SITE**

Soil Type	Approximate Percentage of Area	Slopes
Water and Fluvents	9.8%	0 – 2 %
Garberville-Parkland Complex	5.1%	0 – 2 %
Garberville-Parkland Complex (steeper slopes)	9.5%	2 – 9%
Conklin	5.4%	0 – 2%
Granycreek-Parkland Complex	10.2%	2 – 5%
Pepperwood-Shivelyflat Complex	7.8%	0 – 2 %
Burgsblock-Coolyork-Tanin Complex	9.5%	15 – 30%
Burgsblock-Coolyork-Tanin Complex (steeper slopes)	26.5%	30 – 50%
Tanin-Burgsblock-Rocklyglen Complex	0.4%	50 – 75%
Sproulish-Canoecreek-Redwohl Complex	0.3%	30 - 50%
Canoecreek-Spoulish-Redwohly Complex	12.7%	50 - 75%
Yorknorth-Witherell Complex	4.1%	15 – 30%

Source: NRCS, 2014.

of seismic waves. Intensity is a subjective measure of the perceptible effects of seismic energy at a given point and varies with distance from the epicenter and local geologic conditions. The Modified Mercalli Intensity Scale (MMI) is the most commonly used scale for measurement of the subjective effects of earthquake intensity and is further described in **Table 4.6-2**. Intensity can also be quantitatively measured using accelerometers (strong motion seismographs) that record ground acceleration at a specific location, a measure of force applied to a structure under seismic shaking. Acceleration is measured as a fraction or percentage of the acceleration under gravity (g).

A probabilistic seismic hazard assessment determined that there was a 10 percent chance over the next 50 years of an earthquake in the project vicinity generating a peak acceleration of 0.569g at the project site and a 2 percent chance for an earthquake with a peak acceleration of 1.037g (CGS, 2008). This would correspond to severe to violent perceived shaking (Mercalli Category VIII to IX) which could create severe damage even to well-designed buildings (Table 4.6-2).

### Liquefaction

Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake ground shaking. In the process, the soil undergoes transient loss of

**TABLE 4.6-2 MODIFIED MERCALLI SCALE**

<b>M<sup>a</sup></b>	<b>Category</b>	<b>Peak Ground Acceleration (g)</b>	<b>Definition</b>
	I	<0.0017	Not felt except by a very few under especially favorable circumstances.
3	II-III	0.0017-0.014	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
4	IV	0.014-0.0-0.01439	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
	V	0.039-0.092	Felt by nearly everyone, many awaken. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
5	VI	0.092-0.18	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
6	VII	0.18-0.34	Everybody runs outdoors. Damage negligible in building of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
	VIII	0.34-0.65	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.
7	IX	0.65-1.24	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
8	X	>1.24	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.
	XI		Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
	XII		Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted.

<sup>a</sup> Richter magnitude correlation.

Source: CGS, 2002.

strength, which commonly causes ground displacement or ground failure to occur. Areas favorable for liquefaction are generally those with younger soils (less than 15,000 years), where previous liquefaction has occurred during earthquakes and where saturated uncompacted fills are present (Humboldt County, 2002). Within Humboldt County, only areas near Humboldt Bay, underlain by bay muds and sands, have been identified as specific areas of high liquefaction potential (Humboldt County, 2002).



## **Landsliding**

The strong ground motions that occur during earthquakes are capable of inducing landslides, generally where unstable slope conditions already exist. In addition, heavy precipitation events can induce mudflows or debris flows in areas where soils on a hillslope or in a stream channel become saturated and unstable.

Humboldt County's GIS map of historic landslides does not show any landslides on the project site, but does show historic landslides near the northeast corner of the project site, between the project site and US Highway 101 (Humboldt County, 2014). The Garberville Redway Alterpoint Benbow Community Plan has mapped the relatively level portions of the project site (Areas 1-3 and 5-6) as having Low relative slope stability, and the steeper portions of the project site (Areas 4 and 7) as having Moderate relative slope stability (Humboldt County, 1987).

## **Expansive Soils**

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. As a consequence of such volume changes, structural damage to buildings and infrastructure may occur if the potentially expansive soils were not considered in building design and during construction. As described above, much of the project site is underlain by clayey loams which have the potential for expansion.

## **Subsidence**

Subsidence is the lowering of the land-surface elevation. The mechanism for subsidence is generally related to groundwater pumping and subsequent consolidation of loose aquifer sediments. The primary hazards associated with subsidence are increased flooding hazards and damage to underground utilities. Other effects of subsidence include changes in the gradients of stormwater and sanitary sewer drainage systems in which the flow is gravity-driven. As described in the Hydrology and Water Quality and Utilities sections of this Draft EIR, most of the water for the project is anticipated to be taken from the South Fork Eel River with relatively small volumes of groundwater from existing wells and a spring continuing to be used for existing facilities.

## **Settlement and Differential Settlement**

Differential settlement or subsidence could occur if buildings or other improvements were built on low-strength foundation materials or if improvements straddle the boundary between different types of subsurface materials (e.g., a boundary between native material and fill). Although differential settlement generally occurs slowly enough that its effects are not dangerous to inhabitants, it can cause significant building damage over time. No geotechnical information regarding the potential for differential settlement is available for the project site.

## **REGULATORY FRAMEWORK**

This section describes the applicable federal, state, and local regulations that pertain to the project.

## FEDERAL REGULATIONS

The National Earthquake Hazards Reduction Program (NEHRP) was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law (PL) 95–124. In establishing NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic NEHRP goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts. There are four primary NEHRP agencies:

- National Institute of Standards and Technology (NIST) of the Department of Commerce
- National Science Foundation (NSF)
- United States Geological Survey (USGS) of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of NEHRP priorities is accomplished primarily through original research, publications, and recommendations to assist and guide state, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

## STATE REGULATIONS

State regulations described below include the California Building Code, Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act.

### California Building Code

The 2012 International Building Code (IBC) is published by the International Conference of Building Officials (ICBO) and is the widely adopted model building code in the United States. The 2013 California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC). The CBC incorporates by reference the IBC requirements with necessary California amendments. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The Town of Corte Madera has adopted the 2013 CBC by reference (Municipal Code, Title 15, Chapter 15.01).

Compliance with the 2013 CBC requires that (with very limited exceptions) structures for human occupancy be designed and constructed to resist the effects of earthquake motions. The Seismic

Design Category for a structure is determined in accordance with either: CBC Section 1613 – Earthquake Loads; or American Society of Civil Engineers (ASCE) Standard No. 7-05, Minimum Design Loads for Buildings and Other Structures. In brief, based on the engineering properties and soil-type of soils at a proposed site, the site is assigned a Site Class ranging from A to F. The Site Class is then combined with Spectral Response (ground acceleration induced by earthquake) information for the location to arrive at a Seismic Design Category ranging from A to D, with D being the most severe conditions. The classification of a specific site and related calculations must be determined by a qualified person and are site-specific.

### **Alquist-Priolo Earthquake Fault Zoning Act**

Surface rupture is the most easily avoided seismic hazard. The Alquist-Priolo Earthquake Fault Zoning Act (A-PEFZA) was passed in December 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The project site is not located within an A-PEFZA designated fault zone and would therefore not be subject to provisions in the A-PEFZA.

### **Seismic Hazards Mapping Act**

In 1990, following the 1989 Loma Prieta earthquake, the California Legislature enacted the Seismic Hazards Mapping Act (SHMA) to protect the public from the effects of strong ground shaking, liquefaction, landslides, and other seismic hazards. The SHMA established a state-wide mapping program to identify areas subject to violent shaking and ground failure; the program is intended to assist cities and counties in protecting public health and safety. The SHMA requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. As a result, the CGS is mapping SHMA Zones and has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, ground shaking, and landslides—primarily the San Francisco Bay Area and Los Angeles basin. The project site and vicinity do not yet have SHMA mapping (CGS, 2014).

## **LOCAL REGULATIONS**

### **Humboldt County Code**

Section 331-11(a) of the Humboldt County Code officially adopts the California Building Code. Section 331-14 contains detailed rules and regulations regarding Grading, Excavation, Erosion, and Sedimentation Control. The County establishes requirements for a grading permit for any activity disturbing greater than 50 cubic yards of material. Larger projects involving the grading of more than 5,000 cubic yards of material must be conducted in accordance with an approved grading plan prepared by a civil engineer. The grading plan must be accompanied by a soils engineering report and engineering geology report prepared by a licensed professional. Sites involving the grading of more than one acre must include a site specific erosion and sediment control plan incorporating Best Management Practices (BMPs) (illustrated in Attachment 1 of Section 331-14), designed to prevent sedimentation or damage to on-site and off-site properties. Additional requirements apply to grading in areas with slopes steeper than 33 degrees.

## Humboldt County General Plan

The following policies in Section 3291, Hazards, of the 1984 General Plan would apply to the proposed project:

1. *General*
  - A. *Regulate land use to ensure that development in potentially hazardous areas will not preclude preserving and promoting public safety. Potentially hazardous areas include, but are not limited to, steep slopes, unstable soils areas, on active earthquake fault lines, in extreme wildland fire areas, in airport flight path zones, and in flood plains and tsunami runup areas.*
2. *Geologic*
  - A. *Provide for the identification and evaluation of existing structural hazards.*
  - B. *Provide for more detailed scientific analysis of natural hazards in the County.*
  - C. *Provide for implementation and periodic review of the Seismic Safety and Public Safety Element.*

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant geology and soils impact if it would:

- Expose people or structures to substantial risk of loss, injury, or death involving:
  - Rupture of a known active or potentially active earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; and
  - Landslides.
- Result in substantial soil erosion or loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Section 1803.5 of the 2010 California Building Code, creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

## LESS-THAN-SIGNIFICANT IMPACTS

### Fault Rupture

Based on information discussed under “Environmental Setting” above, geologic mapping indicates the nearest active fault is approximately 14 miles from the project site, and therefore the potential for on-site fault rupture is negligible.

### Soil Erosion

Development of the project could result in soil erosion and/or loss of topsoil. Proper implementation of existing regulatory programs would ensure that this impact would be less than significant, however, and no mitigation would be required.

The project would involve grading of more than 1 acre and 5,000 cubic yards of material, triggering the most stringent requirements of the County Code, requiring a soil engineering report, an engineering geology report, a grading plan, erosion control plan, and a qualified soils inspector present during all construction activities. In addition, as the construction site is greater than 1 acre in area, the construction site would be subject to the requirements of the Construction General Stormwater Permit, described in more detail under Section 4.9, Hydrology and Water Quality. This would include implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would include further BMPs designed to prevent soils from becoming entrained in stormwater during project construction. Following construction, the areas subject to grading would be covered by buildings, roadways, parking lots, and landscaping and would not be subject to ongoing erosion hazards.

## POTENTIALLY SIGNIFICANT IMPACTS

**Impact GEO-1: Development of the project could expose future site workers and patrons to significant seismic hazards, including ground shaking and seismic related ground failure. (PS)**

The San Andreas and other faults located in the project site vicinity are capable of producing very strong to violent ground shaking, and a major seismic event is likely during the operational lifetime of the project. Violent seismic shaking could cause serious structural damage to buildings and other park improvements not engineered and constructed to comply with the current CBC, and could cause extensive non-structural damage even to properly constructed buildings. A site-specific geotechnical investigation would include recommendations for site preparation and construction details, including seismic design parameters, to ensure that the CBC was complied with in site construction. A soils engineering report and engineering geology report would be required for the project in accordance with County grading permit requirements. Mitigation Measure GEO-1 provides performance standards for those reports to ensure that the recommendations are incorporated in final project design for project improvements.

*Mitigation Measure GEO-1: As a condition of approval for any grading or construction permits for the project, a design-level geotechnical investigation shall be prepared by a licensed*

*professional and submitted to the Humboldt County Building Department for review and approval. The geotechnical review shall verify that the project plans incorporate the recommendations for design contained in the preliminary geotechnical report, the current California Building Code (CBC), and other applicable design standards. All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical review shall be implemented as a condition of project approval. (LTS)*

**Impact GEO-2: Development of the project could expose future site workers and patrons to significant geologic hazards, including hazards related to lateral spreading, slope instability, liquefaction, subsidence, and differential and total settlement. (PS)**

No site-specific geotechnical data regarding lateral spreading, slope instability, liquefaction, subsidence, and differential and total settlement are available for the project site. A number of potential geotechnical concerns are present at the project site. For example, development of the environmental campground, wedding grove, and community event facilities and installation of the 500-gallon potable water tank and 2,500 feet of potable waterlines in Area 4 would take place in areas mapped as having moderate relative slope instability. Improvements proposed in Area 5, including a skate park, playground, concession stand, and approximately 1,200 feet of potable and irrigation waterlines, could potentially be affected by differential settlement and expansive soils.

A site-specific geotechnical investigation would evaluate these potential hazards and include recommendations for site preparation and construction details. Implementation of Mitigation Measure GEO-1 would address geotechnical as well as seismic hazards and therefore reduce this potential impact to a less-than-significant level.

*Mitigation Measure GEO-2: Implementation of Mitigation Measure GEO-1, requiring a design-level geotechnical review as a condition of approval for grading and construction permits, would reduce potential geologic impacts to less-than-significant levels. No additional mitigation is required. (LTS)*

**Impact GEO-3: Soils at the project site may be incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (PS)**

The project site is located outside the service area of the Garberville Sanitary District; thus, wastewater disposal would require septic tanks or other appropriate alternative wastewater disposal system. Portable toilet facilities would be used during large events.

NRCS soils data rank soils for their capability to support the proper operation of septic systems using criteria such as depth to saturation zone and water percolation rates. Soils at the project site were rated as somewhat limited to very limited due to the high water table and slow water movement (NRCS, 2014). NRCS guidance indicates that these limitations must be addressed by special soil reclamation, design, or installation procedures and can reduce the performance and raise the costs for installation and maintenance of the systems (NRCS, 2014).

As detailed in Section 4.9, Hydrology and Water Quality, septic systems are regulated through state, North Coast Regional Water Quality Control Board, and county requirements. Adherence to

those requirements, as modified by Mitigation Measure HYDRO-2, would reduce the potential impact from inadequate soils to a less-than-significant level.

*Mitigation Measure GEO-3: Implementation of Mitigation Measure HYDRO-2, requiring demonstration of adequate capacity and operation of septic and wastewater systems, would reduce this potential impact to a less-than-significant level. No additional mitigation is required. (LTS)*

## CUMULATIVE IMPACTS

Impacts related to geologic hazards are generally site-specific, rather than cumulative in nature, because each project area has unique geologic considerations that would be subject to uniform site development and construction standards. Therefore, the potential for cumulative impacts is limited. Impacts associated with potential geologic hazards related to soil or other conditions occur at individual building sites. These effects are site-specific, and impacts would not be compounded by additional development. Mitigation measures described above would reduce impacts from geologic hazards to less-than-significant levels. Therefore, implementation of the project would not result in a cumulatively considerable contribution to geologic hazards, and the cumulative impact would be less than significant.

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## 4.7 GREENHOUSE GAS EMISSIONS

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### INTRODUCTION

This section describes current greenhouse gas (GHG) emissions in the region and evaluates the potential GHG emissions impacts of the proposed project. The analysis considers both operational and construction effects of the project. The primary focus of the GHG emissions analysis was to evaluate future project-related emissions.

### ENVIRONMENTAL SETTING

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO<sub>2</sub>) and water vapor but there are also several others, most importantly methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). These are released into the earth's atmosphere through a variety of natural processes and human activities.

Sources of GHGs are generally as follows:

- CO<sub>2</sub> and N<sub>2</sub>O are byproducts of fossil fuel combustion.
- N<sub>2</sub>O is associated with agricultural operations such as fertilization of crops.
- CH<sub>4</sub> is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO<sub>2</sub> being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger with a GWP of 23,900. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO<sub>2</sub> equivalents (CO<sub>2</sub>e).

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive

diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

### **UNITED STATES EMISSIONS**

In 2010, the U.S. emitted about 1,633.2 million metric tons (MMT) of CO<sub>2</sub> equivalent (CO<sub>2</sub>e), with each individual at home releasing approximately 4 metric tons per year. Of the four major sectors nationwide – residential, commercial, industrial, and transportation – transportation accounts for the highest amount of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion. Between 1990 and 2009, total U.S. GHG emissions rose by 7.3 percent, but emissions decreased from 2008 to 2009 by 6.1 percent. This decrease was primarily due to 1) a decrease in economic output resulting in a decrease in energy consumption across all sectors, and 2) a decrease in the carbon intensity of fuels used to generate electricity due to fuel switching as the price of coal increased and the price of natural gas decreased significantly. Since 1990, U.S. emissions have increased at an average annual rate of 0.4 percent (EPA, 2011).

### **CALIFORNIA EMISSIONS**

According to the California Air Resources Board (CARB) emission inventory estimates, California's gross GHG emissions decreased 6 percent, from 478.4 MMT of CO<sub>2</sub>e emissions in 2001 to 448.1 MMT in 2011, with a maximum of 489.2 MMT in 2004 (CARB, 2013). California has the fourth lowest per-capita CO<sub>2</sub> emission rate from fossil fuel combustion in the country, due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise (CEC, 2007).

CARB is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHG emitted to and removed from the atmosphere by human activities within California and supports the Assembly Bill 32 Climate Change Program (see "Regulatory Framework" below). The emission inventory estimates are based on the actual amount of all fuels combusted in the State of California, which accounts for over 85 percent of the GHG emissions within California.

### **HUMBOLDT COUNTY EMISSIONS**

In January of 2012, Humboldt County published the Draft Climate Action Plan (Humboldt, 2012). According to the Climate Action Plan, community-wide, Humboldt County emitted 1.3 MMT of CO<sub>2</sub>e in 2006. Under the CARB scoping plan, the Climate Action Plan states that Humboldt County's reduction target is 3,746 MT of CO<sub>2</sub>e based on its proportion of the statewide population and scoping plan goals.

### **REGULATORY FRAMEWORK**

This section summarizes key federal, and state regulations, and policies that would apply to the project. There are no regional or local regulations that would apply to the project. Global climate change resulting from GHG emissions is an ongoing environmental concern being discussed at the

international, national, and statewide level. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

## FEDERAL REGULATIONS

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science.

In 2007, the U.S. Supreme Court held that GHGs fit within the federal Clean Air Act's definition of a pollutant and the U.S. Environmental Protection Agency (EPA) had the authority to regulate GHGs. (*Massachusetts, et al. v. U.S. Env'tl. Prot. Agency, et al.* (2007) 549 U.S. 497.) On December 7, 2009, the EPA Administrator executed two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act: 1) the current and projected concentrations of the six key well-mixed GHGs – CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub> – in the atmosphere threaten the public health and welfare of current and future generations; and 2) the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

## STATE REGULATIONS

The State of California is concerned about GHG emissions and their effect on global climate change. The State of California recognizes that “there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures” and that “the “evidence for climate change is overwhelming.” (CARB, 2003). The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State of California has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, affecting the state's water supply.
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25- to 35-percent increase in the number of days ozone pollution standards are exceeded in most urban areas.
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

Key state regulations involving GHGs and climate change are summarized below.

**Assembly Bill 1575 (1975)**

In 1975, the Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs.

**Title 24, Part 6 of the California Code of Regulations (1978)**

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

**Assembly Bill 1493 (2002)**

Assembly Bill (AB) 1493 required the California Air Resources Board (CARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks.

**State of California Executive Order S-3-05 (2005)**

The Governor's Executive Order established aggressive emissions reductions goals: by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels.

In June 2005, the Governor of California signed Executive Order S-3-05, which identified the California Environmental Protection Agency (Cal/EPA) as the lead coordinating state agency for establishing climate change emission reduction targets in California. A "Climate Action Team," a multi-agency group of state agencies, was set up to implement Executive Order S-3-05. Under this order, the State of California plans to reduce GHG emissions to 80 percent below 1990 levels by 2050. GHG emission reduction strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.

**Assembly Bill 32, California Global Warming Solutions Act (2006)**

AB 32, the Global Warming Solutions Act of 2006, codifies the State of California's GHG emissions target by directing CARB to reduce the state's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, CARB, CEC, the California Public Utilities Commission (CPUC), and the Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State of California's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. It required CARB and other state agencies to develop and adopt regulations and other initiatives reducing GHGs by 2012.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 MMT of CO<sub>2</sub>e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO<sub>2</sub>e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO<sub>2</sub>e. Thus, an estimated reduction of 80 MMT of CO<sub>2</sub>e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

### **Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)**

The State of California enacted legislation (Senate Bill [SB] 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 would develop emissions-reduction goals that regions can apply to planning activities. SB 375 provides incentives for local governments and developers to implement new conscientiously planned growth patterns. These include incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows developers to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035.

### **HUMBOLDT COUNTY GENERAL PLAN**

The adopted Humboldt County General Plan does not include policies addressing GHG emissions or air quality emissions (Humboldt County, 1984).

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Section 15064.4 of the CEQA Guidelines specifically addresses the significance of GHG emissions. This section calls for a "good-faith effort" by the lead agency "to describe, calculate or estimate the amount of GHG emissions resulting from a project."

### **SIGNIFICANCE CRITERIA**

In accordance with Appendix G of the CEQA Guidelines, GHG emissions are considered significant if implementation of the proposed project would:

- Generate GHG emissions either directly or indirectly that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

There are no established thresholds of significance for GHG emissions from land use development projects in the North Coast Air Basin (NCAB).

## **LESS-THAN-SIGNIFICANT IMPACTS**

### **Conflict with Applicable Plans, Policies, or Regulations**

The adopted AB 32 Scoping Plan includes proposed GHG reductions from direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as cap-and-trade systems. The project would be subject to all applicable permit and planning requirements in place or adopted by the State of California or locally. Therefore, the proposed project would not conflict with plans or policies related to the reduction of GHG emissions.

## **POTENTIALLY SIGNIFICANT IMPACTS**

**Impact GHG-1: The project could generate an increase in direct and indirect greenhouse gas (GHG) emissions. (PS)**

### **Generation of Greenhouse Gas Emissions**

The California Emissions Estimator Model Version 2013.2.2 (CalEEMod) was used to predict GHG emissions from operation of the project. The model predicts emissions of GHGs in the form of CO<sub>2</sub>e. The project land use type and size, trip generation rates, and other project-specific information were input to the model. Unless otherwise noted below, the CalEEMod model defaults for Humboldt County were used. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. CalEEMod output data are included in **Appendix C**.

The model uses mobile emission factors from CARB's EMFAC2011 model. This model is sensitive to the year selected since vehicle emissions have been and continue to be reduced due to fuel efficiency standards and low carbon fuels. Adjustments to the modeling are described below.

### **Construction Emissions**

Construction of the proposed project would, for the most part, involve minimal heavy-duty equipment, such as hand tools, trucks and trailers, dump trucks, and small tractors. During construction of Area 5 (Sports Area), graders, backhoes, loaders, and dump truckers would be needed. Though temporary, construction of the proposed project would emit GHGs in the form of exhaust emissions. However, neither the North Coast Unified Air Quality Management District (NCUAQMD) nor Humboldt County have established a significance threshold for construction GHG emissions. While the project would not be required to comply with guidance from other air districts, the Bay Area Air Quality Management District (BAAQMD) recommends that all construction projects implement the following best management practices, where feasible: use alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet, use at least 10 percent local building materials, and recycle or reuse at least 50 percent of construction waste or demolition materials. The project would be encouraged to incorporate all reasonable and feasible measures to reduce construction GHG emissions.

## Operational Emissions

### *Land Use Descriptions*

The proposed project land use was input into CalEEMod as 405.7 acres entered as "City Park."

### *Trip Generation Rates*

Trip generation rates were input to CalEEMod using the daily trip numbers provided in the project traffic report by W-Trans.

### *Model Year*

The model uses mobile emission factors from the California Air Resources Board's EMFAC2011 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. The year 2016 was analyzed since it is the first full year that the project site could conceivably be occupied, assuming construction were to occur in 2015.

### *Other Inputs*

Default model assumptions for emissions associated with area sources, solid waste generation, and water/wastewater use were applied to the project.

### *Energy Usage*

Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric (PG&E) projected future CO<sub>2</sub> intensity rates. These rates are based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of CO<sub>2</sub> per megawatt of electricity produced that is based on PG&E's 2008 certified rate. The derived 2016 rate for PG&E was estimated at 370 pounds of CO<sub>2</sub> per megawatt of electricity delivered and is based on the California Public Utilities Commission (CPUC) GHG Calculator (CPUC, 2010).

### *Calculation of Project Operational Emissions*

Project emissions are calculated to be 1,317 MT of CO<sub>2</sub>e per year. Though there is no established threshold of significance for GHGs in Humboldt County, for comparison, a stationary source which emits less than or equal to 5,000 tons per year of CO<sub>2</sub>e would be exempt from recordkeeping and reporting under Rule 111 (NCUAQMD, 2011). Overall, outdoor recreation is a low impact activity in terms of GHG emissions. However, proposed sports fields, restrooms, and concessions should incorporate energy-efficiency features to reduce GHG emissions to the degree feasible and reasonable; otherwise, GHG emissions from these operations would represent a potentially significant impact. Implementation of Mitigation Measure GHG-1 would reduce this impact to a level of less than significant.

*Mitigation Measure GHG-1: The project applicant shall implement the following measures to reduce greenhouse gas (GHG) emissions:*

1. *Design buildings to be energy-efficient.*
2. *Site buildings to take advantage of shade, prevailing winds, and landscaping to reduce energy use. The project shall make use of strategically-placed shade trees.*
3. *Limit the hours of operational outdoor lighting.*
4. *Install renewable systems, including solar and tank-less hot water heaters, where feasible.*
5. *Create water-efficient landscapes. All landscaped areas shall be designed to reduce their water requirements. Landscaping shall make extensive use of drought-tolerant species.*
6. *Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.*
7. *Control irrigation by using systems designed to ensure water efficiency. (LTS)*

## **CUMULATIVE IMPACTS**

Pursuant to CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project would comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHGs) that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. There are no established thresholds or guidelines for assessing a project's impact with regards to GHG emissions in Humboldt County. However, Mitigation Measure GHG-1 would require that the project implement all feasible and reasonable measures to reduce project GHGs. No additional cumulative impacts have been identified and no mitigation measures would be required.

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## 4.8 HAZARDS AND HAZARDOUS MATERIALS

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### INTRODUCTION

This chapter describes public health and safety and hazardous materials<sup>1</sup> issues related to development of the proposed project that could potentially pose a significant threat to human health or the environment. The setting section describes existing conditions at the project site and vicinity, as well as the pertinent federal, State, and local regulatory framework related to hazardous materials. The impacts and mitigation measures section defines the criteria of significance and identifies potentially significant impacts and mitigation measures related to hazards and hazardous materials.

### ENVIRONMENTAL SETTING

#### HAZARDOUS MATERIALS SETTING

The potential for hazardous materials to be present at the project site is evaluated through an analysis of historical land uses, a review of regulatory records regarding known hazardous materials releases, and a discussion of potential hazardous materials concerns in the project vicinity.

#### Historical Land Uses

The project site is largely undeveloped. A review of available historical aerial photographs from 1948 to 2012 (EDR, 2014a) indicates that land uses at the project site have been consistent since 1948. The northern portion of the project site (Areas 1-3 and 5) has been used for pastureland and ranching since at least 1948. Several small buildings were apparent in Area 2, consistent with a rural residence and outbuildings. The southern portion of the site (Areas 4 and 7) was undeveloped forestland. Gravel extraction was apparent north of South Fork Eel River (at and north of Area 6) from 1948. Between 1974 and 1983, Tooby Memorial Park was developed in Area 1. Cultivated crops were introduced to former pastureland between 1993 and 2005 in the northern portion of Area 3, immediately south of Area 1.

The only historical land uses associated with hazardous materials use at the project site are agricultural. Agricultural chemicals such as pesticides and herbicides can leave residues in soils that can harm people and the environment. Chemicals used today are less-persistent, organic compounds compared to agricultural chemicals used prior to the 1970s which often included highly

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<sup>1</sup> The California Health and Safety Code defines a hazardous material as "... any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." (Health and Safety Code, Section 25501).

persistent compounds such as DDT. In addition, inorganic compounds containing heavy metals such as arsenic, lead, and mercury were commonly used prior to the 1950s and could persist for many decades. If present in elevated concentrations, these residues can pose a potential health risk to future construction workers, residents, and other persons who may come in direct contact with surface soils.

Pesticides are regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) by the U.S. Environmental Protection Agency (EPA). This includes labeling and registration of pesticides as to how they may be used. The EPA delegates pesticide enforcement activities in California to the California Department of Pesticide Regulation (DPR), under Title 3 of the California Code of Regulations and the California Food and Agriculture Code. The DPR registers pesticides for use in California, and licenses pesticide applicators and pilots, advisors, dealers, brokers, and businesses. In turn, the Humboldt County Agricultural Commissioner (HCAC) acts as the local enforcement for DPR. The HCAC registers licensed pest control businesses, and agricultural pest control advisors; requires permits and advanced notification for buying or using California restricted-use pesticides; and requires the completion of pesticide use reports for pesticides applied in Humboldt County, including the project site. In addition, the HCAC investigates pesticide-related injury and illnesses, and oversees enforcement of worker training in pesticide management.

In general, pastureland is a low intensity agricultural use which does not require use of agricultural chemicals. Cultivated crops were not apparent on aerial photographs until after 1993 and their use would have been regulated by the HCAC. All current farm and ranch operations are organic and the use of herbicides and pesticides is not permitted. Therefore, it would not be expected that significant concentrations of agricultural chemical residues would be present in soils at the project site.

### **Hazardous Materials Release Sites**

A regulatory agency database record search (EDR, 2014b) was reviewed for this Draft EIR to identify sites that use, store, generate, and dispose of hazardous materials or have reported a hazardous materials release to the environment. The farm at the project site and adjacent gravel mining operation appeared on database records. The Tooby Farm, 934 Sprowel Creek Road, appears on historical lists of registered underground storage tank (UST) sites. Records indicate that one 600-gallon leaded gasoline UST was installed at the site in 1950 and was active in 1992, the date of the latest available records. The farm UST was not listed as one of the 13 active USTs located in unincorporated Humboldt County in 2002 (Humboldt County, 2002). Randall Sand and Gravel, at 214 W. River Lane is listed on the California HAZNET database of hazardous waste generators as the generator of record of hydrocarbon solvents, organic solid waste, oil-containing wastes, and other hazardous wastes during 2002 and 2012. No hazardous materials release sites were identified within ½-mile of the project site.<sup>2</sup>

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<sup>2</sup> A release at a site in Alderpoint, CA was mistakenly listed in the database report as being within one-half mile of the project site. State Geotracker online database files also place this site approximately ¼-mile north of the project site (SWRCB, 2014). The listings are clearly in error as the Alderpoint site is many miles from the project site.

## **Hazardous Building Materials**

Hazardous materials are commonly found in buildings built before 1980, such as those at the project site. Construction materials such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring materials installed in buildings prior to 1981 may contain asbestos. Asbestos is a known human carcinogen. Prior to 1978, lead compounds were commonly used in interior and exterior paints. As the buildings at the project site date to at least 1948, it is likely that lead and asbestos are present in building materials at the project site. In addition, other common items present in buildings, such as electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats could contain hazardous materials. These materials do not pose a health risk in use, but if the buildings are demolished or renovated, they could be released to the air and pose a health risk to construction workers and nearby members of the general public.

Federal and state regulations govern the removal of asbestos-containing materials (ACMs) from structures prior to demolition. These requirements are promulgated by the EPA, the Occupational Safety and Health Administration (OSHA), the California Department of Toxic Substances Control (DTSC), that California Division of Occupational Safety and Health (DOSH), and the North Coast United Air Quality Management District (NCUAQMD). Federal and state regulations also govern the renovation or demolition of structures where lead or material containing lead is present. Regulations pertaining to renovation or demolition of structures with lead-based paint are promulgated by the EPA, the U.S. Department of Housing and Urban Development (HUD), DOSH, and DTSC. Fluorescent lighting tubes and ballasts, mercury thermometers, and several other common items containing hazardous materials are regulated as “universal wastes” by the State of California.

## **Sensitive Receptors**

Some populations, such as children, the elderly, and the infirm, are more susceptible to health effects of hazardous materials than the general population. Hazardous materials use near schools, day care centers, senior housing, and hospitals must consider potential health effects to these populations, often referred to as “sensitive receptors.” In addition, commercial and industrial facilities in proximity to sensitive receptors may have hazardous emissions or handle hazardous or acutely hazardous materials that could pose a health risk to these sensitive receptors. Although no schools, residences, hospitals, or other facilities are located near the project site, current and future park patrons include children and other members of the general public that may be classified as sensitive receptors.

## **OTHER POTENTIAL HEALTH AND SAFETY CONCERNS**

### **Aviation Hazards**

The Garberville Airport is located about  $\frac{3}{4}$ -mile north of the project site, separated from the project area by the South Fork Eel River. The project site is not located within the primary, approach, or transitional surfaces mapped in the Airport Master Plan (Humboldt County, 2007), though it is located within a 9,000-foot radius of the airport runway and therefore has restrictions on building elevations to prevent interference with airport operations.

The Garberville Airport sits on a bluff above the project site with surrounding mountains in close proximity. The Garberville Airport is at an elevation of 551 feet above mean sea level (amsl), compared to the northern edge of the project site at about 350 feet amsl. Most of the project site is located within Compatibility Zone C designated by the Humboldt County Airport Land Use Compatibility Plan (ALUCP). Due to the site's location within this zone, the property owner may be required to dedicate an overflight easement to the County of Humboldt for the benefit of the Garberville Airport. The ALUCP also would prohibit any building at the project site with a horizontal surface of greater than 701 feet amsl (150 feet above the airport elevation) (Humboldt County, 2007).

### **Wildland Fire Hazards**

In accordance with California Public Resource Code Section 4201-4204 and Government Code Section 51175-51189, the California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), represent the risks associated with wildland fires. CAL FIRE has rated the sloped, wooded portions of the project site (Areas 4 and 7) as Very High Fire Hazard Severity, with the remainder of the site rated as High Fire Hazard Severity (CAL FIRE, 2007).

In California, responsibility for wildfire prevention and suppression is shared by federal, state, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas (FRA). The State of California has determined that non-federal lands in unincorporated areas with watershed value are of Statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by CAL FIRE. All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA). The project site is located in a SRA, and therefore CAL FIRE is responsible for wildfire prevention and suppression.

Under State regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas. Section 701A.3.2 of the California Building Code was amended in 2005 to add additional protections for buildings in wildfire hazard zones. All buildings in mapped SRA Fire Hazard Severity Zones must use ignition resistant materials and design to resist the intrusion of flame or burning embers projected by a vegetation fire.

Humboldt County SRA Fire regulations are located in Section 3111 of the Humboldt County Municipal Code and establish minimum standards for emergency access, signing and building numbering, private water supply reserves for emergency fire use, and vegetation modification.

### **Emergency Response Plans**

Humboldt County Ordinance 2203 established the Humboldt Operational Area (OA) and identified the Sheriff as Director of Emergency Services for the County. The Humboldt OA is composed of the County of Humboldt, serving as the lead agency, and all political subdivisions (cities and special districts). The Office of Emergency Services (OES) assists the Sheriff in controlling and directing the effort of the emergency organization of the County and is part of the Special Operations Division within the Sheriff's Department.

The OES has developed an Emergency Operations Plan with procedures for addressing earthquakes, hazardous materials releases, floods, wildland fires, landslides, extreme weather, tsunamis, dam failures, transportation emergencies, civil disturbances, and terrorism (Humboldt County OES, 2002). It includes the emergency response organizational framework and procedures for initial response operations, extended response operations, and recovery operations.

## REGULATORY FRAMEWORK

Beginning in the 1970s, governments at the federal, State, and local levels became increasingly concerned about the effects of hazardous materials on human health and the environment. Numerous laws and regulations were developed to investigate and mitigate these effects. As a result, the storage, use, generation, transport, and disposal of hazardous materials are highly regulated by federal, state, and local laws and regulations. These agencies and information about the laws, regulations, and programs they administer are summarized below.

### FEDERAL

EPA is the lead agency responsible for enforcing federal laws and regulations governing hazardous materials that affect public health or the environment. The major federal laws and regulations enforced by the EPA include: the Resource Conservation and Recovery Act (RCRA); the Toxic Substances Control Act (TSCA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Superfund Amendments and Reauthorization Act (SARA).

In 1976, RCRA was enacted to provide a general framework for the EPA to regulate hazardous waste from the time it is generated until its ultimate disposal. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the wastes are properly managed from “cradle to grave.”

In 1976, TSCA was enacted to provide the EPA authority to regulate the production, importation, use, and disposal of chemicals that pose a risk of adversely impacting public health and the environment, such as polychlorinated biphenyls (PCBs), asbestos-containing materials (ACM), and lead-based paint. TSCA also gives the EPA authority to regulate the cleanup of sites contaminated with specific chemicals, such as PCBs.

In 1980, CERCLA, commonly known as the Superfund, was enacted to ensure that a source of funds was available for the EPA to remediate uncontrolled or abandoned hazardous materials release sites that pose a risk of adversely impacting public health and the environment. Prohibitions and requirements regarding closed or abandoned hazardous waste sites and liability standards for responsible parties were also established by CERCLA. In 1986, SARA amended CERCLA to increase the Superfund budget, modify contaminated site cleanup criteria and schedules, and revise settlement procedures.

While the EPA regulates overall use and cleanup of hazardous materials, the U.S. Department of Transportation (DOT) is the federal administering agency responsible for hazardous materials transportation regulations. The DOT Office of Hazardous Materials Safety oversees a national safety program to minimize the risks related to commercial transportation of hazardous materials,

including pipelines. The federal hazardous materials transportation law is the basic statute regulating hazardous materials transportation in the United States. Federal hazardous materials transportation regulations are contained in Title 49 CFR Parts 171-180. In California, the California Department of Transportation (Caltrans) is the implementing agency for DOT laws and regulations.

Worker health and safety is protected by federal and state laws and regulations. OSHA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Under OSHA jurisdiction, the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations require training and medical supervision for workers at hazardous waste sites. Additional regulations have been developed for construction workers regarding exposure to lead and asbestos during construction activities, described above under Hazardous Building Materials.

## **STATE**

In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal/EPA). The mission of Cal/EPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality. Under the authority of Cal/EPA, DTSC, and the North Coast Regional Water Quality Control Board (Regional Water Board) are responsible for overseeing the cleanup of contaminated soil and groundwater sites in the project vicinity. RWQCB regulations applicable to hazardous materials are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in CCR Title 22. CCR Title 26 is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Most routine uses of hazardous materials by businesses in California are regulated under the Unified Program. The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following hazardous materials programs: Hazardous Materials Business Plan (HMBP) Program, California Accidental Release Prevention (CalARP) Program, Underground Storage Tank (UST) Program, Aboveground Storage Tank (AST) Program, Hazardous Waste Generator Program, and Hazardous Waste Tiered-Permitting Program.

DOSH enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, protective clothing, and training requirements to prevent exposure to hazardous materials. DOSH also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement, which equal or exceed their federal counterparts.

## **LOCAL**

### **Unified Program**

The routine management of hazardous materials in California is administered under the Unified Program. The Cal/EPA has granted responsibilities to the Hazardous Materials Program of the Humboldt County Division of Environmental Health (HCDEH) for implementation and enforcement



of hazardous material regulations under the Unified Program as a Certified Unified Program Agency (CUPA). CUPA responsibilities and requirements are codified in California Health and Safety Code Chapter 6.11.

### **Humboldt County General Plan**

The following policies in the 1984 General Plan (Humboldt County, 1984) would apply to the proposed project:

#### Section 3291, Hazards

##### 1. General

- A. *Regulate land use to ensure that development in potentially hazardous areas will not preclude preserving and promoting public safety. Potentially hazardous areas include, but are not limited to, steep slopes, unstable soils areas, on active earthquake fault lines, in extreme wildland fire areas, in airport flight path zones, and in flood plains and tsunami runup areas.*
- C. *Encourage the education of the community regarding the nature and extent of hazards.*
- D. *Continue to provide for the maintenance and upgrading of disaster response plans.*

##### 4. Fire

- A. *Humboldt County should encourage the use of prescribed burning as a management tool for timber management purposes, livestock production, and enhancement of wildlife habitat.*
- B. *Use the appropriate sections of the California Department of Forestry "Fire Safe Guides" as guidelines for review of residential development in rural areas, to be applied consistent with other plan policies.*
- C. *Actively support and pursue the implementation recommendations of the Humboldt County Fire Chief's Association (see Fire Hazards Implementation, Section 5-2300.3).*

##### 6. Airport Safety

- A. *The County should establish the maintenance of obstruction-free approach surfaces at all airports as a high-priority project, annually monitoring the status of potential obstructions identified on the Approach and Clear Zone Plans.*
- B. *The County's current Airport Approach Zone Building Height Regulations (County Code Section 333) should be revised to bring the standard into conformance with Part 77 of the Federal Aviation Regulations. (A recommended ordinance has been prepared by the Consultant and submitted to the County as a separate task in the Master Plan Study).*
- C. *Regulate and plan land use around airports according to the Airport Land Use Compatibility criteria matrix.*
- D. *Specific land use zoning, appropriate for the areas around the County's airports, should be adopted as soon as practical.*

### Section 4234 Public Services and Facilities, Airports

1. *Humboldt County should regularly update and maintain the Airport Master Plan as the primary County policy document for airport development.*
2. *Humboldt County shall establish land use controls around airports as recommended by the Airports Master Plan through the Airport Land Use Commission.*

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

For the purposes of this Draft EIR, implementation of the proposed project would have a significant effect related to hazards if it would exceed any of the following standards of significance, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

### **LESS-THAN-SIGNIFICANT IMPACTS**

#### **Routine Hazardous Materials Transport, Use, or Disposal**

The project would involve the routine management of hazardous materials that could potentially pose a significant threat to human health or the environment if not properly managed or if

accidentally released. During construction, this routine management would include the use of fuels, lubricants, and other hazardous materials associated with heavy construction equipment. During project operation, it would be expected that cleaning, maintenance, and landscaping products would be used and stored at the project site.

Use of hazardous materials during construction would be temporary and limited to the period when grading, construction, and trenching for waterlines takes place at the project site. The use would be subject to the County Grading, Excavation, Erosion, and Sedimentation Control Ordinance, described under Section 4.6, Geology and Soils, and a Storm Water Pollution Prevention Plan, described under Section 4.9, Hydrology and Water Quality. These programs require handling, use, and storage of hazardous materials in a safe manner during construction activities.

The routine storage, use, handling, generation, transport, and disposal of hazardous materials during site operation are addressed by federal, state, and local laws, regulations, and programs, described under "Regulatory Framework" above. At the project site, HCDEH implements regulatory programs for sites that routinely manage hazardous materials to ensure the safe storage, management, and disposal of hazardous materials in accordance with the Unified Program. The existing regulatory framework would reduce potential impacts from routine hazardous materials transport, use, or disposal to a less-than-significant level.

### **Hazardous Materials Emissions Near Schools**

No schools are located within ¼-mile of the project site and no impact would occur.

### **Hazardous Materials Sites**

No sites within ½-mile of the project site are located on regulatory agency lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (EDR, 2014b) and no impact would occur.

### **Aviation Hazards**

No airstrips are located in the project vicinity. Although the project site is located near Garberville Airport, there are no project elements proposed that could potentially obstruct or interfere with airport operations or conflict with the airport land use plan. No significant impact would occur.

### **Emergency Response and Evacuation Plans**

The project would not result in significant changes in the road network or change patterns of vehicular or pedestrian traffic that would interfere with emergency response. The project would not impair implementation of or physically interfere with the County Emergency Operations Plan or any other adopted emergency response plan or emergency evacuation plan. Therefore, no significant impacts related to emergency response and evacuation would be anticipated.

## Wildland Fires

Existing State and county vegetation management requirements and building codes would apply to new facilities constructed at the project site. Vegetation would be required to be cleared at least 30 feet from all structures, and structures must be constructed out of ignition-resistant material. Campfires and other sources of ignition, with the exception of park-provided portable kitchen facilities, would not be permitted in the Environmental Camp or other areas of the project site. The addition of four 500-gallon water storage tanks and the extension of waterlines through Areas 4 and 5 would extend water supply to these portions of the project site, which could aid in firefighting activities. Although these measures would not prevent wildfires from starting off-site and affecting wildlands at and near the project site, the measures are intended to provide for defensible spaces around areas where park patrons and workers would be present and therefore minimize the potential impacts on persons and structures. Existing regulations would reduce wildland fire hazards to a less-than-significant level.

## POTENTIALLY SIGNIFICANT IMPACTS

**Impact HAZ-1: The project could expose the public or the environment to risks from reasonably foreseeable releases of hazardous materials during building renovation and demolition of buildings in Area 2. (PS)**

The project applicant proposes to renovate the existing 2,241-square-foot main ranch house, the 300-square-foot cabin, and the 432-square-foot garage in Area 2 to accommodate new uses. Other buildings in Area 2 are in poor condition and may be demolished as part of project development. Based on aerial photographs, many buildings in Area 2 were constructed prior to 1948 and likely contain lead, asbestos, and other hazardous materials. Though these materials do not pose a health risk during current use, if not abated prior to building demolition, lead dust, asbestos fibers, and other hazardous materials could be released to the air. This has the potential to pose a potential health threat to construction workers and the nearby public.

*Mitigation Measure HAZ-1: As a condition of approval for project construction and demolition permits, a hazardous building materials survey shall be conducted by a qualified and licensed professional for all structures proposed for demolition or renovation as part of the project. All loose and peeling lead-based paint and asbestos-containing materials shall be abated by a certified contractor in accordance with local, state, and federal requirements. All other hazardous materials shall be removed from buildings prior to demolition in accordance with California Division of Occupational Safety and Health (DOSH) and California Department of Toxic Substances Control (DTSC) regulations. The completion of the abatement activities shall be documented by a qualified environmental professional and submitted to the County with applications for issuance of construction and demolition permits. (LTS)*

## CUMULATIVE IMPACTS

Hazards and hazardous materials impacts are generally site-specific and/or have limited mobility, and would not be expected to have cumulatively considerable effects beyond the project site. Development of properties near the project site could increase the potential exposure of persons to hazardous materials, including hazardous buildings materials; however, the use, storage, and

disposal of hazardous materials are regulated by federal, state, and local laws and regulations. The handling of hazardous materials at the project site would be subject to these laws and regulations, and as a result the cumulative hazardous materials risks would not be significant. Therefore, implementation of the proposed project would not result in any significant cumulative hazards or hazardous materials impacts.

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## 4.9 HYDROLOGY AND WATER QUALITY

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### INTRODUCTION

This section provides a discussion of existing conditions related to climate, water resources, hydrology, and water quality within the vicinity of the project site, including the extent and quality of surface water and groundwater, runoff and drainage patterns, and flood conditions. Following the existing conditions discussion is a summary of the regulatory framework related to water resources. The significance criteria, which are used to determine whether the project would result in significant impacts to water resources, are listed. Finally, potential impacts on water resources and hydrology that could result from the project are described.

### ENVIRONMENTAL SETTING

Existing conditions related to water resources, hydrology, and water quality are described below, based on available public resources, including the Water Quality Control Plan (Basin Plan) prepared by the North Coast Regional Water Board (NCRWQCB, 2011) and a water resources technical report prepared for Humboldt County as part of the County General Plan Update Process (Winzler & Kelly, 2007).

### CLIMATE

The project site is located in forested uplands near the northern California coast, where the climate is characterized by cool summers and mild, rainy winters. The vast majority of precipitation occurs between October and May. Based on historical weather data from stations near the project site, the mean annual precipitation ranges from 57 to 68 inches (WRCC, 2014a; WRCC, 2014b). Of the precipitation, snowfall represents on average less than an inch per year. The mean daily high temperature is around 67 degrees Fahrenheit (°F) with the mean daily low temperature around 44 °F (WRCC, 2014b).

### GROUNDWATER RESOURCES

In the project site vicinity, groundwater is hydraulically connected to the South Fork Eel River, making the division between groundwater and surface water less distinct. The river is the primary water source in the project vicinity (Winzler & Kelly, 2007). Small amounts of groundwater storage are present in the Garberville Town Area Groundwater Basin, which covers an area of approximately 3 square miles (DWR, 2014). Groundwater from this basin provides approximately 5 percent of the water supply in the Garberville area. Two wells at the project site, one in Area 1 and one in Area 4, provide part of the water supply for the project site (GHD, 2014). In the Basin Plan, groundwater in general is listed as having existing beneficial uses for municipal, agricultural, and industrial supply and Native American culture, and potential beneficial uses for industrial process supply and aquaculture (NCRWQCB, 2011).

## **SURFACE WATER RESOURCES**

The project site is located within the South Fork Eel River watershed, which drains approximately 441,000 acres in southern Humboldt County and northern Mendocino County (Humboldt County, 2013). The South Fork Eel River traverses the northern boundary of the project site. The South Fork Eel River flows for approximately 100 miles, joining the Eel River near Weott, and ultimately discharging to the Pacific Ocean 40 miles south of Humboldt Bay (EPA, 1999).

A permitted infiltration gallery on the river provides non-potable water that is used on-site for irrigation and agricultural use. A spring located in Area 2 of the project site provides potable water for the ranch house and other buildings in that portion of the project site.

The Basin Plan lists existing beneficial uses for South Fork Eel River as municipal, agricultural, and industrial supply; groundwater recharge; navigation; contact and non-contact recreation; commercial and sport fishing; and habitat for a variety of species, including rare, threatened, or endangered species, migratory species, and spawning species. The Basin Plan lists industrial process supply, hydropower generation, and aquaculture as potential beneficial uses of the South Fork Eel River (NCRWQCB, 2011).

## **FLOOD ZONES**

A 100-year flood hazard zone has been mapped along the South Fork Eel River by the Federal Emergency Management Agency (FEMA) (FEMA, 1982). The flood hazard zone extends from the river to areas approximately 50 to 500 feet to the north and south. Nearly all of Area 1 (Tooby Memorial Park), Area 6 (Riverfront), and the northernmost part of Area 3 (Main Agricultural Area), are located within this flood hazard zone. Based on a Letter of Map Amendment issued for 1653 Kimtu Drive, near the river to the west of the project site, the 100-year base flood elevation is 350.5 feet above mean sea level (amsl) (FEMA, 2005). This suggests that there is a one percent chance each year for flood waters to reach or exceed an elevation of 350.5 feet amsl near the river at this location. No permanent structures are located within the mapped flood hazard zones, though portable toilets and a 192-square-foot trailer used as a caretaker residence are located within the flood hazard zone in Area 1.

## **STORMWATER DRAINAGE AND WASTEWATER DISPOSAL**

The project site is not served by municipal stormwater or wastewater infrastructure. The project site is located outside the service area of the Garberville Sanitary District, the nearest municipal water and wastewater utility district. Wastewater at the project site from permanent structures within Area 2 is currently disposed of via septic systems. Portable toilets are used in Area 1.

## **COASTAL FLOODING HAZARDS**

Based on its elevation and location, the project site would not be subject to coastal flooding hazards, such as a tsunami, seiche, or extreme high tides. A tsunami is a large ocean wave generated by an earthquake in or near the ocean. A seiche is an earthquake-generated wave within a large, enclosed body of water, such as a reservoir or lake.



## **DAM INUNDATION AREAS**

The project site is not located in a mapped dam inundation area (Humboldt County, 2013).

## **WATER QUALITY**

Data regarding groundwater quality within the Garberville Town Area Groundwater Basin is limited, but in general, wells that rely on stored groundwater, as opposed to river water, tend to have very high levels of iron and manganese and have reduced production capacity in late summer and fall months (Winzler & Kelly, 2007).

The South Fork Eel River is on the Clean Water Act Section 303(d) list of impaired waters due to diazinon and is subject to the Total Maximum Daily Load (TMDL) for sediment and temperature. The TMDL was established to protect native cold water fish, such as coho and chinook salmon, and steelhead (EPA, 1999). A sediment source analysis determined that natural sources of sediment represented slightly more than half of the sediment discharged to the Eel River, with roads being the most significant anthropogenic source (EPA, 1999). Temperature has been determined to be affected by the reduction in vegetation near the river, by reducing effective shade (EPA, 1999).

## **REGULATORY FRAMEWORK**

### **FEDERAL AND STATE**

#### **Overview of Federal Clean Water Act**

The Federal Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. In general, the CWA prohibits discharges to surface waters unless specifically authorized by a permit. These permits are administered by federal and state agencies, including the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB). Specific sections of the CWA that apply to the project are discussed in more detail below.

#### **Section 402 – Stormwater Program Requirements**

Pursuant to Section 402 of the CWA and the California Porter-Cologne Water Quality Control Act, municipal stormwater discharges at the project site are regulated under the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit), issued in February 2013 by Order 2013-0001-DWQ. Locally, the NPDES program is overseen by the RWQCB and implemented by the Humboldt County Public Works Department.

The creation of significant areas of new impervious surfaces at the project site would be subject to compliance with requirements of the MS4 permit. Although there is no stormwater infrastructure at

the project site, such as catch basins, outfalls, or piping, conveyance of stormwater through ditches or sheet flow over a graded surface are considered stormwater point sources.

Section E.12 of the 2013 Phase MS4 Permit addresses requirements for retention and treatment of stormwater generated by development projects. If the project creates or replaces more than 2,500 square feet of impervious surfaces, the proposed project would be subject to these requirements. Section E.12 requires preparation of a Stormwater Control Plan (SCP). The SCP must include measures to capture and treat runoff from impervious surfaces. The SCP must incorporate site design measures to reduce project site runoff, such as porous pavement, green roofs, or vegetated swales.

Additional stormwater requirements apply to construction sites. The SWRCB adopted an NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002) on September 2, 2009, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ. To obtain coverage under the Construction General Permit, a discharger must submit to the SWRCB, a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit.

Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation, that result in soil disturbances of at least 1 acre of total land area (or smaller sites that are part of a common plan of development or sale that disturbs more than one acre of land surface). A SWPPP must be prepared by a Qualified SWPPP Practitioner (QSP) that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is 1) to help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges, and 2) to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. The Construction General Permit mandates certain requirements based on the risk level of the project (Level 1, Level 2, or Level 3), which is based on the risk of sediment discharge and the receiving water risk.

The SWPPP must also include a Construction Site Monitoring Program. The monitoring program includes, depending on the project risk level, visual observations of site discharges, water quality monitoring of site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

## **LOCAL**

### **Humboldt County Code**

Section 335 of the Humboldt County Code contains flood damage prevention provisions. Section 611 contains wastewater and sewage disposal regulations. As noted in Section 4.6, Geology and Soils, Section 331-14 contains detailed rules and regulations regarding grading, excavation, erosion, and sedimentation Control, including requirements for preparation of erosion and sedimentation plans during grading operations.

## **Humboldt County General Plan**

The following policies in the 1984 General Plan would apply to the proposed project:

### Section 3291, Hazards

#### 1. General

*A. Regulate land use to ensure that development in potentially hazardous areas will not preclude preserving and promoting public safety. Potentially hazardous areas include, but are not limited to, steep slopes, unstable soils areas, on active earthquake fault lines, in extreme wildland fire areas, in airport flight path zones, and in flood plains and tsunami runup areas.*

#### 3. Flood

*A. The County shall participate in the Federal Flood Insurance Program to regulate land uses in flood hazard areas in order to minimize loss of life and property, and in order to minimize public flood-related expense.*

*B. Agricultural lands which are in flood plain areas shall be retained for use in agriculture.*

### Section 3361, Water Resources

*1. Ensure that land use decisions are consistent with the long term value of water resources in Humboldt County.*

*2. Regulate development that would pollute watershed areas.*

*8. Continue participation in all state, regional or local water resource planning efforts effecting surface run-off or groundwater supplies.*

### Section 4235 Public Services and Facilities, Drainage

*1. Drainage needs of each community shall be studied as part of each community plan.*

*2. Natural drainage ways shall be utilized where possible to convey drainage flows consistent with streamside management policies in the General Plan.*

### Section 4531, Wastewater Facilities

*4. Areas planned for additional development which are dependent on individual septic tank leach field disposal systems shall have minimum lot sizes based on the following factors:*

*A. soil suitability,*

*B. slope,*

*C. water source (on site-well or serviced),*

*D. proximity to sensitive habitats.*

*5. Septic systems shall not be permitted where the slope exceeds 30% or within 50 feet of an unstable land form.*

6. Sewage disposal systems placed on an existing lot must meet all of the requirements of the Humboldt-Del Norte Department of Public Health and the North Coast Regional Water Quality Control Board.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of as a result of the failure of a levee or dam; or
- Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

### LESS-THAN-SIGNIFICANT IMPACTS

#### Groundwater Impacts

Changes in impervious surface as part of proposed project would be minor compared to the area of the project site, and no significant changes in groundwater recharge would be expected as a result

of development associated with the project. Project impacts on water supply, including use of groundwater, are discussed in Section 4.17, Utilities and Service Systems, of this EIR.

### **Erosion and Siltation Due to Alteration in Drainage Patterns**

The proposed project would not alter the course of a stream or a river. In general, the project would not include large areas of grading or impervious surfaces that would alter drainage patterns, except in Area 5 with the construction of a concession/bathroom building and a skate park. Required erosion control plans and other provisions of Humboldt County grading permit requirements, discussed in Section 4.6, Geology and Soils, would prevent potential impacts from erosion and siltation during construction. Potential impacts from erosion would be further reduced through compliance with construction- and operation-phase stormwater requirements (Mitigation Measures HYDRO-1a and HYDRO-1b, below).

### **Exceedance of Existing or Planned Stormwater Drainage System Capacity**

No existing or planned stormwater drainage systems are present at the project site; thus, no capacity exceedances would occur as part of the project. The volume and drainage patterns of stormwater generated by the project would be generally the same as under current conditions. In Area 5, stormwater during storm events would be reduced somewhat through compliance with required stormwater management provisions (Mitigation Measure HYDRO-1b, below).

### **Other Water Quality Concerns**

Operation of the proposed project would not result in any substantial changes to on-site water quality, with the exception of potential impacts associated with stormwater runoff and septic systems. Adherence to regulatory requirements, as described in Mitigation Measures HYDRO-1a, HYDRO-1b, and HYDRO-2 described below, would reduce these potential impacts on water quality to a less-than-significant level. No other impacts related to water quality would occur as a result of the project.

### **Flooding Hazards**

No new housing is proposed for the project site, and therefore the project would not place housing in a 100-year flood hazard area. No permanent structures are proposed to be constructed within the 100-year flood zone located near the river, and any earthmoving activities in those portions of the project site would be minor and would not redirect or impair flood flows.

### **Other Flooding Hazards, Including Levees and Dams**

The project site is not located within a mapped dam failure inundation area and is not protected from flooding by levees. The project would have no impact in relation to this significance criterion.

## Seiches, Tsunamis, and Mudflows

Based on the elevation of the project site and distance from the ocean and large enclosed bodies of water, there would be no potential impacts due to seiches or tsunamis. Please refer to Section 4.6, Geology and Soils, for further information regarding mudflows, a type of landslide. The project's impact would be less than significant in relation to this significance criterion.

## POTENTIALLY SIGNIFICANT IMPACTS

### **Impact HYDRO-1: Proposed development at Area 5 could result in polluted runoff adversely affecting the water quality of South Fork Eel River. (PS)**

In general, the proposed project would not result in a significant change in the location or area of impervious surfaces at the project site. New roads, trails, and parking lots would be unpaved and infrastructure such as stages, restrooms, and vendor booths for events and camping areas would be temporary. The four proposed water storage tanks would be constructed on 16-square-foot platforms filled with sand to allow for stormwater drainage. Most areas would require only minimal grading, less than the 1-acre threshold in the Construction General Permit. Excavation required for the proposed new water supply infrastructure would also not be expected to result in a significant area of soil disturbance. The total of 4,300 linear feet of waterlines would require ½-foot-wide trenches for a total of 2,150 square feet of soil disturbance, considerably less than the 1-acre Construction General Permit threshold.

However, a significant increase in impervious surfaces would take place in Area 5, which would include the construction of a 1,000-square-foot concession stand/bathroom building and a 10,000-square-foot concrete and wood skate park. Area 5 would require 9 acres of grading, along with trenching for approximately 1,200 linear feet of waterline, and the project would add 10 acres of irrigated ballfields to this location. The location of these facilities, next to the South Fork Eel River, could potentially contribute sediment and pollutants to the South Fork Eel River both during construction and operation of the project. As the Eel River is classified as impaired due to sediment loads, this is a potentially significant impact.

*Mitigation Measure HYDRO-1a: Consistent with the requirements of the statewide Construction General Permit, the project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce impacts on surface water quality through the project construction period.*

*The SWPPP shall be prepared by a qualified stormwater professional (QSP). The SWPPP shall include the minimum best management practices (BMPs) required in Attachment C for Risk Level 1 discharges, Attachment D for Risk Level 2 dischargers, or Attachment E for Risk Level 3 dischargers (as applicable, based on final determination of the proposed project's Risk Level status [to be determined as part of the Notice of Intent for coverage under the Construction General Permit]). BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or similar guidance. BMPs shall include all measures necessary to prevent sediment from the project site from being discharged during drainage.*

*The SWPPP shall include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations and, as appropriate, depending on the proposed project Risk Level, sampling of the site effluent and receiving waters. (Receiving water monitoring is only required for some Risk Level 3 dischargers.) If the proposed project is Risk Level 2 or 3, the project applicant shall also include requirements for Rain Event Action Plans as part of the SWPPP; a Rain Event Action Plan is a written document that must be prepared within 48 hours of any likely precipitation event, describing actions that will be implemented to protect all exposed portions of the site from the predicted precipitation. BMPs shall include measures for dust control, erosion prevention, sediment control, construction vehicle traffic controls and tire washes, and material storage, spill prevention, and housekeeping protocols.*

*Mitigation Measure HYDRO-1b: As a condition of approval for all grading and construction permits for the project site, the applicant shall prepare and implement a Stormwater Control Plan (SCP) for the project site consistent with all requirements of the MS4 National Pollutant Discharge Elimination System (NPDES) Permit as implemented by the Humboldt County Public Works Department. The SCP shall include, but not be limited to, BMPs designed into project features and operations to reduce potential impacts on surface water quality and to manage changes in the timing and quantity of runoff associated with development of the project site. The BMPs shall include Low Impact Development (LID) measures, such as minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source, to the maximum extent practicable. The potential for irrigation water runoff containing sediment or other contaminants will be addressed in the SCP, and any BMPs and LID measures to address irrigation water runoff will be included. Increased stormwater runoff may not be channeled or directed to flow across the traveled section of a County roadway, and drainage must be contained at the edge of the County road surface. Funding for the maintenance of all BMPs for the life of the proposed project shall be specified.*

*The combination of the two measures above would reduce this impact to a less-than-significant level. (LTS)*

**Impact HYDRO-2: Inadequate septic systems could potentially adversely affect groundwater and surface water quality. (PS)**

The project includes new 400-square-foot bathrooms in Areas 1 and 2 and a new 1,000-square-foot concession/restroom building in Area 5. Although festivals, camping, and other special events would rely on portable restrooms, the three additional bathrooms would require new septic systems and wastewater disposal. Sewage and wastewater generated during operation of the project may contain fecal coliform and other contaminants that could potentially affect groundwater and surface water quality.

Carefully designed and installed septic systems that are properly maintained are very effective in preventing contaminants in wastewater from reaching groundwater or surface water (Winzler & Kelly, 2007). The state and county have several regulations designed to prevent septic systems from causing pollution or presenting a public health hazard. The State Health and Safety Code requires appropriate sewage disposal be provided for all homes and businesses. Older methods of sewage disposal, such as pit latrines, have been prohibited. The NCRWQCB has established

minimum standards for wastewater treatment and disposal in the Basin Plan (NCRWQCB, 2011), which are implemented by Humboldt County. These include groundwater separation, surface water and well setbacks, slope limitations, sizing requirements, and allowance for use of alternative technologies. County regulations incorporating these requirements include the Sewage Disposal Ordinance and Sewage Disposal Requirements in Section 611 et seq of the Humboldt County Code.

The specific septic system for the proposed project has not yet been designed. Although the septic tank/leachfield system is often the easiest and most cost-effective system to implement, approved alternative technologies include mounds, sand filters, recirculation textile and other media filters as well as constructed wetlands (Winzler & Kelly, 2007). Additional discussion of potential constraints to wastewater systems due to native soils is discussed under Impact GEO-3 in Section 4.6, Geology and Soils.

*Mitigation Measure HYDRO-2: As a condition of approval for building, grading, and construction permits at the project site, the applicant shall provide detailed plans for septic and wastewater disposal systems. The plans shall be prepared by a qualified professional and shall implement best available technology in the selection and installation of septic systems in compliance with state and county requirements. As a condition of approval for certificate of occupancy of the project site, the applicant shall provide evidence that the septic system is operating efficiently, that adequate capacity exists to address proposed site uses, and that a maintenance plan has been prepared and implemented for the system. (LTS)*

## CUMULATIVE IMPACTS

Stormwater and irrigation runoff discharged from past and existing projects has contained pollutants that have contributed to impairment of the water quality of receiving waters in the project vicinity. Sediment is the pollutant of particular concern for the South Fork Eel River and has been identified as causing impacts on designated beneficial uses. Therefore, a cumulative water quality impact related to sediment in the river is occurring. However, implementation of Mitigation Measures HYDRO-1a and HYDRO-1b would prevent the project from contributing considerably to this cumulative impact.

As nearly all of the development projects considered in the cumulative analysis (Table 6-1) are located within a municipal sewer district, they would not require septic tanks or alternative wastewater disposal systems. Therefore the less-than-significant impacts from new wastewater disposal systems (after mitigation) at the project site would not be expected to contribute considerably to a cumulative water quality impact.

## REFERENCES

- California Department of Water Resources (DWR), 2014. California's Groundwater: Garberville Town Groundwater Basin, San Mateo Subbasin, Bulletin 118, February 27.
- Federal Emergency Management Agency (FEMA), 1982. Flood Insurance Rate Map, Humboldt County, California and Incorporated Areas, Map Number 0600601835B, revised July 19.



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GHD, Inc., 2014. Water Supply and Demand Analysis Memorandum, July 16.

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United States Environmental Protection Agency (EPA), 1999. South Fork Eel River Total Maximum Daily Loads for Sediment and Temperature. December 16.

Western Regional Climate Center (WRCC), 2014a. Monthly Climate Summary, Garberville California. Website: <http://www.wrcc.dri.edu/cgi-bin/cliRECTM.pl?ca3320>, accessed July 28.

Western Regional Climate Center (WRCC), 2014b. Monthly Climate Summary, Richardson Grove State Park, California. Website <http://www.wrcc.dri.edu/cgi-bin/cliRECTM.pl?ca7404>, accessed July 28.

Winzler & Kelly, 2007. Draft Water Resources Technical Report for Humboldt County Community Development Division, November.



## 4.10 LAND USE AND PLANNING

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### INTRODUCTION

This section reviews existing land uses on the project site and in the vicinity and evaluates the project's potential effects on these conditions. The project's consistency with relevant Humboldt County General Plan policies and zoning is also evaluated.

### ENVIRONMENTAL SETTING

#### EXISTING LAND USES ON PROJECT SITE

As shown in **Figure 4.10-1**, the primary land uses on the 405.7-acre project site include agricultural, conservation-related, and recreational uses. The site also contains an area used to stockpile gravel (a resource production use) and facilities for small-scale community activities. Four residential units are located on the site.

As shown in Figure 4.10-1 and discussed in detail in Chapter 3, Project Description, of this EIR, the project site contains the following seven distinct areas:

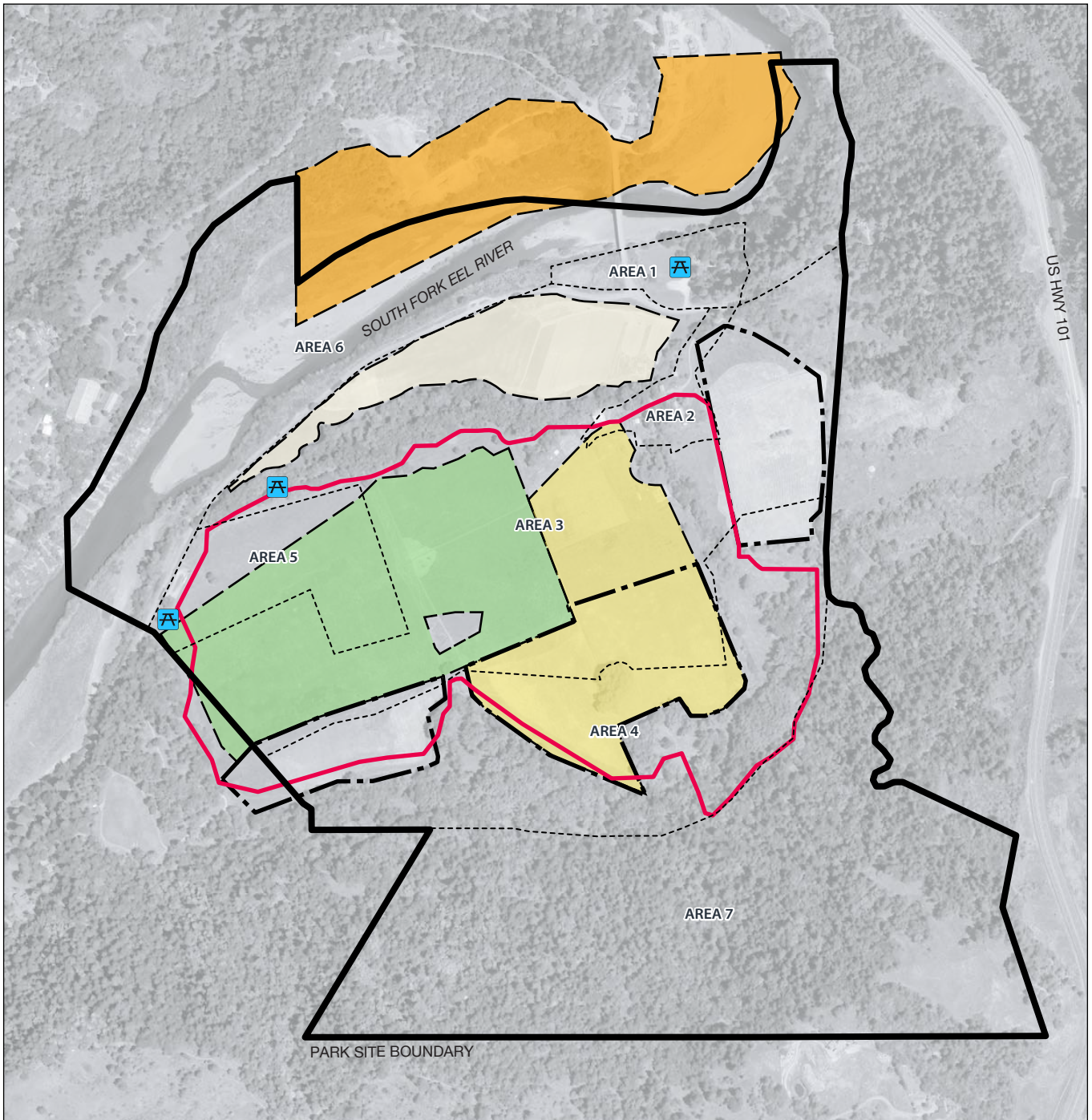
- Area 1 – Tooby Memorial Park (8.2 acres)
- Area 2 – Park Headquarters (6.0 acres)
- Area 3 – Main Agricultural Area (127.1 acres)
- Area 4 – Community Commons (56.4 acres)
- Area 5 – Community Facilities/Sports Area (16.0 acres)
- Area 6 – Riverfront (77.0 acres)
- Area 7 – Forestland (115.0 acres)

Each of these areas contains a range of land uses as described in the narrative that follows.

#### Agricultural and Conservation Use

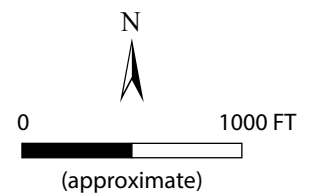
A majority of the site is currently and has historically been in agricultural and conservation use.

Existing agricultural uses include the production, processing, and storage of agricultural products. The six-acre Park Headquarters (Area 2) contains a large two-story barn used for agricultural processing, a small two-story barn, a chicken coop, a horse stable with tack room and covered storage area, and a scale house and slaughterhouse. There is a refrigeration unit next to the main barn. Existing community activities take place in the barnyard and include weddings, memorials, nature study, agricultural study, and workshops and classes. A small existing tool shed in the Park Headquarters is used as a farm stand. The 127.1-acre Main Agricultural Area (Area 3) has greenhouses and storage sheds. Please refer to Section 4.2, Agriculture and Forestry Resources, of this EIR for a detailed description of the agricultural resources on the site.



LEGEND

- |   |                        |   |                   |
|---|------------------------|---|-------------------|
|  | Certified organic farm |  | Picnic area       |
|  | Upper farm field       |  | Park loop trail   |
|  | Grassland conservation |  | Gravel extraction |
|  | Organic hay            |  | Area boundary     |



SOURCE: Southern Humboldt Community Park, 2010

Figure 4.10-1  
EXISTING LAND USE

Close to half of the project site includes large areas (77 acres in Area 6-Riverfront and 115 acres in Area 7-Forestland) of aquatic and riverine habitats bordered by riparian vegetation as well as mixed deciduous and conifer forest, native redwoods, California Bay forest, non-native grasses, freshwater emergent wetlands, seasonal creeks, and prime farmland. The South Fork Eel River flows across the northern portion of the site. Please refer to Section 4.4, Biological Resources, of this EIR for a detailed description of these habitats.

### **Recreational and Community Facilities Uses**

The 8.2-acre Tooby Memorial Park (Area 1) contains playground equipment, a picnic area, barbeque pits, and benches dating to the 1960s. The park is used for recreational activities including, swimming, boating, sports, community gatherings and events. Additional picnic areas are located in the 127.1-acre Main Agricultural Area (Area 3) and the 16-acre Community Facilities/Sports Area (Area 5). There are approximately 3.5 miles of existing unpaved trails, dating to 2002, throughout the park. Other recreational and community activities include hiking, biking, horseback riding, disc golf course, dog walking, nature study, forest, habitat and streamside restoration, agricultural study, workshops, classes, weddings, and memorials. The project site also contains two kiosk/shade structures (one in Area 2-Park Headquarters and one in Area 5-Community Facilities/Sports Area) and portable toilet facilities.

The park is well-used; in 2008, there were an estimated 42,000 visitor days per year. By 2012, community park use had increased to an estimated 46,000 visitor days per year.

Please refer to Section 4.15, Recreation, of this EIR for a detailed description of existing recreational facilities.

### **Transportation and Parking Uses**

The project site contains a network of existing service roads used by park staff, hikers and bicyclists, and agricultural machinery and vehicles. There are also several unpaved parking areas. Please refer to Section 4.16, Transportation/Traffic of this EIR for a detailed description of roads and parking facilities.

### **Residential Use**

The four residential units on the project site include the following: a large caretaker house, a one-bedroom cabin, a two-bedroom bunk house in the Park Headquarters (Area 2), and a small mobile home/caretaker's unit in Tooby Memorial Park (Area 1).

### **Gravel and Shale Mining**

Area 6 (Riverfront) contains an approximately 12-acre area currently permitted and leased to Randall's Sand and Gravel for a gravel and shale mining operation. A small portion of the operation also extends into Area 1 (Tooby Memorial Park); part of Area 1 on the west side of the Sprowel Creek Bridge is currently used as a stock pile for gravel. The gravel operation also occupies offsite areas north of the project site (see "Existing Land Uses Surrounding Project Site" below).

## **EXISTING LAND USES SURROUNDING PROJECT SITE**

### **North of Project Site**

Existing land uses adjacent to the project site on the north side of the South Fork Eel River include a cluster of low-density, rural residential, single-family-zoned properties; a single-family horse ranch; and an active surface mining, gravel and shale extraction, storage, and processing facility operated by Randall's Sand and Gravel. A portion of this facility also extends onto Areas 1 and 6 of the project site, as described above.

The offsite portion of the gravel mining facility is located on a 36-acre parcel that is owned by the Southern Humboldt Community Park (the project applicant) but is not part of the project. Most of the mining operation is located outside the project site boundaries. The Eel River separates most of the mining operation from the project site, and the active operations are a quarter of a mile away from the closest project site areas used by the public (i.e., the Tooby Memorial Park playground). The mining operation uses Sprowel Creek Road to transport gravel and other products. The operation is about ½-mile by road from the main entrance to the park. Tree cover provides additional buffering between the park and mining uses (Lobato, 2014). In addition, the Garberville Airport is located about ¾ mile north of the project site, separated from the project area by the South Fork Eel River. (See further discussion in Section 4.8, Hazards and Hazardous Materials; Section 4.12, Noise; and Section 4.16, Transportation/Traffic, of this EIR.)

### **South of Project Site**

Benbow Lake State Recreation Area is located south of the site; approximately 2 miles south of Garberville (see Figure 3-1). The recreation area offers nearby compatible recreational land use and public access opportunities.

### **East of Project Site**

To the east, the project site borders Highway 101 and a privately owned, 80-acre parcel with a single-family residence that is also the proposed location of the Garberville Sanitary District (GSD) potable water treatment facilities expansion.

### **West of Project Site**

A privately owned, 70-acre undeveloped and unoccupied property is located west of the project site.

## **EXISTING LAND USES IN SOUTHERN HUMBOLDT COUNTY**

The project site is located in southern Humboldt County, an area characterized by mountainous topography and considerable distances between urbanized areas. Much of the flat land near population centers is in agricultural, commercial, and residential use.

The project site is within the approximately 310-square-mile (200,000-acre) South Fork Eel River Watershed. Grazing and timber production cover about half of the watershed; 27 percent contains parks and open space; 20 percent is in residential use; and the remaining 3 percent is in commercial, industrial, and other uses. Richardson Grove and Humboldt Redwoods State Parks and the Avenue of the Giants are in the watershed.

## REGULATORY FRAMEWORK

For the project site and vicinity, the Humboldt County General Plan consists of two documents: (1) the Humboldt County General Plan, Volume 1, Framework Plan (1984, with updates through 1994); and (2) the Garberville/Redway/Benbow Alderpoint Community Plan (1987). The Framework Plan addresses countywide issues, while the Community Plan addresses issues within the Garberville/Redway/Benbow Alderpoint planning area, which includes the project site.

The following discussion reviews relevant provisions of both plans, along with existing Humboldt County zoning. Other sections of this EIR refer to the Framework Plan as the “Humboldt County General Plan.”

Other sections of this EIR address project consistency with other relevant plans and regulations, along with related land use issues. For example, the project’s consistency with the Humboldt County Airport Land Use Plan (ALUCP) and land use compatibility with the Garberville Airport are addressed in Section 4.8, Hazards and Hazardous Materials; Section 4.12, Noise; and Section 4.16, Transportation/Traffic.

## HUMBOLDT COUNTY GENERAL PLAN, VOLUME 1, FRAMEWORK PLAN

### Land Use Designations

As shown in Figure 3-2 in Chapter 3, Project Description, of this EIR, the existing Humboldt County General Plan land use designations for the project site are as follows (Humboldt County, 1984):

- **IR (Industrial, Resource Related).** This designation applies to the northernmost portion (approximately 12.1 acres) of the project site. The designation is used in rural areas for uses that are compatible with and dependent on close proximity to resources, including timber, agriculture, and minerals. Primary and compatible uses within this designation are agriculture and timber products processing plants, mineral extraction operations, aquaculture facilities, and electrical generating and distribution facilities.
- **AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres).** This designation applies to approximately 239.9 acres in the north-central portion of the project site. The AR(5-20) designation is used for areas outside of urban/rural community centers, where few public services are required. It covers large lot areas on slopes generally less than 30 percent. Primary and compatible uses are agriculture and timber harvesting under intensive management, single-family residences, cottage industries, educational and religious activities, and recreational uses.

- **AL(20) (Agricultural Lands, one dwelling unit per 20 acres).** This designation applies to approximately 153.7 acres in the southern portion of the project site. The AL(20) designation is used for remote, steep, and high natural hazards areas. It allows for marginal timber, grazing, mining, and quarrying, along with recreational areas, watershed and wildlife areas, and occasional rural residences. Primary and compatible uses are resource production allowing intensive management opportunities, recreational uses, single-family residences, and cottage industries.

Please refer to Figure 3-2 in Chapter 3, Project Description, for the locations of these designations on the project site.

### Relevant Goals and Policies

This subsection reviews goals and policies related to land use on the project site. Other sections in Chapter 4 of this EIR review goals and policies relevant to the environmental topics addressed in those sections (e.g., cultural resources, hydrology, mineral resources, etc.).

#### *Agriculture and Other Land Use*

Sections 2522 and 2523 of the Framework Plan contain the following relevant goal and policies related to agriculture (Humboldt County, 1984):

- *Goal: The optimum amount of agricultural land shall be conserved for and maintained in agricultural use to promote and increase Humboldt County's agricultural production.*
- *Policy 1: Agricultural lands shall be conserved and conflicts minimized between agricultural and non-agricultural uses through the following:*
  - A. *By formulation of logical boundaries separating urban and rural areas and when necessary, buffer areas to minimize land use conflicts.*
  - B. *By focusing future conversions in areas where land use conflicts would not threaten the viability of existing agriculture.*
  - C. *By promoting in-filling to achieve a more logical urban/agricultural boundary.*
  - D. *By allowing development of uneconomical or marginally viable agricultural lands, or agricultural lands already severely limited by conflicts with urban uses to limit the market pressures for conversion of more productive lands.*
  - E. *By assuring that public service facility expansions and non-agricultural development do not inhibit agricultural viability through degraded water supplies, access systems, air quality, and other relevant considerations, such as increased assessment costs.*
  - F. *By broadening the utility of agricultural preserves and the Williamson Act Program to accommodate and encourage intensively managed farms.*
- *Policy 3: In-filling shall be encouraged for all development.*
- *Policy 4: Prime agricultural land should be retained in parcel sizes large enough to provide for an economic management base.*



- *Policy 6: Vegetation management programs (controlled burning, etc.) shall be supported where they improve the availability and quality of rangeland for livestock and wildlife, reduce the hazard of disastrous wildfires and increase water quality and quantity.*
- *Policy 9: Agricultural production requiring smaller parcels and more intensive management, including aquaculture shall be encouraged wherever feasible consistent with the Remote Rural Development Section 2550 and other policies of this section.*
- *Policy 10: The conversion of agricultural land should only be considered where continued agricultural production is not economically feasible and proposed development is consistent with Remote Rural Development Section 2550.*

In addition, Sections 2552 and 2553 of the Framework Plan contain the following relevant goal and policies related to rural lands (Humboldt County, 1984):

- *Goal: To provide for orderly development of rural lands consistent with the needs to encourage sustained resource production without land degradation; reduce public exposure to safety hazards; minimize costs of providing services; conserve energy; encourage recreational development on appropriate lands; and encourage development along existing public corridors.*
- *Policy 1: Lands adjacent to areas designated as agricultural and timberlands in the General Plan should be planned for uses compatible with agriculture and timber wherever possible.*
- *Policy 3: Lands containing sensitive habitats should be developed consistent with the maintenance requirements of the habitat. (Sections 3400- 3433)*
- *Policy 4: Lands which contain identified hazards shall be developed consistent with the objective to reduce public exposure to the hazards.*
- *Policy 5: All development should be designed to minimize erosion and sedimentation.*
- *Policy 6: Any development plan or concept should be given consideration, provided that the intent of the General Plan is carried out.*
- *Policy 7: Cumulative impacts of water withdrawal from surface and groundwater sources and sewage disposal should be assessed during the zoning of all areas designated for Rural Development.*
- *Policy 8: Community plans shall address the needs and standards for Cottage Industries within the urban development areas; in addition, standards for rural areas will be refined.*

#### Recreation

Sections 4420 and 4430 of the Framework Plan contain the following relevant goals and policies related to recreation (Humboldt County, 1984):

- *Goals: To provide and adequately maintain park and recreation opportunities which are highly accessible and reflective of public needs; to protect park resources from incompatible uses; and to plan park development in such a manner as to minimize environmental impacts.*
- *Policy 1: The County should continue to support efforts to acquire, develop, and maintain county parks and recreation areas that are highly accessible to the public, and serve the unstructured outdoor recreational needs of County residents and tourists.*

- *Policy 2: The County shall give priority to the County residents' outdoor recreational needs.*
- *Policy 3: Plans for the development of additional County recreational facilities and opportunities shall consider the County's long term capabilities for the maintenance of all facilities and opportunities.*
- *Policy 4: The County shall encourage the private acquisition, development, and preservation of outdoor recreational resources and opportunities and facilities, and the County will coordinate recreation plans with all appropriate agencies.*
- *Policy 5: The County shall pursue all feasible sources of funding for the maintenance, development or acquisition of recreational facilities and programs consistent with this plan.*

## **GARBERVILLE/REDWAY/ALDERPOINT/BENBOW COMMUNITY PLAN**

### **Land Use Designations**

The Garberville/Redway/Alderpoint/Benbow Community Plan (Humboldt County, 1987) contains the same provisions for the IR, AR(5-20), and AL(20) land use designations as described for the Framework Plan above.

### **Relevant Policies**

Section 2500 of the Garberville/Redway/Alderpoint/Benbow Community Plan contains the following relevant provision (emphasis added) (Humboldt County, 1987):

#### ***2500 Rural Land Use***

*The rural land areas of the planning area are primarily a mix of timber, cattle grazing, and rural home sites. This Plan significantly expands opportunities for rural home sites.*

#### *Community Policies*

6. *For the Mitchell Ranch and Tooby Flat area, home sites shall be clustered in order to: (1) maintain the maximum feasible agriculturally productive areas; (2) minimize viewshed impacts; (3) avoid archaeological resources; and (4) reduce grading and construction impacts. Subdivision design should also consider incorporation of agriculturally related recreational amenities such as horse stables and trails on [sic] order to mitigate agricultural/residential use conflicts by making agriculturally related uses a continued part of the subdivision design.*

## **HUMBOLDT COUNTY ZONING**

As shown in Figure 3-2 in Chapter 3, Project Description, of this EIR, the following zoning classifications apply to the project site (Humboldt County, 2005):

- **MH-Q (Heavy Industrial-Qualified).** The northernmost portion of the project site (approximately 12.1 acres) is zoned MH-Q. This zoning applies to the portion of the project site that is designated IR by the General Plan. The MH zoning permits various specified

manufacturing uses, along with offices. Certain specified residential uses are also allowed with approval of a use permit. The “Q” combining zone combines with the MH principal zone to prohibit asphalt batch plants, limit mining equipment, and hours of operations.

- **AE (Agriculture Exclusive).** The remainder of the project site (approximately 393.6 acres) is zoned AE. This zoning applies to the portions of the project site that are designated either AR(5-20) or AL(20) by the General Plan. The AE zoning permits all general agricultural uses. Certain types of uses (e.g., animal feed yards, agricultural and timber products processing plants, rental and sales of irrigation equipment, animal hospitals, labor camps) are allowed with approval of a use permit.

Please refer to Figure 3-2 in Chapter 3, Project Description, which illustrates the existing zoning of the project site.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant land use impact if it would:

- Physically divide an established community;
- Conflict with applicable land use plans or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

### LESS-THAN-SIGNIFICANT IMPACTS

#### Division of Established Community

The project proposes improvements to the site that include sports fields, playgrounds, picnic areas, and trails. Activities would include a variety of community-based agricultural projects, including a farm stand, along with sports, educational, and camp activities. The project site would include a Park Headquarters (Area 2) that would repurpose existing buildings for park offices and community meeting spaces. Existing and additional agricultural projects would continue on the project site, and new agricultural projects would be added. Existing gravel mining uses in Areas 1 and 6 of the project site would continue. The four existing residential units on the project site would continue to be used for housing caretakers and farm workers or be rented. A detailed description of proposed improvements to the site and approvals required is provided in Chapter 3, Project Description, of this EIR.

The project would not physically divide an established community. Such an impact would involve, for example, closing an access roadway, constructing a new freeway, or implementing another type of physical barrier that would prevent members of an established community from having access to an area, thereby dividing the community. The project does not contain any features that

would act as a barrier to continued access from one portion of the area to another. In fact, the project includes features that would enhance access, such as improvements to the existing pedestrian path under Sprowel Creek Road Bridge between the riverfront area and Tooby Memorial Park which would accommodate hikers and provide river access.

“Dividing an established community” can also be interpreted more generally to mean creating incompatibilities between different land uses. The proposed project land uses would generally be compatible with surrounding land uses. While the sand and gravel mining operation located north of and partially within the northern part of the project site could theoretically be incompatible with existing and proposed recreational uses in Tooby Memorial Park, land use conflicts have been and would continue to be avoided under the proposed project for the following reasons: (1) the uses are separated by the Eel River, and the closest active part of the gravel operation is ¼-mile from the playground (the closest location in the park with public uses); (2) the main operation is located almost ½-mile from the playground; (3) existing tree cover provides additional buffering between the operation and the playground; (4) the mining operation does not operate in the evenings, or on weekends (when park use is greatest); and (5) there have been no problems or conflicts reported between the two uses in the past 14 years of operation (Lobato, 2014). (See also Section 4.11, Mineral Resources, which discusses project impacts on the mining operation.)

It is possible that certain onsite activities proposed by the project, such as larger events proposed in the Community Facilities/ Sports Area (Area 5), would create traffic, noise, and/or light- and glare-related conflicts with onsite residential uses or with the rural residential, single-family properties, single-family horse ranch, and gravel mining operation located north of the site or the single-family residence to the east. These traffic, noise, and light and glare impacts and mitigation measures to reduce such impacts are discussed in Section 4.1, Aesthetics; Section 4.12, Noise; and Section 4.15, Transportation/Traffic.

For these reasons, the project would not divide an established community or create any significant land use incompatibilities. The impact would be considered less than significant, and no mitigation measures are required.

### **Conflict with Applicable Habitat Conservation Plan or Natural Community Conservation Plan**

There are no habitat conservation plans or natural community conservation plans that apply to the project site. The project would therefore have no impact in relation to this significance criterion.

### **POTENTIALLY SIGNIFICANT IMPACTS**

#### **Impact LAND-1: The project would conflict with applicable Humboldt County General Plan policies adopted for the purpose of avoiding or mitigating an environmental effect. (PS)**

Conflicts with adopted General Plan policies are not necessarily significant in and of themselves because these policies are adopted for multiple purposes and may conflict. For example, a policy to protect natural resources such as agricultural land may conflict with policies to encourage new recreation or housing. In addition, it is the responsibility of the decision-makers to determine how to evaluate policy consistency. When policies are related to potential environmental impacts,

however, such policies should be evaluated in an environmental analysis, as indicated by the significance criteria addressed throughout this EIR.

The project would generally be consistent with applicable policies of the Humboldt County General Plan. These policies are listed and referred to throughout Chapter 4 of this EIR where relevant to evaluating the project's impacts on different aspects of the environment (e.g., agricultural resources, mineral resources, noise, etc.). In most cases, compliance with mitigation measures recommended in Chapter 4 of this EIR would reduce the impacts of project conflicts with General Plan policies to less-than-significant levels. As discussed in Section 4.2, Agricultural and Forestry Resources, however, the project would result in loss of farmland, conflicting with the Humboldt County General Plan policies for protecting agricultural land. Please refer to Section 4.2 for more discussion of this impact.

The project would be consistent with General Plan land use designations and zoning, and with General Plan policies specifically related to land use. The project includes a General Plan amendment and rezoning, which would ensure that the project – including existing and proposed land use on the project site – is consistent with the new General Plan land use designations and zoning of the site. (See Chapter 3, Project Description, for details.)

The project also includes banking the existing residential development rights (approximately 54 potential parcels) in the areas of the project site that are currently designated AL(20) and AR(5-20) by the General Plan, so that those rights can be transferred to specific receiving areas when the County develops a Transfer of Development Rights program in the future. (See Chapter 3 for details.) This provision would ensure that the project would not conflict with the Garberville/Redway/Alderpoint/Benbow Community Plan policy encouraging clustered residential development in the "Tooby Flat" area (i.e., the project site vicinity).

*Mitigation Measure LAND-1: The project applicant shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would generally ensure that project conflicts with applicable Humboldt County General Plan policies would be reduced to less-than-significant levels. As indicated in Impact and Mitigation Measure AGFR-1, however, the loss of agricultural land that would result from the project would be a significant, unavoidable impact. The project's conflict with Humboldt County General Plan policies for protecting agricultural land would therefore be significant and unavoidable. (SU)*

## **CUMULATIVE IMPACTS**

The cumulative analysis for land use impacts considers the immediate vicinity of the project site. As shown in Table 6-1 in Chapter 6, the main project in the immediate vicinity of the project site is the Garberville Sanitary District (GSD) water treatment plant currently under construction immediately east of the site. The project would generally allow a continuation of existing land uses of the project site and would not create any incompatibilities with the GSD water treatment plant. The General Plan land use designations and zoning proposed by the project also would not contribute to any significant cumulative changes in land use or any significant policy conflicts. Creating the new Public Facility (PF) zoning classification and inserting the new Public Recreation (PR) land use designation into the Humboldt County General Plan (Framework Plan and 1984 Garberville, Redway, Benbow, Alderpoint Community Plan) would not have a significant cumulative impact because subsequent environmental review would require assessment of cumulative

impacts before this zoning or land use designation can be applied to any other site. Thus, the project would not contribute significantly to cumulative land use impacts, and no mitigation measures would be necessary. Cumulative impacts on agricultural land are discussed in Section 4.2, Agricultural and Forestry Resources, of this EIR.

## REFERENCES

- Humboldt County, 1984 (with updates through 1994). *Humboldt County General Plan, Volume 1, Framework Plan*, Sections 2522, 2523, 2724, 2725, 2752, 4420, and 4430. Website <http://humboldt.gov/DocumentCenter/View/4363>.
- Humboldt County, 1987, *Garberville/Redway/Alderpoint/Benbow Community Plan*, adopted by the Board of Supervisors, June 30, 1987, Sections 2500, 2724, 2725, and 2752. Website <http://www.humboldt.gov/DocumentCenter/Home/View/285>.
- Humboldt County, 2005. Humboldt County Code (Zoning Regulations), Sections 314-3.3, 314-7.1, and 314-32. Website <http://www.humboldt.gov/137/County-Code>.
- Lobato, Kathryn, Executive Director, Southern Humboldt Community Park, 2014. E-mail correspondence, August 8.
- Southern Humboldt Community Park, 2010. *General Plan Amendment*, page 23, July.

## **4.11 MINERAL RESOURCES**

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### **INTRODUCTION**

This section describes existing mineral resources at the project site and vicinity, summarizes the applicable regulatory framework, and analyzes potential impacts on those resources.

### **ENVIRONMENTAL SETTING**

The project site is located adjacent to an active aggregate mining operation, where gravel and shale are extracted, stored, and processed. The mining operation, located just north of the South Fork Eel River, is run by Randall Sand and Gravel, and the land is owned by the Southern Humboldt Community Park. The operator holds all licenses and permits and has a long-term lease with the Southern Humboldt Community Park on this parcel of land. A portion of the permitted extraction area extends into project Areas 1 and 6. A small portion of Area 1, west of the Sprowel Creek Bridge, is used for gravel storage. The Southern Humboldt Community Park receives lease fees and royalties from this mining operation.

Sand and gravel extraction constitute the major portion of Humboldt County's mining activity, both in terms of quantity of material produced and value of extracted resource. Over the past 15 years, Humboldt County has extracted an average of 572,424 cubic yards of gravel per year, of which an average of 49,578 cubic yards per year (about 8.7 percent) is extracted from the South Fork Eel River (CHERT, 2014)

Extraction from the South Fork Eel River peaked at 75,900 cubic yards in 1999 and has trended downward in recent years (CHERT, 2014). In 2013, Randall Sand and Gravel extracted 17,212 cubic yards of gravel from the South Fork Eel River and was the only operator on the South Fork Eel River in 2013. All of the gravel was extracted by the wide shoreline skim method (CHERT, 2014).

### **REGULATORY FRAMEWORK**

#### **STATE LAW**

The Surface Mining and Reclamation Act of 1975 (SMARA), Public Resources Code Sections 2710-2796, contains a comprehensive surface mining and reclamation policy for the State of California. It includes provisions designed to ensure that adverse environmental impacts related to surface mining are minimized and that lands are reclaimed to a usable condition after mining is completed. SMARA also encourages the production, conservation and protection of the state's mineral resources.

## HUMBOLDT COUNTY GENERAL PLAN

The following policies in Section 2533, Mineral and Energy Resources, of the 1984 General Plan would apply to the proposed project:

2. *Plan future development such that it will not interfere with the utilization of identified mineral deposits.*
4. *Encourage the production and conservation of minerals, while preserving to the maximum extent feasible the values relating to recreation, watershed, wildlife, range and forage, science, and aesthetic enjoyment.*
9. *Extraction of instream sand gravel is not to exceed the average annual replenishment level (annual bedload), except when the bedload left from a previous flood is greater than the average annual replenishment or if the projects emphasize fishery enhancement, flood control or bank protection.*

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

### LESS-THAN-SIGNIFICANT IMPACTS

Existing and permitted future gravel and shale mining would continue under the proposed project. No changes for the mining operation would occur in association with the proposed project. Although a small portion of the permitted extraction area is located in project Areas 1 and 6, no proposed development or park activities would interfere with the mining. It is not anticipated that development or operation of any project-related components would negatively affect mining operations or require a facility shut-down, even temporarily.

The South Fork Eel River mining area is not mentioned specifically in the County General Plan or other land use plans. As the project would have no effect on mining, the project would not result in the loss of availability of any known mineral resources, including locally identified mineral resource recovery sites.



**POTENTIALLY SIGNIFICANT IMPACTS**

No potentially significant impacts related to mineral resources would be anticipated as part of the proposed project development or operation.

**CUMULATIVE IMPACTS**

The project would not impair or interfere with the extraction of mineral resources at or near the project site. Therefore, the project would not contribute to any cumulative impacts related to mineral resources.

**REFERENCES**

Humboldt County Extraction Review Team (CHERT), 2014. 2013 Post-Extraction Report, Discussion Draft, February.

Humboldt County, 1984. Humboldt County General Plan, Volume I, Framework Plan, as amended by resolutions through 1998.



## 4.12 NOISE

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### INTRODUCTION

This section presents the results of an environmental noise study conducted for the proposed use of portions of the Southern Humboldt Community Park (SHCP) in the unincorporated Garberville area of Humboldt County for sports fields and outdoor events involving music. Surrounding area uses include the Garberville general aviation airport, gravel extraction operations, rock quarrying, agricultural/open space lands with rural residential uses, and residential uses within the town of Garberville. The location of the project site and adjacent noise-sensitive (residential) use areas are shown in **Figure 4.12-1**.

This section includes a description of the project proposal, a summary of applicable noise regulations, the results of a noise monitoring survey conducted for the project, and an assessment of noise impacts and mitigation measures necessary to meet the applicable standards at adjacent noise-sensitive land uses.

### ENVIRONMENTAL SETTING

#### FUNDAMENTALS OF ENVIRONMENTAL ACOUSTICS

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales, which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement, which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in **Table 4.12-1**.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in **Table 4.12-2**. Because sound levels can vary markedly over a short period of



Figure 4.12-1

SOURCE: Illingworth & Rodkin, Inc., 2014

**PROJECT AND SURROUNDING NOISE SENSITIVE AREAS**

**TABLE 4.12-1 DEFINITIONS OF ACOUSTICAL TERMS USED IN THIS REPORT**

<b>Term</b>	<b>Definitions</b>
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, $L_{eq}$	The average A-weighted noise level during the measurement period. The hourly $L_{eq}$ used for this report is denoted as dBA $L_{eq}$ .
Day-Night Level, $L_{dn}$	$L_{dn}$ is the equivalent noise level for a continuous 24-hour period with a 10-decibel penalty imposed during nighttime and morning hours (10:00 PM to 7:00 AM).
Community Noise Exposure Level, CNEL	CNEL is the equivalent noise level for a continuous 24-hour period with a 5-decibel penalty imposed in the evening (7:00 PM to 10:00 PM) and a 10-decibel penalty imposed during nighttime and morning hours (10:00 PM to 7:00 AM).
$L_1$ , $L_{10}$ , $L_{50}$ , $L_{90}$	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin, 2014.

time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called  $L_{eq}$ . The most common averaging period is hourly, but  $L_{eq}$  can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep - 24-hour descriptors have been developed that incorporate

**TABLE 4.12-2 TYPICAL NOISE LEVELS IN THE ENVIRONMENT**

Common Outdoor Noise Source	Noise Level	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	Quiet recording studio
Threshold of human hearing	10 dBA	Threshold of human hearing
	0 Dba	

Source: Illingworth & Rodkin, 2014.

artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level*, *CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 PM – 10:00 PM) and a 10 dB addition to nocturnal (10:00 PM – 7:00 AM) noise levels. The *Day/Night Average Sound Level*,  $L_{dn}$ , or *DNL* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period. When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends several important factors, such as geometric spreading, ground absorption, atmospheric effects, and shielding by natural or human-made features.

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, the healthy human ear can sometimes detect changes of about 2 dBA; however, it is widely accepted that

changes of 3 dBA in the normal environment are considered barely detectable to most people. A change of 5 dBA is readily perceptible and a change of 10 dBA is perceived as being twice as loud.

### Long-Term Measurements

The primary sources of ambient noise in the vicinity of the project site are traffic on Highway 101, gravel extraction operations, rock quarrying operations, local roadway traffic and general aviation noise. To evaluate the ambient noise environment in adjacent noise-sensitive (residential) areas in the vicinity of the project site, an ambient noise monitoring survey was conducted between October 7 and 8, 2010. During this period the weather was clear, with light winds, no precipitation and temperatures ranging from 48 to 70 degrees Fahrenheit (°F). Three long-term noise measurements were conducted over a 22-hour period between 2:00 PM on October 7 and noon on October 8, 2010, and five short-term noise measurements were conducted simultaneously with the long-term meters. **Figure 4.12-2** shows the approximate location of these measurements.

The first long-term sound level meter (LT-1) was positioned on a tree trunk along Old Briceland Road near the driveway to 1201 Old Briceland Road on a hill side overlooking the Eel River valley (see **Figure 4.12-2** for approximate location). This location was acoustically shielded by intervening terrain from Highway 101 traffic noise and gravel extraction and quarry operations noise, and thus is indicative of the noise environment of distant noise-sensitive receptors in the project vicinity, which is not influenced by these noise sources. The primary source of loud intermittent noise at this location was traffic on Old Briceland Road; however, localized grassland, forest and wind related noises were the primary contributors to the average and background noise levels at this location. The hourly trends in noise levels measured at location LT-1, including the energy equivalent noise level ( $L_{eq}$ ), the maximum noise level ( $L_{max}$ ), the minimum noise level ( $L_{min}$ ), and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as  $L_1$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ ), are shown in **Figure 4.12-3**. The  $L_{eq}$  noise level is typically considered the average noise level, while the  $L_1$  is considered the intrusive level and the  $L_{90}$  is considered the background noise level.

A review of **Figure 4.12-3** shows that the noise levels at measurement site LT-1 also follow a typical diurnal noise pattern, with the daytime and nighttime average ( $L_{eq}$ ) noise levels ranged from 44 to 54 dBA and 29 to 47 dBA, respectively, with an average daytime  $L_{eq}$  of 51 dBA and an average nighttime  $L_{eq}$  of 42 dBA. Ambient ( $L_{90}$ ) noise levels ranged from 28 to 47 dBA during the daytime and 27 to 41 dBA during the nighttime, with an average daytime  $L_{90}$  of 40 dBA and an average nighttime  $L_{90}$  of 35 dBA. The relatively elevated nighttime  $L_{90}$  level at this location may be due to insect or woodland noises that sometimes occur in the evening and early nighttime hours in rural environments. The Community Noise Equivalent Level (CNEL) at this location was calculated to be 52 dBA.

The second long-term sound level meter (LT-2) was positioned in a utility pole at approximately 50 feet from the centerline of Sprowel Creek Road in the vicinity of the residences along the western bluff of the Eel River with views of the project site (see **Figure 4.12-2** for approximate location). Ambient noise measured at this location represents the noise environment in the residential area between the river bluff and the Garberville Airport. The primary source of loud intermittent noise at this location was traffic on Sprowel Creek Road; however, distant traffic on Highway 101 along with noise from gravel extraction and quarry operations were the primary contributors to average and background noise levels at this location. The hourly trends in noise levels measured at location

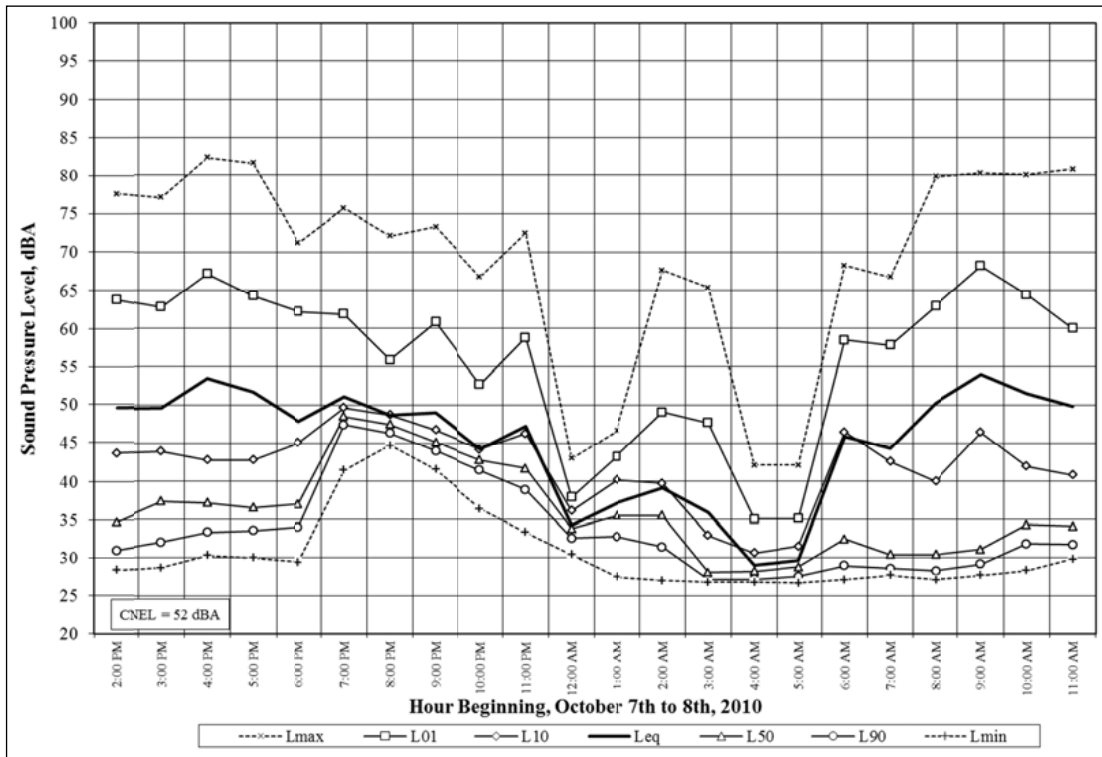


Figure 4.12-2

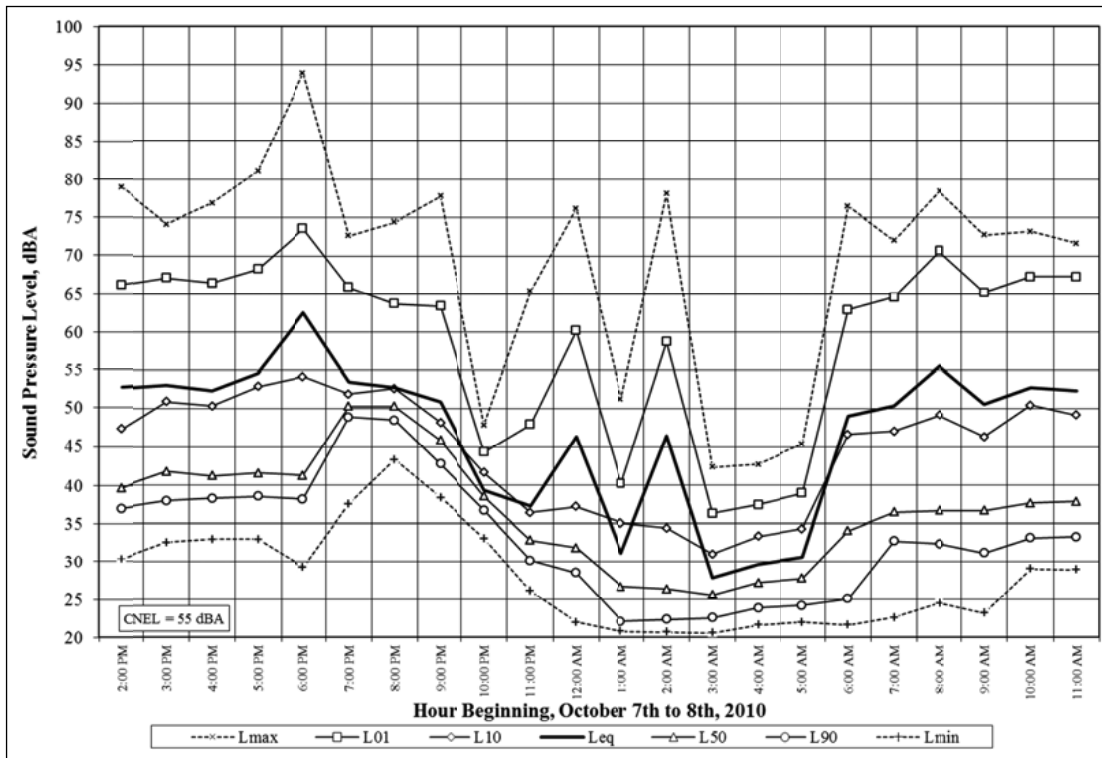
SOURCE: Illingworth & Rodkin, Inc., 2014

### PROJECT SITE AND MEASUREMENT LOCATIONS





Measured hourly noise levels at LT-1



Measured hourly noise levels at LT-2

Figure 4.12-3

SOURCE: Illingworth & Rodkin, Inc., 2014

MEASURED HOURLY NOISE LEVELS AT LT-1 AND LT-2

LT-2, including  $L_{eq}$ ,  $L_{max}$ ,  $L_{min}$ , and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as  $L_1$ ,  $L_{10}$ ,  $L_{50}$  and  $L_{90}$ ), are shown in Figure 4.12-3.

A review of Figure 4.12-3 shows that the noise levels at measurement site LT-2 follow a typical diurnal pattern characteristic of traffic noise, where the daytime and nighttime average ( $L_{eq}$ ) noise levels ranged from 50 to 63 dBA and 28 to 49 dBA, respectively, with an average daytime  $L_{eq}$  of 55 dBA and an average nighttime  $L_{eq}$  of 43 dBA. Ambient ( $L_{90}$ ) noise levels ranged from 31 to 49 dBA during the daytime and 22 to 37 dBA during the nighttime, with an average daytime  $L_{90}$  of 42 dBA and an average nighttime  $L_{90}$  of 29 dBA. The CNEL at this location was calculated to be 55 dBA.

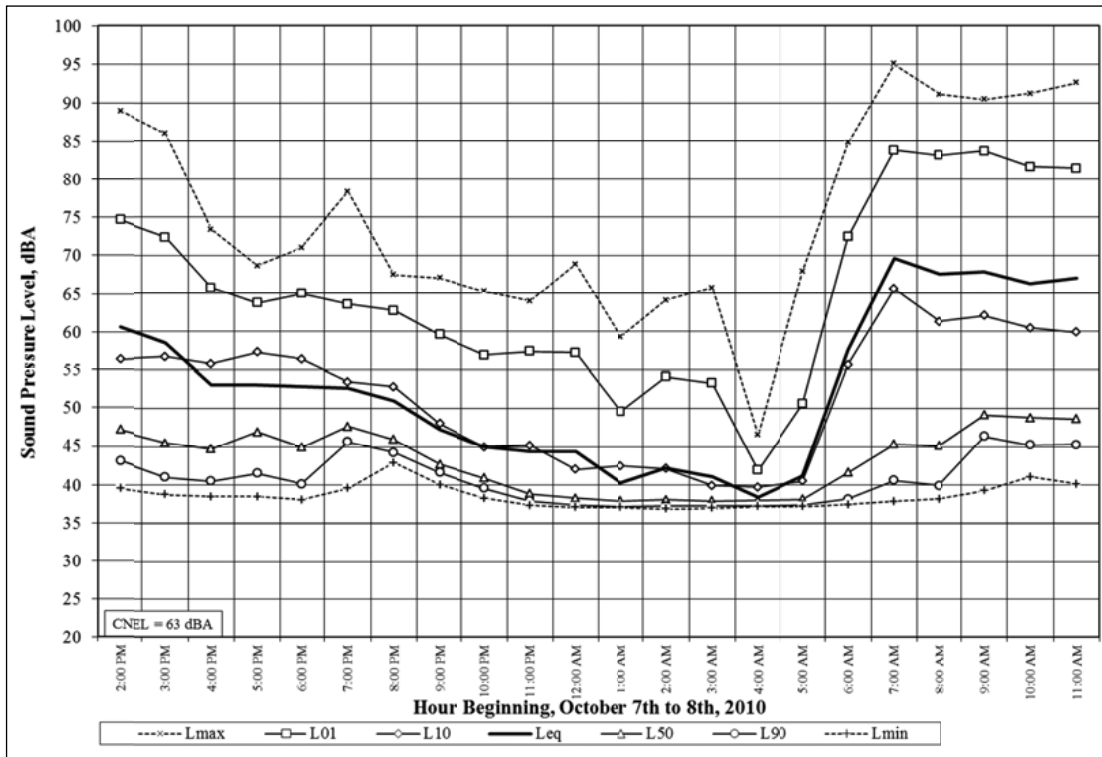
The third long-term sound level meter (LT-3) was positioned on a tree trunk at the rear fence line of the home at the corner of Rivercrest Drive and the Gravel mining access road (see Figure 4.10-2 for approximate location). The primary source of loud intermittent noise at this location was traffic on Sprowel Creek Road and trucks on the access road, however traffic on Highway 101 along with noise from gravel extraction and quarry operations were the primary contributors to average and background noise levels at this location. This measurement location represents the noise environment in the Rivercrest Drive, and other residential areas exposed to highway, gravel mining, and quarrying noise. The hourly trends in noise levels measured at location LT-3, including  $L_{eq}$ ,  $L_{max}$ ,  $L_{min}$ , and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as  $L_1$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ ), are shown in **Figure 4.12-4**.

A review of Figure 4.12-4 shows that the noise levels at measurement site LT-3 follow a modified diurnal pattern characteristic, with heightened daytime average and maximum noise levels and more constant background, ambient, noise levels, perhaps due to constant background traffic levels on Highway 101, and constant mechanical equipment noise at the gravel extraction facility. The daytime and nighttime average ( $L_{eq}$ ) noise levels measured at this site ranged from 47 to 70 dBA and 38 to 58 dBA, respectively, with an average daytime  $L_{eq}$  of 64 dBA and an average nighttime  $L_{eq}$  of 49 dBA. Ambient ( $L_{90}$ ) noise levels ranged from 40 to 46 dBA during the daytime and 37 to 40 dBA during the nighttime, with an average daytime  $L_{90}$  of 43 dBA and an average nighttime  $L_{90}$  of 38 dBA. The CNEL at this location was calculated to be 63 dBA.

### Short-Term Measurements

Short-term measurements were conducted in 10-minute intervals simultaneously with those at the long-term monitoring positions at locations representative of the ambient noise environments at other area noise-sensitive (residential) uses. Figure 4.12-2 shows the approximate location of these measurements. A summary of the data measured at the short term locations including the energy equivalent noise level ( $L_{eq}$ ) and the noise levels exceeded 01, 10, 50, and 90 percent of the time (indicated as  $L_1$ ,  $L_{10}$ ,  $L_{50}$  and  $L_{90}$ ) is shown in **Table 4.12-3** following.

Short-term measurement one (ST-1) was located in the residential area near the end of Camp Kimtu Road at about 50 feet from the centerline of Camp Kimtu Road. The primary noise source at this location was intermittent traffic, and bird chirps. The average noise level ( $L_{eq}$ ) measured at this location was 44 dBA. Based on comparisons of the simultaneous noise levels measured at this and at the long-term positions, the estimated CNEL at this measurement location was 46 dBA.



Measured hourly noise levels at LT-3

Figure 4.12-4

SOURCE: Illingworth & Rodkin, Inc., 2014

MEASURED HOURLY NOISE LEVELS AT LT-3

**TABLE 4.12-3 SHORT-TERM NOISE MEASUREMENT RESULTS**

Site	L <sub>01</sub> (dBA)	L <sub>10</sub> (dBA)	L <sub>eq</sub> (dBA)	L <sub>50</sub> (dBA)	L <sub>90</sub> (dBA)	Est. CNEL (dBA)
ST-1: Camp Kimtu	59	42	44	30	27	<b>46</b>
ST-2: Riverview Drive	75	63	60	41	37	<b>58</b>
ST-3: South Garberville	59	57	53	50	47	<b>59</b>
ST-4: Ridge above Hwy. 101	50	48	45	44	39	<b>55</b>
ST-5: Benbow Area	60	41	44	38	34	<b>51</b>

Source: Illingworth & Rodkin, 2014.

Short-term measurement two (ST-2) was made near the in the residential area of Garberville below Highway 101 and the Eel River at approximately 70 feet from the centerline of Sprowel Creek Road below the homes on Riverview Drive. The primary noise source at this location was traffic on Sprowel Creek Road and gravel mining operations. The average noise level (L<sub>eq</sub>) measured at this location was 60 dBA. Based on comparisons of the simultaneous noise levels measured at this and at the long-term positions, the estimated CNEL at this measurement location was 58 dBA.

Short-term measurement three (ST-3) was located east of Highway 101 on Knights Lane in the southern portion of Garberville. The primary noise source at this location was traffic on Redwood Drive, with more distant highway traffic contributing to the background noise environment. The average noise level (L<sub>eq</sub>) measured at this location was 52 dBA. Based on comparisons of the simultaneous noise levels measured at this and at the long-term positions, the estimated CNEL at this measurement location was 59 dBA.

Short-term measurement four (ST-4) was located on a fire road on the east side of and above Highway 101, with a clear view of highway traffic at 1300 feet. This location was judged to a similar exposure to Highway 101 traffic noise as the home on the ridge top west of the highway at the end of Mountain View Drive. The primary noise source at this location was Highway 101 traffic, with audible, but not measurable, intermittent noise from the gravel and quarry operations. The average noise level (L<sub>eq</sub>) measured at this location was 45 dBA. Based on comparisons of the simultaneous noise levels measured at this and at the long-term positions, the estimated CNEL at this measurement location was 55 dBA.

Short-term measurement five (ST-5) was located in the Benbow residential area south and east of the SHCP property, near home setbacks on Blue Rock Road. The primary noise source at this location was Highway 101 traffic, intermittent traffic on Blue Rock Road, bird chirps, and miscellaneous residential noises such as distant dog barks and lawn mowing. The average noise level (L<sub>eq</sub>) measured at this location was 44 dBA. Based on comparisons of the simultaneous noise levels measured at this and at the long-term positions, the estimated CNEL at this measurement location was 51 dBA.

## REGULATORY FRAMEWORK

Regulatory criteria that would be applicable to the proposed project would include guidelines, goals, policies, and standards established by the State of California and Humboldt County. The State CEQA Guidelines pose questions to assist decision-makers in assessing the potential for significant impacts resulting from planned projects. The current Humboldt County General Plan and the proposed Humboldt County General Plan update contain similar Noise and Land Use standards to establish quantifiable noise levels deemed acceptable for the proposed land use (see **Figure 4.12-5**).

The Noise Element of the proposed Humboldt County General Plan update also contains goals, policies, and standards that further refine how noise issues will be judged in the future, and are considered applicable for use at the subject project. These are as follows:

### Goals

N-G1. Excessive Noise. *A quiet and healthful environment with limited disagreeable noise.*

N-G2. Incompatible Land Uses. *Land uses arranged and managed to reduce annoyance and complaints and minimize the exposure of community residents to excessive noise.*

### Policies

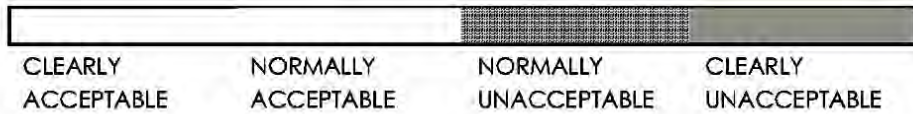
N-P1. Minimize Noise from Stationary and Mobile Sources. *Minimize stationary noise sources and noise emanating from temporary activities by applying appropriate standards for average and short-term noise levels during permit review and subsequent monitoring.*

N-P2. Guide to Land Use Planning. *Evaluate current noise levels and mitigate projected noise levels when making community planning and zoning decisions to minimize the exposure of community residents to nuisance noise levels. Minimize vehicular and aircraft noise exposure by planning land uses compatible with transportation corridors and airports, and applying noise attenuation designs and construction standards. Avoid zoning patterns that permit people to “move to the nuisance” unless mitigated through project conditions or recorded notice.*

### Standards

N-S1. Land Use/Noise Compatibility Matrix. *The Land Use/Noise Compatibility Standards (See Figure 4.12-5) shall be used as a guide to ensure compatibility of land uses. Development may occur in areas identified as “normally unacceptable” if mitigation measures can reduce indoor noise levels to “Maximum Interior Noise Levels” and outdoor noise levels to the maximum “Normally Acceptable” value for the given Land Use Category.*

N-S2. Noise Impact Combining Zones. *The 20-year projected noise contours in the Map Book Appendix and the most current Airport Land Use Compatibility Plans shall be used to identify noise impact combining zone areas to indicate where special sound insulation measures may apply.*



LAND USE INTERPRETATION FOR  
CNEL (or Ldn) VALUE

LAND USE CATEGORY	Maximum Interior Noise Levels*	CNEL (or Ldn) VALUE				
		50 - 60	61 - 70	71 - 80	81 - 90	91+
Residential Single Family, Duplex, Mobile Homes	45					
Residential Multiple Family, Dormitories, etc.	45					
Transient Lodging	45					
School Classrooms, Libraries, Churches	45					
Hospitals, Nursing Homes	45					
Auditoriums, Concert Halls, Music Shells	35					
Sports Arenas, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Rec., Cemeteries						
Office Buildings, Personal, Business & Professional	50					
Commercial: Retail, Movie Theaters, Restaurants	50					
Commercial: Wholesale, Some Retail, Ind., Mfg., Util.						
Manufacturing, Communications(Noise Sensitive)						
Livestock Farming, Animal Breeding						
Agriculture (except Livestock), Mining, Fishing						
Public Right-of-Way						
Extensive Natural Recreation Areas						

\*Due to exterior sources

(Source: Bolt, Beranek, and Newman, Inc., 1974)

**CLEARLY ACCEPTABLE:** The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference. (Residential areas: both indoor and outdoor noise environments are pleasant.)

**NORMALLY ACCEPTABLE:** The noise exposure is great enough to be of some concern, but common constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environment will be reasonably pleasant for recreation and play at the quiet end and will be tolerable at the noisy end.)

**NORMALLY UNACCEPTABLE:** The noise exposure is significantly more severe so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

**CLEARLY UNACCEPTABLE:** The noise exposure at the site is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

Figure 4.12-5

SOURCE: Illingworth & Rodkin, Inc., 2014

**COUNTY LAND USE/NOISE COMPATIBILITY MATRIX**

- N-S3. Environmental Review Process. For noise sensitive locations where noise contours do not exist, the environmental review process required by the California Environmental Quality Act shall be utilized to generate the required analysis and determine the appropriate mitigation per Plan and state standards. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.
- N-S4. Noise Study Requirements. When a discretionary project has the potential to generate noise levels in excess of Plan standards, a noise study together with acceptable plans to assure compliance with the standards shall be required. The noise study shall measure or model as appropriate, Community Noise Equivalent Level (CNEL) and Maximum Noise Level ( $L_{max}$ ) levels at property lines and, if feasible, receptor locations. Noise studies shall be prepared by qualified individuals using calibrated equipment under currently accepted professional standards and include an analysis of the characteristics of the project in relation to noise levels, all feasible mitigations, and projected noise impacts. The Noise Guidebook published by the U.S. Department of Housing and Urban Development, or its equivalent, shall be used to guide analysis and mitigation recommendations.
- N-S5. Uniform Building Code. Use the Uniform Building Code as adopted for California (California Code of Regulations, Title 24, Appendix Chapter 12) for determining required noise separation requirements for buildings.
- N-S6. Noise Standards for Habitable Rooms. Noise reduction shall be required as necessary to achieve a maximum of 45 CNEL (Community Noise Equivalent Level) interior noise levels in all habitable rooms per California building standards.
- N-S7. Noise Reduction Requirements for Exterior Areas in Residential Zones. On new single family residential lots of 5,000 square feet or more, a usable outdoor living area at least 200 square feet in size per dwelling unit that meets the 60 CNEL (Community Noise Equivalent Level) standard shall be maintained somewhere on the property.
- N-S8. Short-term Noise Performance Standards Maximum Noise Level ( $L_{max}$ ). The following noise standards (see **Table 4.12-4**), unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones.

**TABLE 4.12-4 HUMBOLDT COUNTY SHORT-TERM NOISE STANDARDS ( $L_{max}$ )**

Zoning Designation	Day	Night
	6:00 AM to 10:00 PM $L_{max}$ , dBA	10:00 PM to 6:00 AM $L_{max}$ , dBA
MG, MC, AE, TPZ, TC	85	75
CS, AG, CN, MB, ML, RRA, CG, CR	80	70
RM	70	60
RS, R2	65	60

Source: Humboldt County General Plan, Planning Commission Approved Draft, 2012.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels;
- For a project within the vicinity of a private airstrip, if the project would expose people residing or working in the project area to excessive noise levels.

CEQA does not define what noise level increase would be considered substantial. Typically in high noise environmental (i.e., greater than 60 dBA,  $L_{dn}$ ), an increase by more than 3 dBA  $L_{dn}$  due to the project would be considered a significant impact. Where the existing noise levels are lower (i.e., less than 60 dBA,  $L_{dn}$ ), a greater than 5 dBA  $L_{dn}$  increase, would be considered a significant impact.

### PROJECT DESCRIPTION

SHCP proposes to rezone four areas (Areas 1, 2, 4, and 5) of the project site as Public Facilities (PF) with a land use designation of Public Recreation (PR). These areas are shown in Figure 3-3 in Chapter 3. Within these rezoned areas there would be three designated outdoor performance areas with corresponding temporary stage locations and four sports fields. Detailed views of the Public Facilities-zoned areas are shown in Figures 3-4, 3-5, 3-7, and 3-8 in Chapter 3.

### Festival/Large Event

The park would host an annual festival-sized event. Attendance would range from 2,500 to 5,000 persons. The event would occur once per year and be no longer than two days. The event would be a two-day family-friendly event that features a unique blending of local and regional musicians on three outdoor stages, roving entertainers, quality artisans displaying and selling wares, exhibits of fine arts displays, international cuisine, and on-site educational workshops. The attendance fluctuates over the course of the day and the total number of attendees on the site at any one time would be less than the one day total. Actual attendees would cap at 4,000, with an additional 1,000 staff, vendors, and entertainers on-site. Attendees would be encouraged to park in street side



parking spaces available in the towns of Redway and Garberville and to ride shuttle buses, a system that has been successfully utilized by the Mateel Community Center's Summer Arts and Music Festival for decades. The event would have the same (or lesser) parking needs as the Summer Arts and Music Festival. Street parking in Redway and Garberville is well-proven to be adequate for off-site parking for an event of this size. On-site parking would occur and will be limited to 500 attendee vehicles. This event would be included in the proposed Conditional Use Permit.

### **Medium Events (Seasonal, Up to Five per Year)**

This type of event often features multiple performers and performances by well-known groups or individuals that would likely attract more attendees. These events could cover a wide-range of musical genres, theater, dance performances, and concerts. These events would take place in the Community Commons Area (Area 4). Attendance would be between 800 to 2,500 people daily in addition to staff and vendors. Not more than five of these sized events would occur per year. Parking would occur on-site.

### **Small Events**

The following small events (attendance under 800) would occur under the project and would be considered within the number of visitors allowed at the park on a daily basis:

- **Birthday parties and informal gatherings.** With attendance typically ranging from 10 to 50 people, Tooby Memorial Park (Area 1) and the large barn in the Park Headquarters (Area 2) have been favorite gathering places for family birthday parties, BBQ's, and similar events. Tooby Memorial Park has served as a location for these types of events for more than four decades. These types of gatherings often have amplified music such as radios or portable personal music players. These events typically end at sunset. This type of activity would continue with the proposed project, with no limit on the number of these types of events annually.
- **Weddings and memorials.** Many weddings and memorial services for community members have taken place at the Park. These events would continue in Tooby Memorial Park (Area 1), the Park Headquarters (Area 2), Community Commons Area (Area 4), and the Labyrinth in the Main Agricultural Area (Area 3). Weddings could include low-key amplified music such as one musical group or a DJ utilizing a small public address amplification system at 65db or less. These events would typically end at sunset but a few each year may continue until midnight. Attendance would be 500 people or less and would be within the daily visitor allowance at the Park.
- **Small fundraisers and events.** Many local nonprofit organizations and park user groups have used the park for fundraising activities. A few examples include the Hospice Barnyard Brew, the Egg Hunt, the Walk in the Park (fundraiser for the local schools and the Park) and mountain bike races. These are well attended events that bring a wide range of community members and interests groups together at the community park. Most of these events include a variety of types of amplified music including prerecorded and live performances. Small events with amplification could also take place at Tooby Memorial Park (Area 1), the Park Headquarters (Area 2), and the Community Commons Area and the Wedding Grove (Area 4) due to their size and setting. The sound level produced during such a medium event would be

71 dBA at 500 feet from the performance areas. These events would typically end at sunset but a few each year may continue until midnight with a maximum attendance of 800 people and are within the number of daily visitors allowed at the park.

Small events would be considered an allowable public assembly use and would not require a special conditional use permit or be limited in the number of events. These types of events would be allowed to occur all year. They would occur seasonally, most often during late-spring, summer, and early fall months. The majority of these small events would occur between sunrise and sunset, with a few events each year going to midnight.

### **Sports Fields**

Area 5 (Figure 3-8) is proposed to become the location for multiple community recreational facilities. This area would include 10 acres of fenced ball fields, including a multiuse soccer/football field (70,000 square feet), 1 soccer field (45,000 square feet), 1 standard size (high school) baseball field/multi-purpose (130,000 square feet), a multi-purpose field (80,000 square feet) for softball, baseball, and soccer. The sports fields would be used for local practices and games, for tournaments with multiple teams, and would include bleachers and benches, concession stands, and other associated structures. Area 5 would also include a 12,000-square-foot multi-purpose building, with gymnasium, administrative offices, and storage uses.

### **PROJECT-GENERATED NOISE LEVELS**

To evaluate the effects of noise from outdoor music and sports events in the proposed public facilities area at surrounding noise-sensitive (residential) uses (shown in Figure 4.12-1), this analysis first establishes expected noise levels from these activities at typical distances, and then determines the noise levels for these activities through acoustical propagation and attenuation calculations, at the adjacent noise residential uses.

### **Expected Noise Levels**

#### *Outdoor Event Noise*

The proposed Public Facility Areas would include three performance areas where temporary stages would be set up for music and other sound generating events. The proposed uses of the three performance areas, which may involve amplified music, are as follows:

1. The Main stage in the northern portion of Area 4A (see Figure 3-7) would typically be used for as the main stage areas during the annual festival. Large, concert style, amplified music events and associated audiences are expected at this location.
2. The Secondary stage in Area 4A (see Figure 3-7) would be used as a secondary event area during the proposed annual festival, with a smaller stage, and smaller audiences than at the northernmost stage. This area may also be used independently for medium or small events for a wide-range of musical genres, theater, dance performances, concerts and performances when a larger Area 4A venue is not needed.

3. The Southern Stage in Area 4A (see Figure 3-7), in the Wedding Grove area, would be used for weddings with amplified music and other small and medium sized events such as memorials and fundraisers where amplified music is proposed.
4. The Western stage in Area 2 near the existing Main Barn (see Figure 3-5) would also be used for weddings and small to medium sized events such as memorials and fundraisers with amplified music.

To assess the noise produced by these event music and other events at these performance areas, average ( $L_{eq}$ ) and maximum ( $L_{max}$ ) noise levels at a standard distance of 100 feet were assigned for different types of amplified voice and music performances, which may occur based on data measured at other outdoor amplified voice and music events (see **Table 4.12-5**).

**TABLE 4.12-5 TYPICAL NOISE SOURCE LEVELS AT 100 FEET FOR PERFORMANCE AREAS EVENTS**

Source Type	Noise Source Description	Average $L_{eq}$ (dBA)	Maximum $L_{max}$ (dBA)
1	Loud music concerts with full (rock type) amplification.	98	105
2	Moderate size concerts – medium amplification or loud acoustic bands.	85	90
3	Typical small (non-concert) venue live amplified band	78	85
4	Amplified pre-recorded dance music	72	78
5	Amplified background music for weddings, etc.	66	73
6	Amplified speech	64	69
7	Non-amplified background music for weddings, etc.	61	68

Source: Illingworth & Rodkin, 2014.

As discussed previously, the park proposes to conduct one large annual event involving amplified music, up to five medium events involving amplified music, and an undefined number of small events, which may also involve amplified music. The annual large event may include amplified music at each of the three designated performance areas, with the possibility that performances on these stages may occur simultaneously. To analyze large event noise under worst-case conditions, the following conditions were assumed:

- A Type 1 noise source (rock type concert with full amplification) at the main stage in Area 4A, and Type 2 noise sources (music with moderate amplification, or horn dominant acoustic bands) would occur at the secondary stage and southern stages in Area 4A simultaneously with the Type 1 source at the main stage in Area 4A.
- A large annual event which takes place over 14 hours in a single day (9 daytime, 3 evening, and 2 nighttime hours).
- Simultaneous Type 1 and Type 2 sources which occur for up to 3 daytime, 1 evening, and 1 nighttime hours; and
- Type 2 sources which occur independent of the Type 1 source for an additional 3 daytime and 1 evening hours.

Acoustical calculations based on this noise scenario indicate that the maximum ( $L_{\max}$ ) noise level produced during such a large annual events would be 91 dBA at 500 feet from the performance area, and result in a CNEL of 87 dBA.

Medium events with amplification could take place at all stages in Area 4A (main, secondary and southern stages) or at the western stage in Area 2, with Type 2 noise sources (music with moderate amplification, or horn dominant acoustic bands), as a worst-case (conservative) noise condition for these events. To analyze medium event noise under worst-case conditions, an event which takes place over 8 hours from late afternoon to nighttime (4:00 PM to midnight) with two simultaneous Type 2 noise sources occurring for up to 3 daytime, 1 evening, and 1 nighttime hour was assumed. Acoustical calculations based on this noise scenario indicate that the maximum ( $L_{\max}$ ) noise level produced during such a medium event would be 79 dBA at 500 feet from the performance area, and result in a CNEL of 67 dBA.

Small events with amplification could also take place at any of the performance areas individually, though they are most likely to occur at the southern stage in Area 4A, the Wedding Grove, or at the western stage in Area 2, the Barnyard Area, due to their size and setting. The worst-case noise condition for small events is judged to be Type 3 noise sources (small (non-concert) venue, live amplified bands). To analyze small event noise under worst-case conditions, an event that takes place over 4 hours from late afternoon to evening (6:00 PM to 10:00 PM) with a Type 3 noise source occurring for the event duration was assumed. Acoustical calculations based on this noise scenario indicate that the maximum ( $L_{\max}$ ) noise level produced during such a medium event would be 71 dBA at 500 feet from the performance areas, and result in a CNEL of 60 dBA.

#### *Sport Field Noise*

Based on noise measurements conducted for field sports, such as football, baseball and soccer, during practices, normal games, and special events such as playoff games and all-star competitions, a range of noise levels can be generated, depending upon the number of participants and spectators. However, noise levels from players and spectators are typically at or below 61 dBA at 100 feet from the center of the playfield, with occasional shouts at or below 72 dBA and referee whistles at between 76 to 78 dBA. Noise measurements of Public Address (PA) systems for recreational field sports also show that a typical PA system use can produce sound levels of between 74 to 81 dBA at 100 feet from the center of the playfield, with an overall average level of 76 dBA at this distance. For a worst-case scenario with constant daytime use between 8:00 AM and 4:00 PM (8 hours) the CNEL at 100 feet from the center of the playfield would be 64 dBA.

### **Distances and Sound Attenuation to Adjacent Residential Areas**

The final step in estimating the project noise levels is assessing the propagation of sound from the source to the sensitive receptors in the project area. To do this, it is necessary to assume some rate of sound attenuation between these two locations. Typically, the most dominant physical effect is due to the spreading out of sound waves with distance. Sound from localized sources, such as the performance areas and sports fields, spreads out as it travels away from the source with the sound level (acoustic energy) dropping off with distance according fundamental geometric relationships. This type of sound loss occurs independent of the barrier or terrain losses. Sound sources may be treated as a "point source" when the distance from the source to the receiver is large compared to the dimension of the source. For the size to distance relationships present for

this project, it can be assumed that sound from the performance areas and sports fields at the adjacent residences can be considered as a point source. With point sources sound levels are reduced with distance in accordance with the “inverse square law,” which yields a 6 dB sound level reduction for each doubling of the distance<sup>1</sup> from the source.

Figure 4.12-1 shows the eight residential areas that have been selected for study as representative of those affected by project generated noise. From closest to furthest from the proposed Public Facilities area, these are:

1. Homes on Rivercrest Drive opposite the Eel River from the park,
2. Homes at the end of Mountain View Drive at the top of the ridge south of the park,
3. Homes on the bluff above the Eel River near the Garberville Airport,
4. Homes at the southern edge of Garberville, east of Highway 101,
5. Homes on Riverview Lane west of Highway 101,
6. Homes in the Benbow Area south of the Park and east of Highway 101,
7. Homes off of Camp Kimtu Road west of the Park, and
8. Homes on hillsides and ridges off of Old Briceland Road west of the park.

Based on distance information obtained via Goggle Earth, these residential areas are between 1,500 and 7,200 feet from the performance areas in the proposed Public Facilities areas. Calculations considering distance attenuation alone indicate that the source levels reported above at 100 feet would attenuate by between 23 to 44 dBA at the distances that occur between project uses and the eight studied residential areas.

Other effects that modify this acoustical fall-off rate are barrier-type attenuation from intervening terrain, atmospheric attenuation of sound, and ground and forest sound absorption. Using the proposed locations of the stage areas and the sports fields and receiver locations as shown in Figure 4.12-1 and Figures 3-4, 3-5, 3-7 and 3-8, in conjunction with topographical information obtained via Goggle Earth, cross-sections have been developed to determine the direct line of sight from points 5 feet above ground level at the center of the main stage area (where large, concert style, amplified music are expected) to a point 5 feet above ground level at the closest portion of the identified receiver areas. This analysis was used to determine the path length difference between the path that sound actually travels over between the sources and the receivers (i.e., the diffracted path) and the line-of sight path from the source areas to the receivers. A graphical representation of the line of sight analysis is shown in Charts S1 through S8 in Appendix D.

From this barrier effect analysis, along with a conservative factor of a 1.5 dBA sound loss for each 100 feet of medium-dense woods through which sound would travel from source to receiver, the sound loss due to intervening terrain between the performance areas and residential areas 1 through 8 (as given above) has been calculated to range from zero where a direct line of sight to the main stage can be found, such as at the airport bluff and Riverview Lane homes to the theoretical (and practical) maximum 24 dBA for terrain losses and foliage absorption, where there is significant terrain shielding.

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<sup>1</sup> Mathematically expressed as  $L_{rec} = L_{source} - 20 \times \log(D_{rec}/D_{source})$ .

### Project-Generated Noise Levels at Adjacent Residences

Using the results of distance attenuation and terrain loss calculations, and considering the source levels for the proposed Public Facilities events, the expected maximum noise levels during events were calculated and the resulting CNEL was identified for days on which an event occurs at the adjacent eight identified noise-sensitive (residential) areas. **Table 4.12-6** shows the results of this analysis.

**TABLE 4.12-6 CALCULATED NOISE LEVELS AT THE ADJACENT NOISE-SENSITIVE USES**

Noise-Sensitive Areas	Existing CNEL (dBA)	Event Noise Conditions (dBA)							
		Large Event (main stage)		Medium Events (closest stage)		Small Events (closest stage)		Sport Fields	
		CNEL	L <sub>max</sub>	CNEL	L <sub>max</sub>	CNEL	L <sub>max</sub>	CNEL	L <sub>max</sub>
1. Rivercrest Dr. Homes	63	67 <sup>a</sup>	71 <sup>c</sup>	52	61 <sup>c</sup>	45	56	34	51
2. Mtn. View Dr. Home	55	49	53	29	38	22	33	>20	29
3. Airport Bluff Homes	55	69 <sup>a,b</sup>	73 <sup>c</sup>	51	60	44	55	33	50
4. South Garberville Homes	59	45	49	26	35	>20	30	>20	26
5. Riverview Lane Homes	58	65 <sup>a,b</sup>	69 <sup>c</sup>	47	56	40	51	30	47
6. Benbow Area Homes	51	41	45	21	30	>20	25	>20	21
7. Camp Kimtu Homes	46	40	44	20	29	>20	24	>20	20
8. Old Briceland Rd Homes	48	60 <sup>b</sup>	64 <sup>c</sup>	41	50	34	45	23	40

<sup>a</sup> Event exceeds the County land use compatibility standard of 60 dBA CNEL.

<sup>b</sup> CNEL of event is 5 dBA or more above existing CNEL level.

<sup>c</sup> Level exceeds the County daytime and/or nighttime short-term noise standards (65 and 60 dBA, respectively).

Source: Illingworth & Rodkin, 2014.

### LESS-THAN-SIGNIFICANT IMPACTS

This analysis finds that the proposed project would have no or less-than-significant impacts related to the following:

- *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.* Implementation of the project may result in the generation of high airborne sound levels due to the use of music amplification systems; however, such systems are not a significant source of groundborne vibration. Thus, the project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- *Exposure of people residing or working in the project area to excessive noise levels due to airport-related activities.* The Garberville Airport is less than 1 mile from the project. However due to the low use of the facility, it's orientation such that flight paths to and from the airport are not expected to cross the site, and the fact that the project does involve new residential

uses of the site, aircraft operations are not judged to result in a noise impact on the project site.

- *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.* Traffic data provided by W-Trans was reviewed to calculate potential project-related traffic noise level increases along roadway serving the project site. Traffic noise level increases due to the proposed project under future conditions with the project are calculated to increase by 0 to 1 dBA Ldn above existing levels on the roadway serving the project site. Because traffic noise increases resulting from the proposed project would increase ambient noise levels by less than 3 dBA Ldn, this is considered a less-than-significant impact.

## POTENTIALLY SIGNIFICANT IMPACTS

**Impact NOISE-1: Concerts involving full (rock type) amplification during the large annual event, and medium-sized events with concerts involving medium amplification or loud acoustic bands in the Barnyard area, may exceed the County's short-term ( $L_{max}$ ) land use and noise compatibility (CNEL) standards and increase ambient CNEL levels by 5 dBA or greater at some adjacent noise-sensitive (residential) receptors. (PS)**

A review of Table 4.12-6 indicates that maximum noise levels ( $L_{max}$ ) produced by a large event may exceed the daytime County short-term noise standards for residential uses (see Table 4.12-4) at the homes in the Rivercrest Drive and Airport Bluff areas and the nighttime County short-term noise standards at homes in the Riverview Lane area as well. Calculations also show that maximum noise levels ( $L_{max}$ ) produced by medium events at the western stage may exceed short-term noise standards for residential uses at the homes in the Rivercrest Drive area. Additionally, CNEL noise levels for a large event may also exceed ambient CNEL levels by 5 dBA or more at homes in the Airport Bluff, Riverview Lane, and Old Briceland Road areas and exceed the County land use compatibility standard of 60 dBA CNEL at homes in the Rivercrest Drive, Airport Bluff and Riverview Lane areas. With the exception of events at the western stage, medium-sized events in all areas are not expected to exceed County standards in the surrounding residential areas. Small and sport field events are also not expected to exceed County standards in any of the surrounding residential areas.

*Mitigation Measure NOISE-1a: A dispersed (satellite speaker) sound system around the stage and audience area of large amplified music events at the main stage in Area 4A and medium-sized music events at the western stage in Area 2 shall be used to lower point-source sound levels from that of a stage only speaker system. Sound levels needed to produce acceptable sound coverage of an audience with such a system are typically lower than those using stage-mounted speakers.*

*Mitigation Measure NOISE-1b: The following sound level limits shall be employed for all outdoor events involving speech or voice/music amplification at the park:*

1. *Any outdoor speech or voice/music amplification at the main, secondary or southern stage areas in Area 4A after 10:00 PM shall be limited to a maximum noise level of 90 dBA at 100 feet from the sound source.*

2. *Any outdoor speech or voice/music amplification at the western stage in Area 2 after 10:00 PM shall be limited to a maximum noise level of 85 dBA at 100 feet from the sound source.*
3. *Daytime outdoor speech or voice/music amplification at the main, secondary or southern stage areas in Area 4A shall be limited to a maximum noise level of 95 dBA at 100 feet from the sound source; and*
4. *Daytime outdoor speech or voice/music amplification at the western stage in Area 2 shall be limited to a maximum noise level of 90 dBA at 100 feet from the sound source.*

*Mitigation Measure NOISE-1c: A Noise Management Plan, including the following provisions, shall be developed and implemented for use at the large- and medium-sized events that may generate noise levels in excess of the limits in the Humboldt County General Plan:*

1. *The Noise Management Plan shall establish a position at which maximum event noise levels may be verified noise to show compliance with Mitigation Measure NOISE-1b;*
2. *Park staff shall obtain and be trained in the use of a sound level meter so as to capable of determining compliance with noise limits;*
3. *A member of the park's Board of Directors or management staff shall be designated as a complaint response coordinator and shall be responsible for responding to any local complaints about event-related noise;*
4. *If noise complaints are received during any event, noise shall be monitored during the next (subsequent) event at the residence from which noise complaints were received, and appropriate measures identified to reduce the impact to a less-than-significant level; and*
5. *Records of noise complaints shall be filed with the Humboldt County Planning Department at least once per year and included in any required annual report reviewed by the Planning Commission.*

*Mitigation Measure NOISE-1d: The project shall be subject to the following annual reporting and review requirements:*

1. *By December 31 of each year a medium-sized or large-sized event is held, the applicant shall prepare and submit 15 copies of a post-event report discussing that year's concert. Verification of attendance levels shall be discussed.*
2. *The report shall focus on assessing the effectiveness of the plan of operation, mitigation measures, and monitoring program. The report shall also contain written correspondence from agencies participating in monitoring and/or affected by the event (i.e., Planning Department, Division of Environmental Health, Sheriff's Office, and Public Works).*
3. *Responses to all concerns and issues identified in the report shall be provided and appropriate measures to be undertaken at the following year's event identified as needed. The annual report shall include sufficient data to assess the effectiveness of all required mitigation measures in relation to the total daily attendance and noise.*



4. *The Humboldt County Planning Commission shall review the post-event report within 120 days of receiving the report. The total attendance levels for medium- and large-sized events shall be determined by the Planning Commission on an annual basis after review and approval of the annual report. The allowed attendance levels for medium-sized events shall range from a low of 800 to a maximum of 2,500 persons total. A large-sized event ranging from 2,500 to 4,000 attendees is not allowed until the Planning Commission has reviewed and approved two consecutive annual reports for medium-sized events with attendance levels of at least 1,800 persons. In consultation with the reviewing agencies, the Planning Commission may waive the annual reporting requirements for medium- and large-sized events for up to 5 years should the applicant demonstrate the use has been conducted in conformance with all the required mitigation, and no changes in attendance levels or mitigation measures are proposed.*
5. *To address area concerns that may arise, the applicant shall hold a minimum of one community meeting in the vicinity of the site within 90 days of each large-sized event. This requirement may be waived by the Humboldt County Planning Director in consultation with the reviewing agencies if no significant community issues have been reported during that year's large-sized event.*

*The combination of the measures above would reduce this impact to a less-than-significant level. (LTS)*

Implementation of the above mitigation measures would reduce the noise levels produced by outdoor events at the park to meet the County's short-term ( $L_{max}$ ) and land use and noise compatibility (CNEL) standards at noise-sensitive (residential) areas in the park vicinity. Based on comparisons of the maximum noise levels due amplified music and ambient noise levels at the noise-sensitive receivers (which are generally quite low), noise levels during these events may be audible (though not above County standards) in many of the surrounding residential areas. The recommended mitigation measures would reduce the noise impact to a less-than-significant level, however.

**Impact NOISE-2: Project construction could result in a substantial temporary increase in noise. (PS)**

Noise-generating construction activities associated with the proposed project facilities are anticipated to result in noise levels that exceed 60 dBA  $L_{eq}$  and be at least 5 dBA  $L_{eq}$  above the ambient noise environment at adjacent noise-sensitive land uses on a temporary basis. Noise generated by construction activities would temporarily elevate noise levels at adjacent noise-sensitive receptors.

The project also includes water infrastructure improvements, which would include the installation of new water lines and water tanks. Waterlines would be installed along the southern side of the existing service road from Area 3 – Main Agricultural Area to Area 5 – Sports Facilities Area, and along the existing service road and trails in Community Commons – Area 4. Waterlines would be installed with a trencher. Pipe would be placed at a depth of 12 to 18 inches with a 6-inch width. All soil removed during trenching would be returned to the trench. The installation of each line is expected to take 2 days and require two truck trips to deliver and return the trenching equipment. Three small water tanks would be installed in Areas 4 and one tank would be installed in Area 5. The capacity of each tank would be 500 gallons. The installation of all four tanks is expected to

take one working day and require one pickup truck trip for materials and two vehicles for workers. Construction activities associated with the water infrastructure improvements are not anticipated to result in noise levels that exceed 60 dBA  $L_{eq}$  and be at least 5 dBA  $L_{eq}$  at adjacent noise-sensitive receptors.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours); when the construction occurs in areas immediately adjoining noise-sensitive land uses; or when construction lasts over extended periods of time.

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. The highest maximum noise levels generated by project construction would typically range from about 90 to 95 dBA  $L_{max}$  at a distance of 50 feet from the noise source. Typical hourly average construction-generated noise levels are about 81 to 88 dBA  $L_{eq}$ , measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., during use of earth-moving equipment, impact tools, etc.). Hourly average noise levels generated by the construction of hotel would range from about 65 to 88 dBA  $L_{eq}$ , measured at a distance of 50 feet, depending upon the amount of activity at the site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often result in lower construction noise levels at distant receptors.

*Mitigation Measure NOISE-2: The following best management practices shall be incorporated into the project:*

- *Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours of 7:00 AM to 5:00 PM, Monday through Friday, and to the hours of 10:00 AM to 5:00 PM, Saturday and Sunday.*
- *Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.*
- *Strictly prohibit unnecessary idling of internal combustion engines.*
- *Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses. Temporary noise barriers could reduce construction noise levels by 5 dBA.*
- *Use "quiet" air compressors and other stationary noise sources where technology exists.*
- *Route all construction traffic to and from the project site via designated truck routes, where possible. Prohibit construction-related heavy truck traffic in residential areas, where feasible.*
- *Designate a "disturbance coordinator," who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall*

*require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.*

*With the incorporation of these practices, the noise impact resulting from project construction would be reduced to a less-than-significant level. (LTS)*

## **CUMULATIVE IMPACTS**

Noise levels in the project area would increase as a result of cumulative growth planned in and around the project site. This cumulative growth in the project vicinity would generally be located away from the project site, with any noise produced by such growth localized to these distant sites. The only future growth in the project vicinity with potential influences on cumulative noise levels in the site vicinity appear to involve continued gravel extraction and mining operations along the on gravel bars upstream of the project site and the new Garberville Sanitary District (GSD) Drinking Water Improvement Project which would include a water intake, pipelines, and a water treatment plant at the northern and eastern sides of the project site away from identified noise-sensitive receptors. Noise resulting from the gravel the continuation of gravel mining is expected to be similar to that resulting from current operations at noise-sensitive receptors in the project vicinity, and the future operation of the GSD water treatment facilities is not expected to produce any significant noise at noise-sensitive receptors in the project vicinity. Based on these considerations, significant cumulative noise impacts are not anticipated in the project site vicinity.

## **REFERENCES**

Humboldt County Community Development Services, 1984. *Humboldt County General Plan, Volume 1, Framework Plan*, Section 3240 Noise.

Humboldt County Community Development Services, 2012. *Humboldt County General Plan, Planning Commission Approved Draft*, March 19.



## **4.13 POPULATION AND HOUSING**

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### **INTRODUCTION**

This section reviews existing population and housing conditions in the project site vicinity and in Humboldt County as a whole, and the potential effects of the project on these conditions.

### **ENVIRONMENTAL SETTING**

This subsection presents the available data on population characteristics and demographics. The affected environment for population and housing reflects the existing population and housing conditions within the area of analysis.

This subsection presents demographic and housing information from the 2000 U.S. Census. While more recent data is available for many locales, the 2000 Census dataset remains the most comprehensive data available at the community level for all cities in the area of analysis. More recent data, including the 2010 U.S. Census, where available, are included in the discussion.

### **POPULATION TRENDS**

The following discussion reviews population trends in Humboldt County as a whole and in the Garberville area.

#### **Existing Countywide Population**

The total population in Humboldt County was documented at 126,518 according to the 2000 U.S. Census. The population as of January 1, 2010 is estimated at 133,400, an increase of almost 6,900 persons over the ten-year timeframe. Humboldt County's population growth rate increased in the late 1980s and early 1990s and has since returned to a level more consistent with historic growth rates over the past 20 years. Between 1985 and 1990, the County grew by about 8,000 people (7.3 percent), representing an average annual increase of 1.4 percent.

#### **Projected Countywide Population**

The current annual growth rate is about 0.7 percent. California Department of Finance projections indicate an anticipated average annual growth of 0.58 percent over the next 20 years, which is lower than the current rate and also lower than the 0.83 percent annual growth experienced in the past 20 years.

These trends indicate that the population will increase by an average of approximately 765 people per year over the next 20 years. Assuming the current trends remain stable and the average household size remains at 2.38 persons, about 15,000 more people will live in Humboldt County in 2030 than in 2007. This increase would require about 6,300 additional housing units countywide.

The unincorporated County share of this total housing need is expected to be 54 percent, or about 3,400 units.

### Population in the Garberville Area

The Department of Finance provides population projections for counties within the state of California. It does not provide projections for cities or Census Designated Places (CDPs) within the counties. Population increases in the Garberville CDP are considered at the same level of projected population increase as for the County of Humboldt. The unincorporated towns of Garberville and Redway continue to function as the economic sub-center for the Southern Humboldt region, accommodating mostly the day-to-day service needs. The Southern Humboldt area has a high percentage of rural landowners living outside of the towns but served by the towns. Census data provided in this document can be interpreted as a generalized local geographic trend rather than specific data for the town of Garberville alone.

Table 4.13-1 shows past population trends in the Southern Humboldt Region/Garberville CDP compared to the county as a whole, and Table 4.13-2 shows projected population growth for the area.

**TABLE 4.13-1 POPULATION IN HUMBOLDT COUNTY AND GARBERVILLE CENSUS DESIGNATED PLACE (CDP), 1990-2010**

Year	Humboldt County Population	Garberville CDP Population
1990	119,118	12,168
2000	126,518	12,194
2010	128,347	13,018

**TABLE 4.13-2 PROJECTED POPULATION GROWTH IN GARBERVILLE CENSUS DESIGNATED PLACE (CDP), 2010-2030**

Year	Garberville CDP Population	Percent Change
2010	13,018	+0.58
2015	13,399	+0.58
2020	13,793	+0.58
2025	14,197	+0.58
2030	14,614	+0.58

## HOUSING TRENDS

### Countywide Trends

According to California Department of Finance population and housing data, countywide in 1990 there were approximately 46,420 occupied housing units with an average of 2.49 persons per household and a 9.22 percent housing vacancy rate. By 2000, there were approximately 51,646 occupied housing units with an average of 2.41 persons per household and a 9.33 percent housing vacancy rate.

### **Trends in Southern Humboldt/Garberville CDP**

According to the 2000 U.S. Census, the Southern Humboldt/Garberville CDP had a total population of 12,194 with 3,763 (inside urban clusters) and a rural population of 8,431. The land area included in the census was 851.1 square miles.

The housing inventory consisted of 6,016 homes with 4,916 occupied (3,026 owner occupied and 1,890 renter occupied). This leaves 1,100 homes unoccupied, equating to an 18.28 percent vacancy rate. This is higher than the Humboldt County vacancy rate of 8.4 percent. Slightly less than 30 percent of housing units are single-family housing units.

The 851.1-square-mile land area had a housing density of seven houses or units per square mile, which is very low compared to statewide averages.

### **OTHER DEMOGRAPHIC TRENDS**

There is a lack of affordable housing in the Garberville area, which contributes to an elevated homelessness rate. Estimated median home value was \$296,007 in 2009 (it was \$129,500 in 2000) compared to the state median price of \$384,200. The estimated median monthly home rental cost in Garberville was \$828 in 2009.

Barriers to developing affordable housing in Garberville include permitting constraints, lack of land properly zoned for low-income housing, and development codes that discourage mixed-use development, among others.

Existing demand for housing in Humboldt County is highest among low-income people. Only 43 percent of the projected new housing needs for the period between 2001 and 2006 were met by housing construction for people with very low incomes, and 74 percent of the needs were met for people with low incomes.

Humboldt County has fallen behind on meeting affordable housing needs. Nearly 30 percent of people living in the County cannot afford to buy a house, and rental costs keep rising. Young families, seniors, and most of the county's workforce need more affordable housing options, whether they want to buy or rent a home.

Nearly 40 percent of all households in the county spend 25 percent or more of gross income on housing. Varying by region, between 15 and 60 percent of renter households spend over 50 percent of income on housing, and between 6 and 24 percent of owner-occupied households spend over 50 percent of income on housing.

Estimates of total homeless persons in Humboldt County throughout the course of 1 year range from 4,000 to 6,000. It has been estimated that, at any point in time, there are between 800 and 1,100 homeless persons in the county, and the number is generally higher during summer months than during winter months.

The data also indicate an aging population, where older persons represent an increasing percentage of the populace. The number of people over the age of 65 is expected to double from about 17,000 to 35,000 by the year 2025.

## EXISTING PROJECT SITE CONDITIONS

There are currently four residential units on the project site. These existing structures consist of a large ranch/farm house serving as a caretaker's unit, a one-bedroom cabin, a two-bedroom bunk house in the Park Headquarters, and a small mobile home/caretaker's unit in Tooby Memorial Park. These residential units are used for housing caretakers and farm workers or are rented. (See Chapter 3, Project Description, of this EIR.)

## REGULATORY FRAMEWORK

There are no federal, state, or local regulations that are relevant to the project's potential population and housing impacts as defined by the significance criteria in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (see "Significance Criteria" under "Environmental Impacts and Mitigation Measures" below). Please refer to Section 4.10, Land Use and Planning, of this EIR for discussion of the project's impacts on land use and land use planning policies.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant population or housing impact if it would:

- Induce substantial population growth in the area, either directly (by proposing new homes and businesses) or indirectly (through the extension of roads or other infrastructure);
- Displace substantial numbers of existing housing; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

### LESS-THAN-SIGNIFICANT IMPACTS

#### Inducement of Population Growth

The project would not induce substantial population growth in the area, either directly (by proposing new homes and businesses) or indirectly (through the extension of roads or other infrastructure). The impact would be less than significant, and no mitigation is necessary. Reasons for this conclusion are discussed below.

#### *Impact of Project Employees on Population Growth*

The project would include an estimated four additional employees. This number of new employees would have a negligible impact on population growth. If the employees moved with their families to the area from elsewhere, they would create a very small increase in the local population. It is



possible that the employees would be people who already live in the area, however, in which case they would have no impact on population growth.

#### *Community Facilities as Incentive for Population Growth*

The project plans include improvements to community facility infrastructure. In some instances, community facilities can be an incentive to growth, as parks and healthy lifestyles attract new residents. In this case, however, the project would be unlikely to attract a substantial new population, since it includes improvements to and expansion of an already-existing community park use.

The project would not add new housing. The project would not affect the location or increase the growth rate of the local population. The project therefore would not be an incentive to growth.

#### *Impact of Proposed General Plan Amendment and Rezoning on Population Growth*

The project includes a General Plan amendment that would change the land use designation to Public Recreation on the entire project site, including two areas that currently have designations that allow housing: (1) an approximately 240-acre area designated of AR5-20 (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres); and (2) an approximately 154-acre area designated AL20 (Agricultural Lands, one dwelling unit per 20 acres). The project also includes rezoning of these areas from AE (Agriculture Exclusive) to Public Facility (PF). (See details in Chapter 3, Project Description, of this EIR.)

These changes would reduce the availability of land for housing. This aspect of the project would therefore reduce possibilities for population growth.

### **Impacts on Existing Housing and Population**

The project would not displace any existing housing. The project would not displace any people, necessitating the construction of replacement housing elsewhere. Under the project, the four existing residential units on the project site would continue to be used for housing caretakers and farm workers or be rented. The impact would therefore be less than significant, and no mitigation is necessary.

### **POTENTIALLY SIGNIFICANT IMPACTS**

The project would not have any potentially significant impacts on population or housing conditions.

### **CUMULATIVE IMPACTS**

For population and housing, the geographic scope for assessing cumulative impacts is the area within unincorporated Humboldt County. As discussed in the above project-specific analysis, the project would not result in a significant impact on population or housing conditions. Therefore, the effect of the project on population and housing conditions, in combination with other past, present, and foreseeable projects, would be less than significant. The project would not result in or contribute to any significant cumulative impacts on population or housing conditions.

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## **4.14 PUBLIC SERVICES**

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### **INTRODUCTION**

This section describes potential project impacts on public services (fire protection services, police services, and schools).

Unlike utility services, public services are provided to the community as a whole, usually from a central location or from a defined set of facilities. The resource base for delivery of services, including the physical service delivery mechanism, is financed on a community-wide basis, usually from a unified or integrated financial system. The service delivery can be provided by a city, county, service district, or other special district. In this case, the Garberville Fire Protection District provides fire protection services, the Humboldt County Sheriff's Office provides police services, and the Southern Humboldt Unified School District operates public schools in the area.

Usually new development will create an incremental increase in the demand for public services. The amount of the demand will vary widely, depending on both the nature of the development (residential vs. industrial, for instance) and the type of services, as well as on the specific characteristics of the development (such as senior housing vs. family housing).

The impact of a particular project on public services and facilities is generally a fiscal impact. By increasing the demand for a type of service, a project could cause an eventual increase in the cost of providing the service (more personnel hours to patrol an area, additional fire equipment needed to service a tall building, etc.). These impacts are real but are economic and fiscal, not environmental.

CEQA does not require an analysis of fiscal impacts unless the increased demand triggers the need for a new facility (such as a new fire station or school), since the new facility would have a physical impact on the environment.

### **ENVIRONMENTAL SETTING**

#### **FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES**

Fire protection services include more than just fire suppression. Local fire departments provide a range of services, including emergency medical services (approximately 80 percent of calls for service include emergency medical interventions), auto extrication, technical rescue (rope, swift water, collapse, and confined space rescue), hazardous materials, and general public assistance responses (Humboldt County, 2012).

## Fire Protection Services

The project site is located outside the boundaries of a fire protection district. The northern edge of the site (Assessor's Parcel Number 222-081-024) is adjacent to the southern boundary of the Garberville Fire Protection District (GFPD) and located within the GFPD's Sphere of Influence (SOI), as adopted by the Humboldt Local Agency Formation Commission (LAFCo) in 1986 (Resolution 86-9). LAFCo's 2008 resolution approving the Municipal Service Review/SOI for the GFPD affirmed the 1986 SOI boundary.

### *Background*

The GFPD was established in 1940 to protect the community of Garberville. The GFPD was expanded in 1977 to accommodate a new growth area along Alderpoint Road adjacent to the core Garberville area and now comprises approximately 702 acres. The GFPD is dispatched by the California Department of Forestry and Fire Protection (CAL FIRE) through the Humboldt County Fire Dispatch Cooperative and regularly responds to calls for service within and beyond its district boundaries. The delivery of fire protection services outside of district boundaries is often referred to as "good will" service.

On average, 50 percent of such calls are medical in nature. Other calls such as vehicle accidents comprise between 15 and 20 percent of total calls and may also require emergency medical services. Fires of all types typically make up approximately 25 percent of GFPD calls for service.

Areas outside the GFPD boundaries that regularly receive "good will" service include the area to the west of the district along Alderpoint Road (up to 5.5 miles); south along Highway 101 to Benbow and the Mendocino County line; and southwest along Sprowel Creek, Old Briceland, and Camp Kimtu Roads—including the project site.

### *Fire Stations*

The GFPD has 15 active firefighters and 10 auxiliary personnel who are non-firefighters. The GFPD is headed by one chief, two assistant chiefs, and two captains. The GFPD operates from a fire station located in Garberville at 680 Locust Street, about 1.3 miles from the Sprowel Creek Road entrance to the project site. This station houses three engines, one utility vehicle, and the Southern Humboldt Technical Rescue Team response vehicle. The GFPD is equipped with a thermal imaging camera, "jaws of life," and typical fire suppression tools and equipment.

The GFPD has identified the need for fire stations in the Benbow area and near the Garberville Airport. Both areas are outside the boundaries of the GFPD but served by the GFPD on a good will basis. These new fire stations would be constructed only after the areas are annexed to the GFPD and the GFPD has secured sufficient funding for new facilities and equipment (Humboldt County, 2012).

CAL FIRE operates a seasonal fire station in Garberville and is responsible for suppressing wildfires within the State Responsibility Area, which includes the project site. CAL FIRE will respond to medical aid and other calls if available, but CAL FIRE is not responsible for providing community fire protection service and cannot be relied upon to provide service during fire season

when the engines are responding to wildland fires or during non-fire season (typically November to May) when the station is not staffed.

### **Emergency Medical Services**

In responding to emergencies, local fire departments work closely with law enforcement, public utilities, and ambulance service providers. Fire departments and ambulance companies are dispatched to medical calls simultaneously. In most cases, fire departments arrive on scene prior to the ambulance and are expected to gather vital signs, stabilize the patient, and prepare the patient for transport to the hospital (Humboldt County, 2012).

North Coast Emergency Medical Services Agency, which is a Joint Powers Authority governed by a board consisting of one supervisor from each of the three member counties, directs the emergency management services (EMS) system on behalf of Humboldt County. The EMS system consists of the advanced life support and transport provided by ambulance companies, first responder services provided by the fire departments and other agencies within the county and base hospitals that provide medical control and emergency department receiving facilities. Humboldt County Code Title V, Health and Safety, Division 5, Emergency Medical Services System, establishes the standards for ambulance permits and service rates, both of which are approved by the Humboldt County Board of Supervisors (Humboldt County, 2012).

Ambulance service for the project site vicinity is provided by City Ambulance of Eureka from its Garberville ambulance base located at 814 Redwood Drive. City Ambulance provides advanced life support services and typically transports patients to Jerold Phelps Community Hospital. Patients may be transported to hospitals in Fortuna or Eureka depending upon the availability of patient beds or the nature of the illness or injuries.

### **POLICE SERVICES**

Law enforcement services for the project site vicinity are provided by the Humboldt County Sheriff's Office from its Garberville substation at 648 Locust Street, about 1.3 miles from the Sprowel Creek Road entrance to the project site. The Garberville substation has two officers for two shifts per day, plus a part-time office staff person, and is considered short-staffed (Sheriff's Office, 2014). According to the Humboldt County General Plan Update Draft EIR, the Garberville substation is expected to need 19 staff by 2027 (Humboldt County, 2012). A Sheriff's Office representative has indicated that this level of staffing is not realistically expected at this time (Sheriff's Office, 2014).

If officers are in the vicinity, response time to the project site would be within 10 minutes. This response time could be longer, however, because the officers have a large coverage area. For example, if the officers are called to Shelter Cove, which is 40 minutes from Garberville, they may not be able to respond to a call at the project site within 1 hour (Sheriff's Office, 2014).

The California Highway Patrol (CHP) is responsible for enforcing traffic laws on roadways within the unincorporated areas and on state highways throughout the county. The CHP also assists local government during emergencies when requested. The closest CHP office to the project site is located at 30 West Coast Road in Redway.

The Sheriff's Office has mutual aid agreements with cities and the California Highway Patrol. Mutual aid is an agreement between agencies where the agency of jurisdiction can request manpower or resources from allied agencies or agencies within the surrounding areas. These agencies could be local or state agencies (Humboldt County, 2012; Sheriff's Office, 2014).

## **SCHOOLS**

The project site is located within the boundaries of the Southern Humboldt Unified School District (SHUSD) with its administrative office in Miranda. The SHUSD includes the Agnes J. Johnson School (K-5) in Weott, Casterlin Elementary School (K-8) in Blocksburg, Redway School (K-7) in Redway, South Fork High School (8-12) and the Osprey Learning Center in Miranda, and Whitethorn School (K-5) in Whitethorn (SHUSD, 2014).

Enrollment in the SHUSD declined by over 3 percent per year during the period from 1990 to 2010. Enrollment was 1,589 students in 1990, 1,277 students in 2000, and 790 students in 2010. Declining enrollment in Humboldt County has contributed to the closing of some school sites over the last 10 to 15 years. Within the Southern Humboldt Unified School District, the Osprey Learning Center in Garberville was closed and moved to the South Fork High School campus in Miranda (Humboldt County, 2012).

The California Department of Finance projects that the number of school-age children in Humboldt County may increase slightly in the near term but will likely decrease over the next 20 years (Humboldt County, 2012).

## **REGULATORY FRAMEWORK**

### **HUMBOLDT COUNTY GENERAL PLAN**

#### **Fire Protection and Emergency Medical Services**

Sections 4710 and 4720 of the Humboldt County General Plan contain the following relevant goals and policies related to fire protection (Humboldt County, 1984):

- *Goal 1: To assure adequate fire protection for new development.*
- *Policy 1: Proposed development shall be adequately serviced by water supplies for fire protection or shall have a letter from an appropriate fire protection agency indicating that adequate fire protection can be provided.*
- *Policy 2: Encourage clustered development to provide for more localized and effective fire protection measures.*

The Humboldt County General Plan does not contain any relevant goals or policies related to emergency medical services.

### **Police Services**

The Humboldt County General Plan does not contain any relevant goals or policies related to police services.

### **Schools**

The Humboldt County General Plan does not contain any relevant goals or policies related to schools.

### **SCHOOL IMPACT FEES**

Pursuant to California Education Code Section 17620(a)(1), the governing board at any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. The standard fees are currently set at \$3.20 per square foot of residential development and \$0.51 per square foot of commercial or industrial development.

### **OTHER APPLICABLE FIRE REGULATIONS**

As discussed under “Environmental Setting” above, the project site is within a State Responsibility Area and receives wildland fire protection from CAL FIRE. Development on the project site would be subject to Humboldt County’s Fire Safe Regulations and project review and approval by CAL FIRE.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant impact on public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - Fire protection;
  - Police protection; [or]
  - Schools...

Also based on Appendix G, the project would have a significant impact on fire protection and police services if it would:

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

This significance criterion is evaluated in Section 4.8, Hazards and Hazardous Materials, of this EIR.

## **LESS-THAN-SIGNIFICANT IMPACTS**

### **Fire Protection and Emergency Medical Services**

The project may increase the demand for fire protection services, but not to the extent that new or physically altered fire stations or other facilities would be needed. The impact would be less than significant, and no mitigation is necessary. This conclusion is further explained below.

#### *Need for New or Altered Fire Stations*

As discussed in Chapter 3, Project Description, of this EIR, the proposed improvements included in the project are expected to increase the number of visitors by an estimated 800 persons per day during the peak seasons (late spring, summer, and early fall). Additional visitors would be allowed at the park for special events under a conditional use permit. Under the conditional use permit, one annual event per year with up to 5,000 attendees (4,000 guests plus up to 1,000 staff, vendors and performers) and up to five events per year with 800 to 2,500 attendees (including staff, vendors and performers) are proposed.

This increased use of the site, especially during moderate- and large-sized events, would be expected to increase calls for fire protection and emergency medical services (e.g., for medical and trauma incidents, traffic collisions, and vehicle, structure, vegetation, or other types of fires).

As discussed under “Environmental Setting” above, the GFPD is the nearest local fire protection agency, and the project site is located outside the GFPD boundaries. While the GFPD provides good will service to Sprowel Creek Road and the Kimtu area, the proposed project uses would likely place strains on GFPD service levels and could reduce the existing level of service within GFPD boundaries.

The project would not create the need for new or altered fire stations or other facilities, however. The project site would continue to be served by the existing GFPD station and the existing seasonal CAL FIRE station in Garberville.

#### *Conclusion*

Because the project would not create the need for new or physically altered fire stations or other facilities, the project’s impact on fire protection services would be considered less than significant under CEQA.

While not necessary as mitigation for public services impacts under CEQA, the project applicant may wish to consider applying for annexation to the GFPD. The GFPD has indicated an interest in annexing areas to which it provides good will service (which include the project site) but has not initiated annexation proceedings through LAFCo.



Also, while not necessary as mitigation for public services impacts under CEQA, the County may wish to require that the project applicant execute a fire protection agreement with the GFDP, subject to LAFCo approval, to ensure that fire protection services would be provided to the project until the annexation is complete.

#### *Related Issues*

Emergency access to the project is addressed in Section 4.16, Transportation/Traffic, of this EIR; wildland fire hazards are addressed in Section 4.8, Hazards and Hazardous Materials; and emergency water supply and facilities are addressed in Section 4.17, Utilities and Service Systems.

### **Police Services**

The project would increase the demand for police services, but not to the extent that new or physically altered police stations or other facilities would be needed. The impact would be less than significant, and no mitigation is necessary. This conclusion is further explained below.

#### *Need for New or Altered Police Stations*

As discussed in Chapter 3, Project Description, of this EIR, the proposed improvements included in the project are expected to increase the number of visitors by an estimated 800 persons per day during the peak seasons (late spring, summer, and early fall). Additional visitors would be allowed at the park for special events under a conditional use permit. Under the conditional use permit, one annual event per year with up to 5,000 attendees (4,000 guests plus up to 1,000 staff, vendors and performers) and up to five events per year with 800 to 2,500 attendees (including staff, vendors and performers) are proposed.

This increased use of the site, especially during moderate- and large-sized events, would be expected to increase calls for police service. As discussed under “Environmental Setting” above, the Humboldt County Sheriff’s Office provides law enforcement services to the project site from the Garberville substation. According to the Sheriff’s Office, current activities at the project site have not resulted in significant calls for service to date; however, moderate- and large-sized events of the nature proposed by the project would be expected to cause traffic congestion, disturbance of nearby residents’ peace and quiet, and potential increases in law enforcement-related calls for service. The Sheriff’s Office expects that it would need more staff to cover calls for service caused by the increase in visitors to the site, especially during the proposed events, but an estimate of the number of new staff needed is not available (Sheriff’s Office, 2014).

The project would not create the need for new or altered police stations or other facilities, however (Sheriff’s Office, 2014). The project site would continue to be served by the existing Sheriff’s Office substation in Garberville and the existing CHP office in Redway.

#### *Conclusion*

Because the project would not create the need for new or physically altered police stations or other facilities, the project’s impact on police services would be considered less than significant under

CEQA. As part of its review of the project, however, the County may wish to consider the need for additional Sheriff's Office staffing in the area.

#### *Related Issues*

The project would include improvements to the existing Park Headquarters entrance and a Plan of Operation for small-, moderate-, and large-scale events. The Plan of Operation would address issues such as traffic management, emergency access, and security during proposed events. The Sheriff's Office and CHP would need to approve traffic management and emergency operations plans associated with the Plan of Operation for the project.

### **Schools**

Employment associated with the project could be expected to result in an increase of approximately three students in the Southern Humboldt Unified School District. An increase of three students could be accommodated within existing school facilities, and no new or expanded facilities would be needed. Therefore, the project would have a less-than-significant impact on school facilities, and no mitigation is necessary. This conclusion is further explained below.

Buildout of the project is expected to result in approximately four additional full-time permanent employees. Assuming that the additional four employees would be new residents of the Southern Humboldt Unified School District, three additional students would be expected to enroll in the Southern Humboldt School District. This projection was calculated using the statewide average Student Yield Factors from the Enrollment Certification/Projection School Facility Program form (SAB 50-01) from the California Office of Public School Construction, which are as follows: elementary school district = 0.5 student per dwelling unit; high school district = 0.2 student per dwelling unit; and unified school district = 0.7 student per dwelling unit (Humboldt County, 2012).

It is reasonable to conclude that the three students generated by the project could be accommodated within existing school facilities, especially given that enrollment within the Southern Humboldt Unified School District has declined over the last 10 years.

### **POTENTIALLY SIGNIFICANT IMPACTS**

The project would not have any potentially significant impacts on public services (fire protection, police, and schools). As discussed under "Less-than-Significant Impacts" above, the project may increase the demand for fire protection, police, and school services, but not to the extent that new or physically altered facilities would be needed. Therefore, the project would have no potentially significant impacts on public services under CEQA.

### **CUMULATIVE IMPACTS**

#### **Fire Protection and Emergency Medical Services**

For fire protection and emergency medical services, the geographic scope for assessing cumulative impacts is the area served by the GFPD.

The proposed project, in conjunction with other past, present, and reasonably foreseeable future projects, could result in a cumulative increase in demand for fire protection services. As discussed in the above project-specific analysis, however, service demand from the proposed project would not create the need for new or expanded fire stations or other facilities. The projects would be subject to standard requirements for features such as emergency access, signage, lighting, and security. Other projects in Humboldt County would also be subject to these requirements. The GFPD has not identified any need for new or expanded facilities resulting from the project combined with other anticipated projects. As noted under “Environmental Setting” above, the GFPD has identified a long-term need for a new fire station near the Garberville Airport, but this station would only be constructed after the area is annexed to the GFPD and the GFPD has secured funding for new facilities and equipment.

Overall, the effect of the proposed project on fire protection services, in combination with other past, present, and foreseeable projects, would be less than significant. The proposed project would not result in or contribute to any significant cumulative fire protection service impacts.

### **Police Services**

For police services, the geographic scope for assessing cumulative impacts is the service area of the Humboldt County Sheriff's Office, and specifically the Garberville substation. The proposed project, in conjunction with other past, present, and reasonably foreseeable future projects, could result in a cumulative increase in demand for police services. As discussed in the above project-specific analysis, however, service demand from the proposed project would not create the need for new or expanded sheriff's facilities. The project would be subject to standard requirements for features such as emergency access, signage, lighting, and security. Other projects in the Sheriff's Office service area would also be subject to these requirements. The Sheriff's Office has not identified any need for new or expanded facilities resulting from the project combined with other anticipated projects.

Overall, the effect of the proposed project on police services, in combination with other past, present, and foreseeable projects, would be less than significant. The proposed project would not result in or contribute to any significant cumulative police service impacts.

### **Schools**

For schools, the geographic scope for assessing cumulative impacts is the area within the boundaries of the Southern Humboldt Unified School District. As discussed in the above project-specific analysis, demand from the proposed project would not result in a significant impact on existing schools or create the need for new or expanded facilities. Therefore, the effect of the proposed project on schools, in combination with other past, present, and foreseeable projects, would be less than significant. The proposed project would not result in or contribute to any significant impacts on schools.

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- Southern Humboldt Unified School District (SHUSD), 2014. Website [http://www.humboldt.k12.ca.us/sohumb\\_usd/school/schools.html](http://www.humboldt.k12.ca.us/sohumb_usd/school/schools.html), accessed June 6.
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## 4.15 RECREATION

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### INTRODUCTION

This section describes existing parks and recreation facilities and services in the project site vicinity, applicable state and local regulations, and potential impacts on parks resulting from the proposed project.

### ENVIRONMENTAL SETTING

More than 20 percent of Humboldt County's 2.3 million acres are protected open space, forests, and recreation areas. Within the county boundaries, there are four federal parks and beaches, ten state parks (three of which are encompassed by Redwood National Park), 16 county parks, beaches, recreational areas, and reserves. These areas contribute to the quality of life in Humboldt County and provide needed recreational opportunities for residents of neighboring counties and visitors from all over the world (Humboldt County, 2012).

Several agencies manage the parks, recreation, and open space resources in Humboldt County including Native American Tribes, the Bureau of Land Management (BLM), United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS), California Department of Fish and Wildlife, California State Parks Department, local city governments, Humboldt County, and special districts (Humboldt County, 2012).

### PARKS IN HUMBOLDT COUNTY

Most parks in Humboldt County are regional in scope; outside the incorporated cities there are few local community or neighborhood parks. Humboldt County operates 16 parks in the unincorporated area. Several Community Services Districts (CSDs) also operate parks in the unincorporated area. Adding those parks, there are an existing 1,144 acres of parks in the unincorporated area. In comparison, the proposed project site is approximately 405 acres, almost one-third the size of all the other parks in the unincorporated areas combined. Existing park facilities in the county are summarized below in **Table 4.15-1**.

In addition, there are nearly 468,000 acres of federally managed parklands in the county, including National Forest, National Parks, and National Wildlife Areas, and 7,600 acres of Bureau of Land Management Reserve Lands. The county has about 76,000 acres of State Beach, State Parks, and State Reserve Lands. Humboldt County operates approximately 850 acres of parkland that includes ocean beaches, river access, boat ramps, and trails (Humboldt County, 2012).

Private individuals and groups also provide parks and recreation facilities. These include parks open to the public and operated by private nonprofit groups such as the Redwood Fields in Cutten and Tooby Memorial Park on the project site (see "Recreational Facilities on the Project Site" below).

**TABLE 4.15-1 PARKS IN UNINCORPORATED HUMBOLDT COUNTY**

<b>Park Name</b>	<b>Location</b>	<b>Type</b>	<b>Size (Acres)</b>
<b>Humboldt County-Operated</b>			
Arthur W. Way County Memorial Park	36594 Mattole Road, Honeydew	Regional	20
Big Lagoon County Park	505 A Street, Big Lagoon	Regional	52
Centerville Beach County Park	4000 Centerville Road, Ferndale	Regional	2
Clam Beach County Park	1100 Clam Beach Road, McKinleyville	Regional	370
Crab County Park	4000, Cannibal Road, Loleta	Regional	10.5
Fields Landing County Park	160 Railroad Avenue, Fields Landing	Regional	1.5
Freshwater County Park	Freshwater Road, Freshwater	Regional	7
Hammond Trail	McKinleyville	Regional	5
Luffenholtz Beach County Park	Scenic Drive, Westhaven	Regional	7.5
Mad River County Park	150 Mad River Road, Arcata	Regional	95.5
Margarite Lockwood Park	Maple Hills Road, Miranda	Regional	20
Moonstone Beach County Park	Moonstone Beach Road, Westhaven	Regional	8
Pedrazzini County Park	Pedrazzini Park Lane, Loleta	Regional	1
Samoa Boat Ramp	New Navy Base Road, Samoa	Regional	8
Table Bluff County Park	Table Bluff Road, Loleta	Regional	34
Van Duzen County Park	State Highway 36, Carlotta	Regional	200
<b>Subtotal</b>			<b>842</b>
<b>Manila Community Service District-Operated</b>			
Manila Dunes Recreation Area and Community Center	1901 Park Street, Manila	Regional	154
Manila Park	Lupin Ave. & Peninsula Dr., Manila	Community	12
<b>Subtotal</b>			<b>166</b>
<b>McKinleyville Community Service District-Operated</b>			
Hiller Park and Sports Complex	795 Hiller Road, McKinleyville	Community	58
Pierson Park	1608 Pickett Road, McKinleyville	Community	5
Larissa Park	Larissa Circle, McKinleyville	Neighborhood	0.3
<b>Subtotal</b>			<b>63.3</b>

**TABLE 4.15-1 PARKS IN UNINCORPORATED HUMBOLDT COUNTY**

<b>Park Name</b>	<b>Location</b>	<b>Type</b>	<b>Size (Acres)</b>
<b>Resort Improvement District No. 1 (Shelter Cove)-Operated</b>			
Shelter Cove Golf Course	1555 Upper Pacific Dr., Shelter Cove	Regional	35
Playground	9126 Shelter Cove Rd., Shelter Cove	Neighborhood	0.25
<b>Subtotal</b>			<b>35.25</b>
<b>Willow Creek Community Service District-Operated</b>			
Kimtu Beach and Camp Kimtu	Kimtu Road, Willow Creek	Regional	17
Veterans Park	Kimtu Road, Willow Creek	Neighborhood	16
Creek Side Park	Willow Road, Willow Creek	Neighborhood	3.6
Community Commons	38919 Highway 299, Willow Creek	Neighborhood	1.2
<b>Subtotal</b>			<b>37.8</b>
<b>TOTAL PARKLAND IN UNINCORPORATED AREA</b>			<b>1,144.35</b>

Source: Humboldt County, 2012.

## RECREATIONAL FACILITIES ON PROJECT SITE

Tooby Memorial Park is a 14-acre area within the project site located on the north side of Sprowel Creek Road just past the main project site entrance. The park includes a picnic area, a fenced playground, access to a beach on the Eel River, and a 7-acre mature redwood grove. Tooby Memorial Park has been administered and maintained by Southern Humboldt Community Park (SHCP) since 2002.

## REGULATORY FRAMEWORK

### FEDERAL REGULATIONS

There are no applicable federal regulations related to local and regional parkland or recreational facilities.

### STATE REGULATIONS

#### Quimby Act

The Quimby Act was established by the California legislature in 1965 to provide parks for the growing communities in California. The Act authorizes cities to adopt ordinances addressing park land and/or fees for residential subdivisions for the purpose of providing and preserving open

space and recreational facilities and improvements. The Act requires the provision of 3 acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the City may adopt a higher standard not to exceed 5 acres per 1,000 residents. The Act also specifies acceptable uses and expenditures of funds from fees.

### **State Public Park Preservation Act**

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provision essentially stipulates that there shall be no net loss of parkland and facilities.

### **LOCAL REGULATIONS**

The Garberville/Redway/Benbow/Alderpoint (GRBA) Community Plan identified public service and recreation facilities deficiencies in 1987. Response to the need for various public facilities in the area ranked as follows:

1. Centralized recreational complex and community center
2. Community recreation hall
3. Bicycle trails and foot paths
4. Relocation of junior high and high schools to Garberville/Redway area
5. Softball diamonds
6. Soccer fields
7. Equestrian trails

In the subsequent years, none of the identified deficiencies above have been remedied. A community center has been constructed in Redway that serves many civic purposes. There is still a need for a recreational complex with sports fields.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant impact on parks if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - Parks



Also based on Appendix G, the project would have a significant impact on parks and recreational facilities if it would:

- Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

## **LESS-THAN-SIGNIFICANT IMPACTS**

### **Deterioration of Existing Parks and Recreational Facilities**

The project itself would meet many of the recreational needs of the southern Humboldt County area. The proposed project would not substantially increase the use of existing parks or other recreation facilities such that a substantial physical deterioration of the facility would occur. The project's impact would therefore be less than significant, and no mitigation is necessary.

No adverse physical deterioration of existing neighborhood or regional parks or other recreational facilities is expected to result from the project. While the project would be located close to State park facilities, the project does not include any connections to these areas that would cause overflow of visitors from one site to another.

The project would include community park improvements and other improvements that would serve the recreational needs of the community and the region. These proposed improvements are expected to decrease the use of existing neighborhood and regional parks and other recreational facilities, which could extend the physical integrity of these other parks and recreation facilities. In this way, the proposed project could have a positive impact on the existing parks and recreation facilities in the surrounding area. By extending the life of these other facilities, the proposed project could delay any new construction of replacement recreation structures or new structures to meet the demand from future increases in population in the area.

The project site is near State park property. During the proposed large events at the project site, people attending the event may camp at State park facilities. State parks charge fees for the use of their facilities, however, and these fees are used to maintain the facilities. There is no evidence that the fee structure used by State parks is inadequate to provide for the adequate maintenance of the facilities that may be used by persons attending events at the site of the proposed project.

For discussion of impacts due to project employees, see "Need for New or Altered Facilities Due to Project" below.

### **Need for New or Altered Facilities Due to Project**

The project would not create the need for new or altered parks or recreational facilities. The project's impact would therefore be less than significant, and no mitigation is necessary.

As noted above, the project would include community park improvements and other improvements that would serve the recreational needs of the community and the region. The main way in which

the project itself could create demand for new or altered parks or recreational facilities would be through the addition of new employees at the project site. The four additional employees expected from the project would not create any new significant demands on parks or recreational facilities, however. Most demand for parks and recreational facilities is created by a community's residents, rather than its employees. The proposed project would not contain any housing and therefore would not generate a resident population. In addition, the four additional employees expected from the project would have a negligible effect on existing parks and recreational facilities and would not create the need for new or expanded facilities. For these reasons, project employees are not expected to create a need for new or altered parks or recreational facilities or cause substantial deterioration of existing facilities.

### **POTENTIALLY SIGNIFICANT IMPACTS**

#### **Impact REC-1: The projects would include recreational facilities that might have an adverse physical effect on the environment. (PS)**

The project would include various on-site recreational facilities. The environmental impacts of constructing these features are evaluated throughout this Draft EIR.

*Mitigation Measure REC-1: The project shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would ensure that the impact of recreational facilities included in the project would be reduced to a less-than-significant level. (LTS)*

### **CUMULATIVE IMPACTS**

For recreational facilities, the geographic scope for assessing cumulative impacts is the area within unincorporated Humboldt County, since this area contains the recreational facilities that are most likely to be used regularly by people who would also use the facilities proposed by the project.

As discussed in the above project-specific analysis, the project would not result in a significant impact on existing recreational facilities, and the environmental impacts of the project would be mitigated by measures recommended in this EIR. Therefore, the effect of the project on recreational facilities, in combination with other past, present, and foreseeable projects, would be less than significant. The project would not result in or contribute to any significant cumulative impacts on recreational facilities.

### **REFERENCES**

Humboldt County, 2012. *Humboldt County General Plan Update Draft Environmental Impact Report*, pages 3.14-1 through 3.14-3, April 2.

## 4.16 TRANSPORTATION/TRAFFIC

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### INTRODUCTION

This section discusses existing transportation and traffic conditions in the project site vicinity, as well as potential impacts of the project on those conditions. The existing transportation system in the vicinity of the proposed project is described, beginning with a description of the study area and the street network that serves the project site vicinity.

Existing transit service, bicycle and pedestrian facilities, and parking in the vicinity of the project site are also described. Intersection and freeway levels of service are then defined and current conditions for roadways and intersections in the project site vicinity are summarized.

The traffic impact analysis presented in this section was prepared by W-Trans, Whitlock & Weinberger Transportation, Inc. of Santa Rosa. The purpose of the study was to provide County staff and policy makers with the data needed to make an informed decision regarding the potential traffic impacts of the proposed project and any associated improvements that would be required in order to mitigate these impacts to a level of less than significant as defined by the County's General Plan or other policies.

Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed uses would be expected to generate. These trips are distributed to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the project. The impact of new traffic on critical intersections or roadway segments is then analyzed. Impacts relative to safety, including for pedestrians and bicyclists, are also addressed. In addition, impacts on transit service are evaluated.

### ENVIRONMENTAL SETTING

#### EXISTING ROADWAY NETWORK

Southern Humboldt County is a geographically isolated region that contains numerous rural communities separated by narrow two-lane county roads and/or state highways. With the exception of a small amount of air passenger service, all people use this roadway system for transportation.

#### Regional Roadways

**U.S. Highway 101 (U.S. 101)** is a primary route connecting Humboldt County to Mendocino County, Sonoma County, and the San Francisco Bay Area to the south; and to the cities of Eureka and Arcata, Del Norte County, and Oregon to the north. U.S. 101 borders the east side of the project site. At Garberville, U.S. 101 is a four-lane freeway with a series of on- and off-ramp interchanges. The Benbow interchange is 3 miles south.

The two northbound exit ramps from U.S. 101 enter the local road system at the following locations:

1. One northbound ramp exits onto Redwood Drive at the south end of Garberville.
2. One northbound ramp exits onto Redwood Drive at the north end of Garberville near Thomas Road.

The two U.S. 101 southbound exit ramps enter the local road system at the following locations:

1. A southbound exit ramp enters onto Redwood Drive at the north end of Garberville.
2. The Sprowel Creek Road Road/ U.S. 101 southbound ramp is an unsignalized intersection with a stop sign on the southbound U.S. 101 off-ramp with one shared lane in each direction. There are crosswalks on the southbound Redwood Drive approach and the eastbound Sprowel Creek Road approach.

### Local Roadways

Primary access points to the project site are provided via Redwood Drive and Sprowel Creek Road. The existing system of roads and trails is indicated on **Figure 4.16-1**.

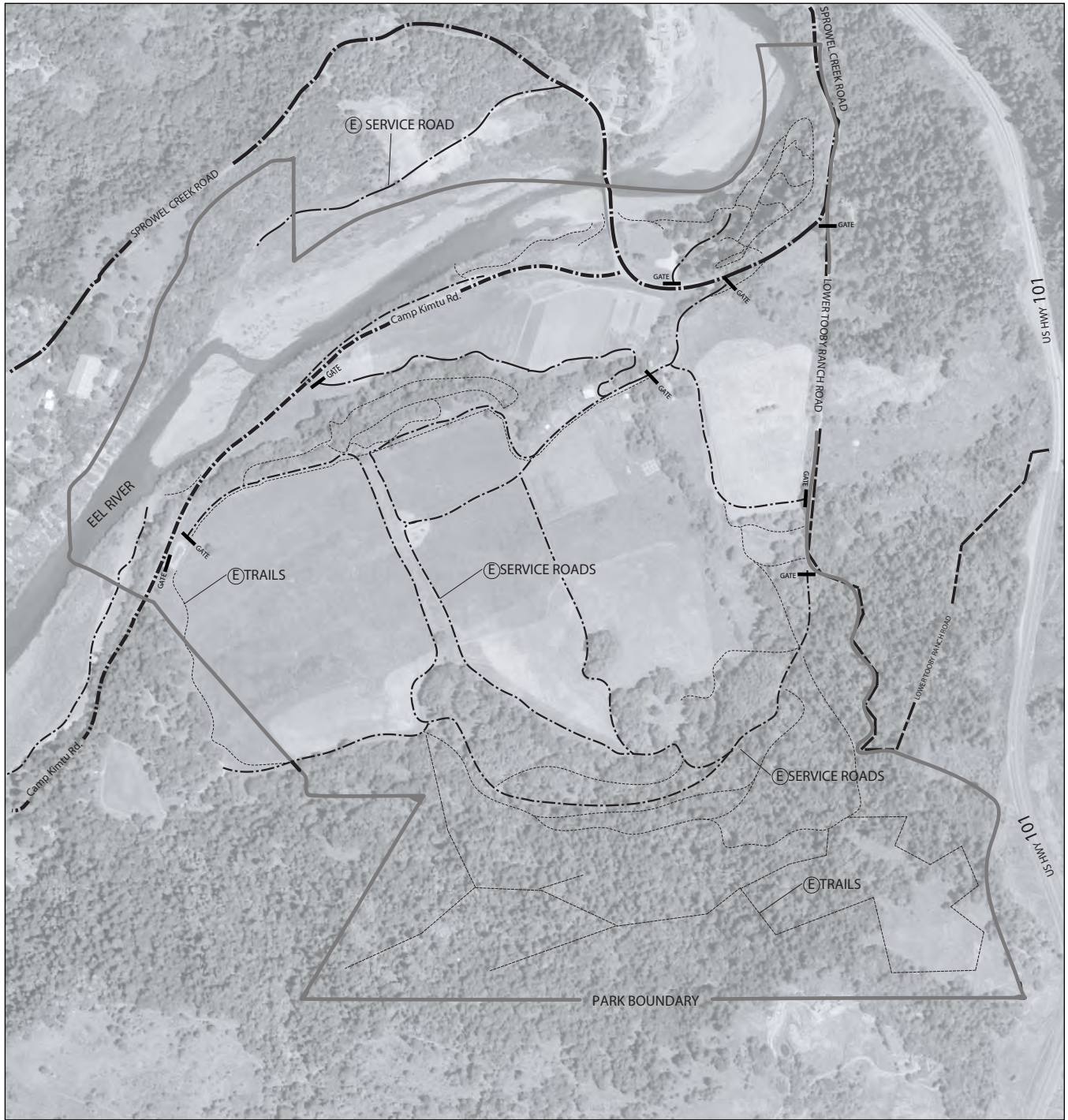
**Redwood Drive** is the main street and local business hub in the unincorporated town of Garberville. It is a two-lane street with diagonal parking on both sides of the street. There are no traffic signals in the town of Garberville.

**The Sprowel Creek Road/Redwood Drive intersection** is an all-way stop-controlled intersection with separate turn lanes on the northbound and the southbound Redwood Drive approaches. There are crosswalks on the southbound Redwood Drive approach and the eastbound Sprowel Creek Road approach.

**Sprowel Creek Road** is the access road to the project site and intersects the site. Sprowel Creek Road is a two-lane rural roadway that is generally about 20 to 24 feet wide, with graded shoulders adjacent to the road in some areas and drainage culverts in others. It is identified as a Rural Major Collector that is a "Regionally Significant Roadway" in the pending Humboldt County General Plan update (Humboldt County, 2012). It has a curvilinear alignment and a downward grade from the westerly side of Garberville near Riverview Lane to the easterly boundary of the project site. Based on counts performed by the County on August 21 through August 25, 2008 (Thursday through Monday), Sprowel Creek Road carries an average of about 1,400 vehicles per day near Riverview Lane and 1,100 vehicles near Tooby Memorial Playground, with hourly volumes averaging 137 and 101 vehicles at the two locations, respectively.<sup>1</sup> There are two entrances for visitors to the community park from Sprowel Creek Road approximately 1 mile from Garberville and approximately ¼ mile from the Camp Kimtu Road intersection. There is a third entrance to the park (Lower Tooby Ranch Road) that would be used during events and as a service road.

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<sup>1</sup> Given limited growth in the Garberville area, these counts are still considered valid for 2014.



0 1000 Feet  
 (approximate)

Figure 4.16-1

**ROADS, SERVICE ROADS, AND TRAILS**

SOURCE: Huber C&D, 2015



AMY SKEWES-COX  
 ENVIRONMENTAL PLANNING

**Camp Kimtu Road** meets Sprowel Creek Road at a T-junction just before the Moody Bridge. It also intersects the project site. The roadway is paved to 20 feet with no shoulders, pedestrian pathways, or bicycle lanes. This park entrance is approximately 0.65-mile from the Camp Kimtu/ Sprowel Creek road junction. This entrance would serve the community facility area/sports fields proposed by the project.

## Rural Roads

**Old Briceland Road** is a rural road that serves as a local road for rural residents. It often serves as an emergency alternate route when other major connectors are impassable. Also, it is often used as an alternate route to Garberville for rural communities including Briceland, Whitethorn, Ettersburg, and Shelter Cove. It was used as an alternative route in 2011 when the Briceland Road became impassable at Whitmore Grove.

## COLLISION HISTORY

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The 5-year period evaluated was July 1, 2006 through June 30, 2011.

For the segment of Sprowel Creek Road between Riverview Lane and Tooby Memorial Playground, there were two collisions that occurred during the 5-year study period. This translates to a collision rate of 0.60 collision per million vehicle miles (c/mvm). This is below the statewide average of 1.00 c/mvm indicated in the California Department of Transportation (Caltrans) *Collision Data on California State Highways* (Caltrans, 2009) for rural two-lane roadways in hilly terrain.

As presented in **Table 4.16-1**, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide. Both locations experienced below-average collision rates, and there was no clear pattern or trend as no two collisions involved the same movements or combination of approaches. Copies of the collision rate calculations are available in **Appendix F**.

**TABLE 4.16-1 COLLISION RATES AT THE STUDY INTERSECTIONS**

Study Intersection	Number of Collisions (2006-2011)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Sprowel Creek Road/US 101 SB Ramps	0	0.00	0.15
2. Sprowel Creek Road/Redwood Drive	4	0.38	0.40

Note: c/mve = collisions per million vehicles entering.  
Source: Whitlock & Weinberger Transportation, Inc., 2014.

## PEDESTRIAN FACILITIES

The project site is located along a rural roadway, with no sidewalks or shoulders for use by pedestrians. However, due to the distance from the town of Garberville to the project site as well as the steep grade of the roadway, there does not appear to be a demand for pedestrian access. Pedestrian counts performed indicate that there is on average less than one pedestrian per hour using the roadway during peak periods for traffic flow. None were observed during a several hour period at the site on a warm, sunny spring day.

## BICYCLE PATHWAYS

The majority of the roads in the southern Humboldt County area are narrow, with little or no shoulder and few sidewalks. There are no existing bicycle facilities in the area at this time.

Caltrans *Highway Design Manual* (Caltrans, 2012) classifies bikeways into three categories:

- *Class I Multi-Use Path:* These bicycle facilities are commonly referred to as “bicycle paths.” They provide a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorists minimized.
- *Class II Bike Lane:* These bicycle facilities provide a restricted striped and signed lane for one-way travel on a street or highway for the exclusive or semi-exclusive use of bicycle traffic, with through travel by motor vehicles or pedestrians prohibited. Adjacent vehicle parking and cross flows by pedestrians and motorists are permitted.
- *Class III Bike Route:* Bike routes have signs and/or pavement markings and are shared use with pedestrians and motorists on streets or highways.

According to the *Humboldt Regional Bicycle Plan – 2012 Update* (Humboldt County Association of Governments, 2012), Sprowel Creek Road between Redwood Drive and the Community Park has been designated as a future Class III Bike Route, and Humboldt County has included widening of the shoulders to create additional space for bicycles in its list of *Potential Trail Projects with Bike Facilities* (Humboldt County, 2012). Observations indicate that bicycle traffic is rare along this road, with only one cyclist observed during any of the four peak hours for vehicular traffic.

## TRANSIT SERVICE

Humboldt Transit Authority (HTA) owns and operates Redwood Transit System (RTS), the public bus system for Humboldt County, California. RTS offers service between Scotia, Fortuna, Loleta, Fields Landing, Eureka, Arcata, McKinleyville, Westhaven, and Trinidad from Monday through Saturday. On Monday through Friday, the Southern Humboldt Transit System provides local and inter-city service to/from locations including Garberville, Redway, Miranda, Phillipsville, Weott, South Fork, and Myers Flat.

Service is provided to Willow Creek from Arcata Monday through Friday. HTA has provided over 400,000 passenger-trips per year. Door-to-door service is available to qualified disabled riders.

HTA also links to other local transit, including Eureka Transit, Arcata and Mad River Transit Service, Redwood Coast Transit, Del Norte Public Transit, and Trinity Transit.

While the availability of bus services to the southern Humboldt County region has substantially improved in recent years, the majority of individuals are likely to continue to use private vehicles due to the long distances between many rural destinations and the centralized nature of the service.

## **INTERSECTION LEVEL OF SERVICE AND ROADWAY CAPACITY ANALYSIS**

The traffic evaluation included an assessment of streets, intersections, and the interface with U.S. 101.

### **Study Intersections**

The following two existing intersections were identified as locations that may be affected by the project:

1. Sprowel Creek Road/US 101 Southbound Ramps
2. Sprowel Creek Road/Redwood Drive

### **Study Periods**

Operating conditions during the AM and PM peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The morning peak hour occurs between 7:00 and 9:00 AM and reflects conditions during the home to work or school commute, while the PM peak hour occurs between 4:00 and 6:00 PM and typically reflects the highest level of congestion during the homeward-bound commute.

### **Intersection Level of Service Methodologies**

Level of service (LOS) is used to rank traffic operations on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure (e.g., in seconds) that indicates a level of delay generally accompanies the level of service designation.

The study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2000). This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The levels of service for the intersections with side-street stop controls, or those that are unsignalized and have one or two approaches stop-controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole and is then related to a level of service.



The study intersections with stop signs on all approaches were analyzed using the “All-Way Stop Controlled Intersection” methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole and is then related to a level of service.

The ranges of delay associated with the various levels of service are indicated in **Table 4.16-2**.

**TABLE 4.16-2 INTERSECTION LEVEL OF SERVICE CRITERIA**

Level of Service (LOS)	Two-Way Stop-Controlled	All-Way Stop-Controlled
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.

Source: Transportation Research Board, 2000.

### Traffic Operation Standards

In its General Plan, Humboldt County uses the volume-to-capacity ratio for primary roadways to evaluate traffic operation. The operational standard applied is LOS C. For consistency, operation that falls below LOS C would be considered unacceptable. Since no specific thresholds for roadway capacities are presented in the General Plan, based on the designation as well as existing volumes, a threshold of 5,000 vehicles per day was used to evaluate potential impacts on Sprowel Creek Road.

## Existing Conditions

The existing conditions scenario provides an evaluation of current operation based on existing traffic volumes during the AM and PM peak periods. This condition does not include project-generated traffic volumes. Volume data were collected on Thursday, April 7, 2011, while local schools were in session.<sup>2</sup>

### *Intersection Levels of Service*

Under existing conditions, both of the study intersections are operating at acceptable levels (LOS B or better) on individual approaches as well as overall for both peak periods. The existing traffic volumes are shown in **Figure 4.16-2**. A summary of the intersection level of service calculations is contained in **Table 4.16-3**. Copies of the level of service calculations are available in Appendix F.

**TABLE 4.16-3 SUMMARY OF EXISTING PEAK HOUR INTERSECTION LEVEL OF SERVICE CALCULATIONS**

Study Intersection (Approach)	Existing Conditions			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Sprowel Creek Road/US 101 SB Ramps	3.6	A	3.9	A
(Southbound Approach)	10.2	B	11.1	B
2. Sprowel Creek Road/Redwood Drive	8.3	A	8.7	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics*.

Source: Whitlock & Weinberger Transportation, Inc., 2014.

### *Roadway Capacity*

The existing volumes on Sprowel Creek Road west of Garberville are substantially below the assumed threshold of 5,000 vehicles per day.

## Future Conditions

### *Intersections*

Future traffic volumes were estimated using growth factors for Caltrans District 1. The factor of 1.10 for U.S. 101 in the vicinity of Garberville was applied to all movements since both of the study intersections are along or directly on the routes to and from the freeway.

<sup>2</sup> Given that limited growth that has taken place in the Garberville area, these data were considered adequate for 2014 conditions.

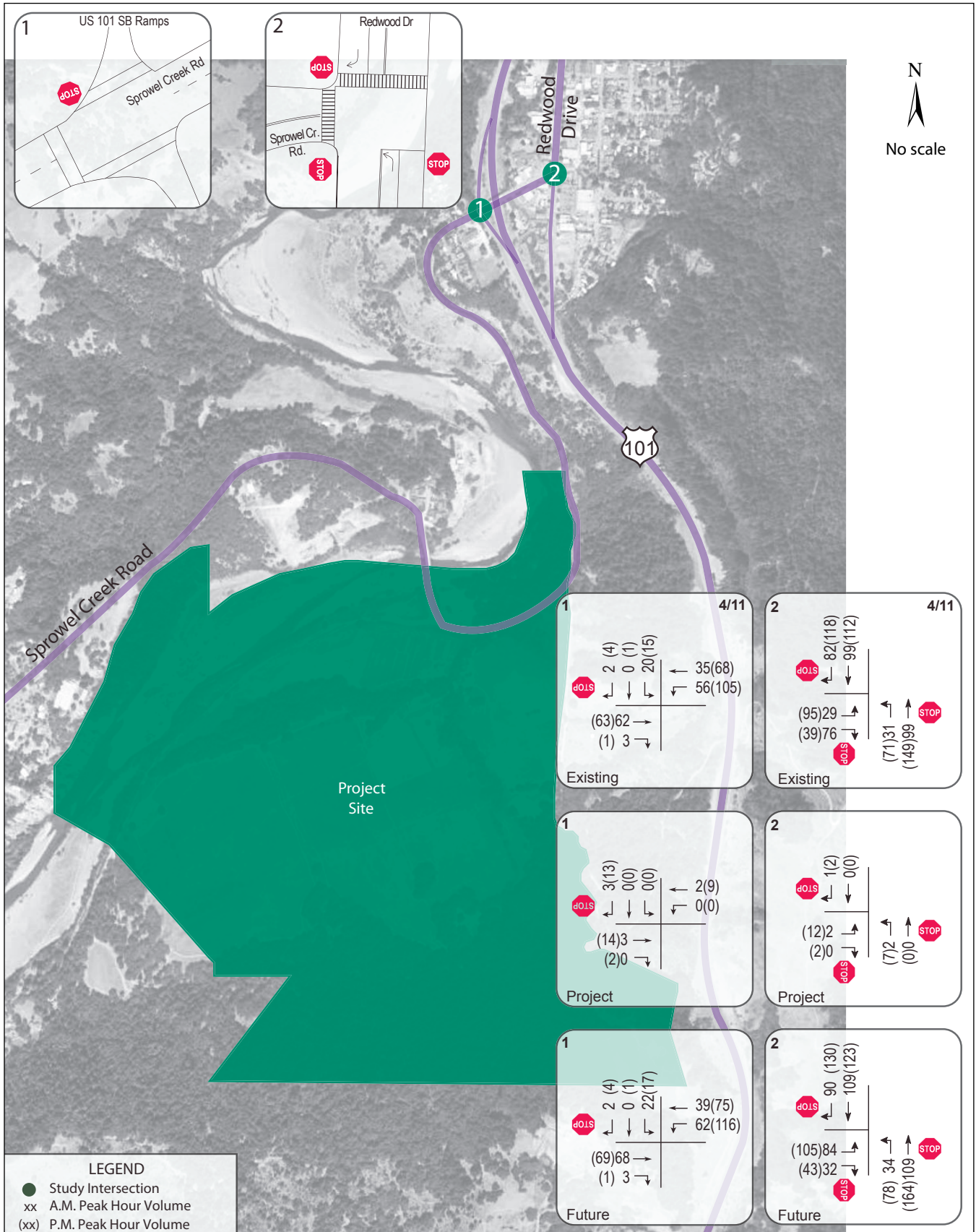


Figure 4.16-2

SOURCE: W-Trans, 2014

**LANE CONFIGURATIONS AND TRAFFIC VOLUMES**

Under the anticipated future volumes, both of the study intersections are expected to continue operating acceptably, with only minor changes in average delay. Future volumes are shown in Figure 4.16-1 and operating conditions are summarized in **Table 4.16-4**. Copies of the calculations are provided in Appendix F.

**TABLE 4.16-4 SUMMARY OF FUTURE PEAK HOUR LEVEL OF SERVICE CALCULATIONS**

Study Intersection (Approach)	Future Conditions			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Sprowel Creek Road/US 101 Southbound Ramps	3.7	A	4.0	A
(Southbound Approach)	10.5	B	11.5	B
2. Sprowel Creek Road/Redwood Drive	8.6	A	9.0	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics*.

Source: Whitlock & Weinberger Transportation, Inc., 2014.

### *Roadway Capacity*

Assuming the same growth for traffic along Sprowel Creek Road, future volumes would be expected to increase to about 1,500 vehicles per day near Riverview Lane and 1,200 vehicles near Tooby Memorial Park. These volumes would remain well below the 5,000-vehicle threshold estimated given the road's classification.

## REGULATORY FRAMEWORK

### STATE

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways.

### LOCAL

#### **Humboldt County Department of Public Works**

The Humboldt County Public Works Department requires encroachment permits for projects that occur on County rights-of-way and for road improvements. The Public Works Department also requires Transportation Permits for oversized loads.

## Humboldt County Planning and Building Department

The Humboldt County Planning and Building Department administers the adopted Humboldt County General Plan. The Planning and Building Department is also overseeing an update of the General Plan.

### *Adopted Humboldt County General Plan*

#### Relevant Policies

Sections 4320 and 4300 of the adopted Humboldt County General Plan (Humboldt County, 1983) include the following relevant policy related to roads and pathways:

3. *Significant increases in traffic volumes and turning movements on and off a major expressway/freeway at high volume at grade intersections should be discouraged.*

The following policies are found in Section 4311:

1. *Develop an accessible trails network as shown on trails map which includes trails within and between communities, parks and other publicly owned lands.*
3. *Encourage development of trails with varying lengths and difficulty through diverse terrain, scenery, and points of attraction.*
4. *Blend trails into the natural environment to reduce environmental disruption.*
5. *Place priority of bicycle route maintenance on routes that are most heavily used.*

#### Standards of Significance

In its General Plan, Humboldt County uses the volume-to-capacity ratio for primary roadways to evaluate traffic operation. The operational standard applied is LOS C. For consistency, operation that falls below LOS C would be considered unacceptable. No specific thresholds for roadway capacities are presented in the General Plan.

### *Draft Humboldt County General Plan Update*

The draft Humboldt County General Plan update (Humboldt County, 2012) establishes regional transportation goals, policies, objectives, and actions for various modes of transportation, including intermodal and multi-nodal transportation activities. The draft Humboldt County General Plan update contains two goals relevant to facilities for pedestrians and bicyclists, as follows:

- *To provide guidelines for establishing a safe, efficient, and enjoyable County trails program for the transportation and recreation needs of bicyclists, equestrians, hikers, and joggers.*
- *To increase participation in bicycling, horseback riding, and hiking activities which can provide physical, social, environmental, and economic benefits for County residents and tourists.*

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant traffic impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

### LESS-THAN-SIGNIFICANT IMPACTS

#### Impact on Air Traffic Patterns

The project would be located approximately 1 mile south of the Garberville Airport, which is located in a mountainous region of southern Humboldt County. The airport sits on a bluff above the project site with surrounding mountains in close proximity. The Garberville Airport is at an elevation of 550 feet. The project site is at an elevation of approximately 350 feet, or about 200 feet lower than the airport elevation.

Due to the significant elevation differences between the two locations, there are no proposed project elements that could potentially obstruct or interfere with the flight path or approaches to the airport. No structure, tree, or other object would exceed the height limits established in Section 331 of the Humboldt County Code [16.3.4.1]. Additionally, the proposed project would not exceed heights that require review and approval by the Federal Aviation Administration (FAA) or Airport Land Use Commission (ALUC). Therefore, the project would have no impact on air traffic patterns that would result in substantial safety risks.

## Emergency Access Impacts

The project site includes multiple access locations for emergency vehicles. There are four entry locations within the project site that provide access for all vehicle types, and any activities associated with the project would not prevent emergency vehicle access to and from the site. As a result, the project would have no impact on emergency access.

## POTENTIALLY SIGNIFICANT IMPACTS

This section addresses the potentially significant traffic impacts of the project and recommended mitigation measures.

The project's potential effects on key intersections, roadways, pedestrian and bicycle facilities, and transit service are assessed, and measures necessary to mitigate significant impacts are identified. These impact analysis scenarios are analyzed to determine the extent to which the project may increase traffic to and from the site and how the potential increase in traffic would affect the surrounding transportation environment.

## Conflict with Applicable Plan, Ordinance or Policy for Circulation System Performance

**Impact TRAFFIC-1: The project would increase traffic volumes on area roadways. While the volumes associated with typical daily operation would be nominal, medium-sized and large events would generate substantial traffic that could result in a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation. (PS)**

### *Proposed Project Components*

Traffic impacts are identified for each of the following project components (or "levels"), as identified in **Table 4.16-5** and described further below:

1. Impacts due to proposed changes in zoning of the project site;
2. Impacts due to proposed changes in General Plan land use designations for the project site;
3. Impacts of proposed activities or construction projects that would be principally permitted; and
4. Impacts due to proposed activities that would require a conditional use permit.

**TABLE 4.16-5 PROJECT IMPACT LEVELS**

Level 1	Impacts due to Zoning Change
Level 2	Impacts due to General Plan Land Use Designation Changes
Level 3	Impacts of Activities or Projects Principally Allowed
Level 4	Impacts of Projects Requiring Conditional Use Permit

### Project Level 1: Change in Zoning from Agriculture Exclusive to Public Facilities

This component of the project would change the zoning on a portion of the project site from Agriculture Exclusive to Public Facility. (See Chapter 3, Project Description, of this EIR for details.) The change would increase use of the site by the public, which would bring additional cars and people to the site on a regular basis.

### Project Level 2: Changes in General Plan Land Use Designation

This component of the project would change the General Plan land use designation of a portion of the project site from AR(5-20) (Agricultural Rural, one dwelling unit per 20 acres to one dwelling unit per 5 acres) and AL(20) (Agricultural Lands, one dwelling unit per 20 acres) to Public Recreation.

### Project Level 3: Impacts of Activities or Projects Principally Allowed

Implementation of projects and activities principally allowed under the new zoning and land use designations would result in construction of new community facilities including sports fields, concessions stands, visitor amenities, and parking areas. This change would also allow lower-impact public assembly and small events. These activities would increase the number of trips generated on existing roadways.

### Project Level 4: Impacts of Projects Requiring Conditional Use Permit

The project description includes provisions for medium-sized events as well as a festival. These events would require a conditional use permit, and could result in the construction of temporary stages, deployment of portable toilets, and other temporary changes to the site. These events would generate a substantial number of trips on the road network.

### *Trip Generation*

The anticipated trip generation on a typical weekday for the proposed project under the proposed zoning change (Project Level 1) was estimated using standard rates for a County Park (LU#412) published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*, 9<sup>th</sup> Edition (ITE, 2012). The sites surveyed in developing the rates for this land use had a variety of facilities, including ball fields, soccer fields, camp sites, picnic facilities, trails, bicycling, boating, or swimming facilities and general open space.

While the project site is currently generating trips to the existing Tooby Memorial Park, Park Headquarters, and Community Facilities/Sports Area, use of the park is expected to substantially increased upon completion of the new facilities. The expected trip generation potential for the proposed project was therefore conservatively estimated without any deduction for existing trips, as indicated in **Table 4.16-6**. The proposed project is expected to generate an average of 925 trips per day, including eight trips during the AM peak hour and 37 trips during the PM peak hour. It should be noted that for parks included in the survey of daily trips that were of approximately the same size as the proposed project, the actual numbers of trips were below the average, so this further adds to the conservative estimate of the number of trips the project is expected to generate.



**TABLE 4.16-6 TRIP GENERATION SUMMARY**

Land Use	Units	Daily		AM Peak Hour			PM Peak Hour				
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
County Park	405.7 Acres	2.28	925	0.02	8	5	3	0.09	37	22	15

Source: Institute of Transportation Engineers, 2012; Whitlock & Weinberger Transportation, Inc., 2014.

Special events and Levels 3 and 4 are discussed below.

#### *Trip Distribution*

The pattern used to allocate new project trips to the street network was based on the turning movement and volumes at the study intersections. The assumptions for inbound and outbound were different due to the configuration of the ramp intersections. The trip distribution assumptions are summarized in **Table 4.16-7**.

**TABLE 4.16-7 TRIP DISTRIBUTION ASSUMPTIONS**

Route	Inbound	Outbound
U.S. 101 South	60	10
U.S. 101 North	30	80
Central Garberville	10	10
Total	100%	100%

Source: Whitlock & Weinberger Transportation, Inc., 2014.

#### *Existing-plus-Project Conditions (Project Level 1)*

Upon the addition of project-related traffic to the existing volumes, the study intersections are expected to continue operating acceptable at LOS A overall. These results are summarized in **Table 4.16-8**. Project traffic volumes are shown in Figure 4.16-1. Appendix F contains copies of the calculations.

**TABLE 4.16-8 SUMMARY OF EXISTING AND EXISTING-PLUS-PROJECT PEAK HOUR LEVEL OF SERVICE CALCULATIONS FOR PROJECT LEVEL 1**

Study Intersection (Approach)	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sprowel Creek Road/US 101 Southbound Ramps	3.6	A	3.9	A	3.6	A	3.9	A
(Southbound Approach)	10.2	B	11.1	B	10.1	B	10.4	B
2 Sprowel Creek Road/Redwood Drive	8.3	A	8.7	A	8.4	A	8.9	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics*.

Source: Whitlock & Weinberger Transportation, Inc., 2014.

It should be noted that with the addition of project-related traffic volumes, average delay on the southbound off-ramp would decrease during both peak hours. While this is counter-intuitive, this condition occurs when a project adds trips to a movement that has delays below the intersection

average, resulting in lower overall average delay. The project would add traffic predominately to the right-turn movement, which has an average delay that is lower than the average for the approach as a whole, resulting in a slight reduction in the average delay for the approach.

The 925 daily trips would increase volumes on Sprowel Creek Road to about 2,300 vehicles per day near Riverview Lane and 2,000 vehicles per day at Tooby Memorial Park. These volumes are still well below the threshold established based on the roadways classification.

The study intersections are expected to continue operating acceptably at the same levels of service upon the addition of project-generated traffic, resulting in a less-than-significant impact. The volume of traffic on Sprowel Creek Road would remain within acceptable limits based on the standard applied.

#### *Future-Plus-Project Conditions*

Upon the addition of project-generated traffic to the anticipated future volumes, the study intersections are expected to continue operating at LOS A overall and LOS B on the stop-controlled southbound off-ramp approach to Sprowel Creek Road. The Future-plus-Project operating conditions for Levels 1 and 2 are summarized in **Table 4.16-9** and copies of the calculations are found in Appendix F.

**TABLE 4.16-9 SUMMARY OF FUTURE AND FUTURE-PLUS-PROJECT PEAK HOUR LEVEL OF SERVICE CALCULATIONS FOR PROJECT LEVELS 1 AND 2**

Study Intersection (Approach)	Future Conditions				Future plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sprowel Creek Road/US 101 Southbound Ramps	3.7	A	4.0	A	3.6	A	3.9	A
(Southbound Approach)	10.5	B	11.5	B	10.3	B	10.8	B
2. Sprowel Creek Road/Redwood Drive	8.6	A	9.0	A	8.6	A	9.1	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics*.

Source: Whitlock & Weinberger Transportation, Inc., 2014.

Daily volumes would be expected to increase to 2,400 vehicles near Riverview Lane and 2,100 vehicles at Tooby Memorial Playground under projected future conditions.

All study intersections would continue operating at the same acceptable levels of service with the project as without it, for Levels 1 and 2. As was noted for Existing-plus-Project conditions, because the project would add traffic to the right-turn movement from the U.S. 101 South off-ramp, and this movement has lower delays than the left turn on the same approach, the results with the project indicate reduced average delay per vehicle for the approach as a whole with the project. Sprowel Creek Road has adequate capacity to accommodate the project-generated trips.

### *Special Events*

While standard trip generation rates are adequate for evaluating the project's impact on a day-to-day basis, which would include Project Level 3, the project would also include events of various sizes that would require a conditional use permit (Project Level 4).

#### Project Level 3: Activities or Projects Principally Allowed (Small Events)

The implementation of projects and activities principally allowed under the new zoning and land use designations would result in new community facilities including sports fields, concessions stands, visitor amenities, and parking areas. It would also allow public assembly and small events. However, it should be noted that many of the Project Level 3 small events have historically been taking place at the project site and the proposed project would not result in changes, as described below.

The following small events would occur frequently with the project, with parking on the site:

- *Birthday Parties and Informal Gatherings:* With attendance typically ranging from 10 to 50 people, Tooby Memorial Playground and the large barn in the Park Headquarters have been gathering places for family birthday parties, barbeques, and similar events. Tooby Memorial Playground has served as a location for these types of events for more than four decades. This type of activity would continue with the proposed project, with no limit on the number of these types of events annually. Parking for these types of events would be in existing parking areas at Park Headquarters or Tooby Memorial Park.
- *Weddings and Memorials:* Many weddings and memorial services for community members have taken place at the park. These events would continue in Tooby Memorial Playground, the Park Headquarters, Community Commons Area, and the labyrinth in the Main Agricultural Area. Attendance would be 500 people or less.
- *Small Fundraisers and Events:* Many local nonprofit organizations and community groups have used the park for fundraising activities. Most of these events include a variety of types of amplified music including prerecorded and live performances. These types of events would continue in Tooby Memorial Playground, the Park Headquarters, and the Community Commons Area, with a maximum attendance of 1,000 people.

#### Project Level 4: Projects Requiring a Conditional Use Permit

Projects that would require a conditional use permit include medium-sized events and the festival, as follows:

- *Medium-Sized Events:* This type of event often features multiple performers and performances by well-known groups or individuals that would attract more attendees. These events would take place in the Community Commons Area. Attendance would be between 800 and 2,500 people daily in addition to staff and vendors during the specific event. Not more than five of these medium-sized events would occur per year.
- *Festival:* The park would host the annual Summer Arts and Music Festival (or an event of a similar nature) that is currently being held at Benbow Lake State Recreation Area. Attendance would range between 2,500 and 5,000 people. The event would occur once per year for a period of no more than two days. The attendance would fluctuate over the course of the day,

and the total number of attendees on the site at any one time would be less than the one-day total. Actual attendees would cap at 4,000, with an additional 1,000 staff, vendors, and event support workers.

Operational Constraints

Using the projected future AM and PM peak hour volumes, an iterative process was employed to determine the number of vehicles that could be generated by the site while maintaining operation of LOS C or better at both of the study intersections. Conditions were evaluated for the following scenarios:

1. Only inbound traffic, such as would be experienced at the beginning of an event;
2. Only outbound traffic, representing the end of an event, and
3. Bi-directional traffic, such as would be occur during the middle of a day-long event with attendees both arriving and leaving during the same hour.

Data collected during special events such as a concert indicate that event attendees typically arrive with at least two persons per vehicle, and generally more. An average vehicle occupancy of 2.5 persons per vehicle was applied, though a higher occupancy would be expected for family-oriented events where three or more persons per vehicle would be typical.

Based on the assumptions applied, the number of vehicles that could be accommodated and associated number of attendees were developed, as indicated in **Table 4.16-10**.

**TABLE 4.16-10 SUMMARY OF AVAILABLE CAPACITY**

	Inbound Only		Outbound Only		Bi-Directional Flow			
					Inbound		Outbound	
	Vehicles	Persons	Vehicles	Persons	Vehicles	Persons	Vehicles	Persons
AM Peak	750	1,875	540	1,350	650	1,625	475	1,187
PM Peak	725	1,812	475	1,187	675	1,687	415	1,037

Note: Vehicle occupancy of 2.5 persons per vehicle assumed  
 Source: Whitlock & Weinberger Transportation, Inc., 2014.

Impact of Small Events

Even using peak volumes that have been factored upward to reflect long-term growth in the area, the circulation system has adequate capacity available to accommodate the trips associated with small events. No improvements are warranted to serve project traffic and none are therefore recommended.

Impact of Medium-Sized Events

The concerts and other types of events that are expected to fit within this category would generally have a specific start time, and the majority of attendees would plan their arrival within the hour or

so prior to the start of the event. The performers and others working at the event would arrive several hours ahead of the start time. If there are multiple performers, some attendees would choose to skip one or more of the acts, and thus may arrive late or leave early.

As noted in Table 4.16-10 for inbound traffic only, between 725 and 750 vehicles per hour could be attracted to the site while still maintaining acceptable traffic operations. While this translates to more than 1,800 persons arriving during a single hour based on a 2.5 person-per-vehicle occupancy, for events attended by more than 1,800 persons, there would be a potential traffic impact. Similarly, events ending during the PM peak hour and having about 1,200 attendees or more could result in unacceptable traffic operations. For this reason, the following mitigation measures are recommended.

*Mitigation Measure TRAFFIC-1a: As indicated in the Traffic Assessment Management Control Plan for the project, for events that are expected to exceed 1,200 attendees, flaggers shall be stationed at the intersection of Redwood Drive/Sprowel Creek Road at the conclusion of the event to direct traffic and to reduce delays.*

*Mitigation Measure TRAFFIC-1b: For events having more than 2,000 attendees, shuttle buses shall be employed to reduce the total number of vehicles leaving the site to a maximum of 700 outbound vehicles in a single hour.*

*Mitigation Measure TRAFFIC-1c: At medium-sized events, data regarding the number of attendees and resulting volumes of traffic shall be collected so that the number of trips can be monitored and thresholds adjusted if it is determined that attendance patterns or average vehicle occupancy are substantially different from what was assumed. These data shall be included in the annual report reviewed by the Humboldt County Planning Commission.*

#### Impacts of Festival

While the festival would have more attendees than a medium-sized event, because of the type of event it would be, the traffic would be spread out over a much longer period and thus have less of an impact during a single hour. However, based on the assumed vehicle occupancy of 2.5 persons per vehicle, a crowd of 4,000 persons could potentially generate about 1,600 total vehicles.

The parking supply for the project site as proposed is about 700 spaces, though this number is not firm as the parking supply could easily be increased given the substantial amount of open space that could be dedicated to parking if necessary. However, for purposes of this analysis the parking supply was limited to 700 spaces. Assuming that 1,250 event attendees arrive in private vehicles (500 parking spaces with 2.5 persons per vehicle), and further assuming that the 500 attendee spaces are used by a single vehicle all day, the remaining 2,750 attendees would need to travel via bus.

Assuming an average capacity of 72 persons per bus, and occupancy averaging 80 percent, approximately 51 bus trips would be required to transport the remaining attendees to the site. Each bus trip would result in two trip ends, as the bus would need to travel from the off-site parking area to the site, then back to the parking area to load additional passengers. It is anticipated that a fleet of no more than four buses would be deployed, and assuming that a round trip would take at least a ½-hour, the buses would be expected to generate only 24 trips hourly.

The parking for more than 1,000 vehicles would need to be dispersed among numerous off-site locations over the 12 hours of operation, so the bus trips would similarly be spread out over a number of different streets outside the immediate area of Garberville. Some existing passenger loading locations include the Chevron Station for pick-up and Getti-Up Coffee for drop-off in Garberville and Majestic Center in Redway. It should be noted that there is a potential to issue half-day parking passes, which would then allow more attendees to drive to the event and result in a reduced demand for bus trips; however, these trips would occur midday, and the peak hour trips would be unchanged. Thus, this operational adjustment would not affect the results of the analysis.

Given that such events would occur infrequently, and that the number of trips on any particular roadway outside the Garberville area would be relatively low, the off-site impacts associated with shuttles carrying attendees to Level 4 events is expected to be less-than-significant.

*Mitigation Measure TRAFFIC-1d: During the large festival events, on-site parking shall be limited to 500 spaces for attendees and 200 spaces for vendors and others working the event. While the vendors and others employed during the festival would likely remain on-site for an hour or more after the event concludes, the limited parking would ensure that the amount of traffic generated during a single hour results in trips that can be adequately handled by the street network. All other attendees would need to arrive by shuttle from off-site parking fields. It is understood that this is how the festival currently operates in Benbow, where there is substantially less parking than could be made available at the project site.*

*Mitigation Measure TRAFFIC-1e: Festival parking passes shall be made available through advance purchase only, with a variety of purchase options, including buying them on-line or at the usual local ticket outlets where attendees purchase their event tickets. The number of parking passes that can be issued shall be limited for each day of the festival to 500. A separate pass shall be required for each day, with the passes to be displayed on the dashboard of the vehicle. The above requirements shall be addressed in the project's Traffic Management Assessment Control Plan (see Appendix E).*

*Mitigation Measure TRAFFIC-1f: The project shall be subject to the following annual reporting and review requirements:*

- 1. By December 31 of each year during which a medium- or large-sized event is held, the applicant shall prepare and submit 15 copies of a post-event report discussing that year's event(s). Verification of attendance levels shall be discussed.*
- 2. The report shall focus on assessing the effectiveness of the plan of operation, mitigation measures, and monitoring program. The report shall also contain written correspondence from agencies participating in monitoring and/or affected by the event (i.e., Humboldt County Planning Division, Division of Environmental Health, Sheriff's Office, and Public Works Department).*
- 3. Responses to all concerns and issues identified in the report shall be provided, and appropriate measures to be undertaken at the following year's event(s) identified as needed. The annual report shall include sufficient data to assess the effectiveness of all required mitigation measures in relation to the total daily attendance and traffic volume and intensity, and potential safety hazards to pedestrians and bicyclists.*

4. *The post-event report shall be submitted to the Humboldt County Planning Commission for review. The total allowable attendance levels for medium- and large-sized events shall be determined by the Planning Commission on an annual basis after review and approval of the annual report. The allowed attendance levels for medium-sized events shall range from a low of 800 to a maximum of 2,500 persons total. A large-sized event ranging from 2,500 to 4,000 attendees is not allowed until the Planning Commission has reviewed and approved two consecutive annual reports for medium-sized events with attendance levels of at least 1,800 persons. In consultation with the reviewing agencies, the Planning Commission may waive the annual reporting requirements for medium- and large-sized events for up to 5 years should the applicant demonstrate the use has been conducted in conformance with all of the required mitigations, and no changes in attendance levels or mitigation measures are proposed.*
5. *To address area concerns that may arise, the applicant shall hold a minimum of one community meeting in the vicinity of the site within 90 days of each large-sized event. This requirement may be waived by the Humboldt County Planning Director in consultation with the reviewing agencies if no significant community issues have been reported during that year's large-sized event.*

*The above combination of mitigation measures would reduce this impact to a less-than-significant level. (LTS)*

### **Conflict with Applicable Congestion Management Program**

**Impact TRAFFIC-2: The project has the potential to conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. (PS)**

The Humboldt County Association of Governments (HCAOG) is a Joint Powers Agency comprised of the seven incorporated cities (Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, Trinidad), and the County of Humboldt. It is the designated Regional Transportation Planning Agency (RTPA) and, as such, publishes the Humboldt County Regional Transportation Plan (RTP). In this plan, the RTPA states its goal "for Humboldt County to have a comprehensive, coordinated and balanced multi-modal transportation system, so that people in the region can travel and move goods safely and efficiently by the modes that best suit the individual or business/industry, and society at large."

The County does not have an applicable congestion management program beyond what is provided in the RTP. The potential project impacts on roadway service levels are addressed in Impact TRAFFIC-1. Potential impacts on modes other than motor vehicles are discussed below and addressed in TRAFFIC-4.

*Mitigation Measure TRAFFIC-2: Refer to Mitigation Measures TRAFFIC-1a through 1f and Mitigation Measures TRAFFIC-4a through 4e. (LTS)*

## Safety Hazards

**Impact TRAFFIC-3: The project has the potential to increase safety hazards associated with access and circulation, especially in the Community Commons area (Area 4) of the site. Specifically, limited sight distance at any or all of the project driveways would result in a potentially unsafe condition. (PS)**

Access to the site would occur at a number of locations including the Park Headquarters, Tooby Memorial Park, the Community Facilities/Sports Area, and the Community Commons.

A number of improvements to site access and circulation are proposed, including the following:

- Unpaved parking areas near the main entrance to the Park Headquarters and at the Community Facilities/Sports Area off Camp Kimtu Road would be expanded. The parking lot at Tooby Memorial Playground would be redesigned for increased safety. A minimum of two access points would be provided for each parking area for medium and large events. Expansion of unpaved parking areas would occur to accommodate moderate-sized events and activities in the Park Headquarters, the Main Agricultural Area, along Camp Kimtu Road, and at the Community Facilities/Sports Area.
- A simple one-lane bridge would be installed over a ravine in the Community Commons area. This bridge would facilitate one-way traffic flow as necessary during larger events.
- Temporary large event parking for higher numbers of cars is proposed for the Main Agricultural Area, Community Commons, and the Community Facilities/Sports Area. New or expanded fencing for public safety is proposed for Tooby Memorial Playground, Park Headquarters, Main Agricultural Area, the Community Commons, and the Community Facilities/Sports Area.
- There is an existing ranch road system that provides access throughout the site for moving farm equipment and property maintenance. It would be maintained and upgraded as appropriate for use as general service roads during events in the Park Headquarters, Main Agricultural Area, Community Commons, and the Community Facilities/Sports Area.
- The existing river access road at the Sprowel Creek Road bridge would be improved for unpaved parking, public access and non-motorized boats. An improved river access would be constructed in Tooby Memorial Playground to upgrade the access to the river for swimming and for people to carry small non-motorized watercraft down to the river for launching.

The following discussion reviews potential hazards associated with site access, circulation, and parking.

### *Sight Distance*

At driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting to enter the roadway and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to turn left or right without requiring the through traffic to radically alter their speed.

Sight distance along Sprowel Creek Road at the driveways to the Park Headquarters, Community Commons, and Tooby Memorial Playground was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans (Caltrans, 2012). The



recommended sight distances both for drivers entering and exiting a driveway are based on stopping sight distance.

Sight distances at the driveways were field measured. Since Sprowel Creek Road does not have a posted speed limit, a 40-mile-per-hour (mph) design speed was assumed. Given the winding nature of the roadway as well as the width, it is likely that most drivers would be traveling slower than this, so the assumed design speed provides a conservative safety assessment.

#### Sight Distance at Community Commons Area

The existing driveway located at the easterly side of the park site would primarily be used only during medium-sized special events and the festival. While drivers exiting the site would have more than 300 feet of sight distance in both directions, a vehicle waiting to turn left into the site would not be seen by a driver approaching the access point until they were about 200 feet away. Sight distance for drivers following a vehicle stopped to turn left into the site is less than the 300 feet needed for a 40-mph approach speed.

*Mitigation Measure TRAFFIC-3: During events held in the Community Commons (Areas 4A and 4B), warning signs shall be posted along Sprowel Creek Road in advance of the driveway indicating that there is potentially stopped traffic ahead. While drivers would typically be able to make the left turn with little, if any, delay, this safety measure would ensure that there is adequate warning for drivers approaching the area. (LTS)*

#### Sight Distance at Park Headquarters and Tooby Memorial Playground

Sight lines are considerably in excess of 300 feet in each direction at both the Park Headquarters Tooby Memorial Playground driveways. Sight distance is adequate in both directions and approaching the Park Headquarters and Tooby Memorial Playground driveways.

#### Sight Distance at Community Facilities/Sports Area

Sight lines along Camp Kimtu Road were found to be more than 500 feet in each direction, so they would be adequate for speeds in excess of 50 mph. Sight distance is adequate in both directions and approaching the Community Facilities/Sports Area driveway on Camp Kimtu Road.

#### *Parking Capacity*

The existing parking lots at the Tooby Memorial Playground, Park Headquarters, and Community Facilities/Sports Area are adequate for typical daily events and small special events. During medium-sized events and the festival, parking demand at the site would vary depending on the type of events being held. This is addressed in the Plan of Operation - Traffic Assessment Management Control Plan (see **Appendix E**).

Parking for medium-sized events would take place in the Community Commons area with overflow to the main Agricultural Area. These areas have large open fields that could easily be used for parking during events. Parking for these events would be located in the Community Commons (Area 4) adjacent to the Park Headquarters (Area 2) and designated fields in the Main Agricultural Area (Area 3), and temporary parking would be provided in the Community Facilities/Sports Area (Area 5). More than 7 acres of space have been identified that can be made available for parking.

Per Section 109.1.3.3.4 of the Humboldt County Code, 18 accessible spaces would be required within this parking supply. Vehicles would enter the site via Tooby Ranch Road.

Likewise, the festival would provide parking using a portion of the site's open space. It is recommended that the parking supply be limited to space for 500 attendee vehicles to park in addition to 200 staff, volunteers, vendors, and performers (see Mitigation Measure TRAFFIC-1d above). A maximum of 100 vehicles for staff and vendors would remain on-site overnight for security and for early shifts. Conservatively assuming 350 square feet per parked vehicle to include the 9-foot-by-18-foot parking space and room for drive aisles, a total of about 5.5 acres would need to be set aside for parking. About 7 acres have been identified for parking, so adequate space to provide the necessary parking is available.

The existing facilities together with available open spaces can provide adequate parking for both typical daily operation and special events.

As noted above, drivers entering the site for the festival should be required to purchase a parking pass in advance and have it available when they enter the site, as recommended in Mitigation Measure TRAFFIC-1e above. This would reduce the time needed to clear a queue of traffic entering the parking area, resulting in minimal delays that would back up onto Sprowel Creek Road.

### **Conflict with Provisions for Public Transit, Bicycles, and Pedestrians**

**Impact TRAFFIC-4: The project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This is especially true for pedestrian use during medium- and large-sized events. (PS)**

The project includes improvements to the existing pedestrian path under Sprowel Creek Road bridge, between the Riverfront Area and Tooby Memorial Playground, to avoid pedestrian use of roadways between these two areas.

#### *Facilities for Non-Motorized Modes*

Garberville and Redway are the business centers of Southern Humboldt County, with a greater concentration of businesses in Garberville. While Garberville is a busy business hub for the Southern Humboldt community, the population living within the town of Garberville is only 193 persons based on 2010 Census data. By contrast, the neighboring town of Redway has a much higher population of 1,225 persons and is 3.8 miles from the park.

The town of Garberville is the main commercial area serving the outlying rural areas including Shelter Cove, Etersburg, Briceland, Whitethorn, Redway, Alderpoint, Fort Seward, Harris, Casterlin, Miranda, and Myers Flat. The Southern Humboldt Unified School District serving this area has a single high school; there are no schools in the town of Garberville.

Residents in Southern Humboldt are vehicle-centric and regularly travel distances such as 25 miles to school or 75 miles to Eureka one way. The steep terrain in the area and the distances between destinations do not promote walking and bicycling as convenient methods of transportation.

### Pedestrian Facilities

*Pedestrian Behavior.* Pedestrian studies have routinely concluded that most people will walk no more than ¼-mile to reach public transportation. The ¼-mile standard is also supported by park equity research. Jennifer Wolch, now at the University of California at Berkeley, wrote “a quarter mile is reasonable for parents taking toddlers and small children to a park for everyday outings and playground opportunities. Trips of more than a quarter mile are unlikely to be acceptable to parents.”

Acceptable walking distances will vary depending on geography, climate conditions, age, health, time availability, quality of surroundings, safety, climate, land use, trip purpose, and many other factors. Most people will walk longer distances for exercise purposes, but prefer to walk shorter distances when they are commuting to a destination or in a hurry.

Considerable research has been performed recently on factors that make areas inviting to pedestrians. As mentioned above, the most commonly cited industry standard for the acceptable walking distance is ¼-mile. Barriers to walkability include weather, time, distance, a steep grade, lack of shelter, safety, or loud traffic noise.

*Existing Conditions in Project Area.* The walk to the project site from the town of Garberville has few of the characteristics that would classify it as highly walkable. There is open exposure to the elements, loud traffic noise, and a long, sustained, steep grade. The walk from Garberville to the Community Park would be characterized as having a low-walkability ranking by these standards. The steep grade alone makes this a difficult walk that would deter even hardy walkers, particularly on the return.

Central Garberville is 1.23 miles from the main entrance to Park Headquarters (Area 2). Garberville is 1.75 miles from the entrance to Camp Kimtu (Area 5) where the community sports facilities are proposed. The population within the walking distance of ½-mile of the main entrance to the Community Park is 60 persons. The population living within the ½-mile radius of the proposed Area 5 community sports facilities is 46 persons.

By contrast, Redwood Fields in the Cutten area of Eureka, cited as a comparable, has a population of 1,433 people living within a ½-mile radius. The density of the population surrounding these fields together with the level roadways and existing sidewalks would make it likely that this location would experience a much higher level of pedestrian traffic than the project site.

Based on current park use, it is reported by staff that the large majority of walkers and bicyclists using the Community Park trails commute by vehicle to the park and then walk or bicycle on the trails within the park. Walkers prefer to spend their walking time in a natural park setting on the trails within the park rather than traveling along a paved roadway. A walker out for exercise or pleasure is more likely to spend the hour they have on a beautiful trail than walking about 2½ miles to reach the park and return home. A user walking to the park would have a total trip in the range of 3 to 4 miles, which is outside the range of what may be desired by most recreational walkers.

The 2002 National Survey of Bicyclist and Pedestrian Attitudes and Behavior, by the National Highway Traffic and Safety Administration and the Bureau of Transportation Statistics, reports results of a survey of 7,500 people nationwide over the age of 16 on their walking and bicycling

habits. It was reported that the most common destination for walking is home (59 percent of walking trips), while the destination of a park or recreation area was reported by 7 percent of walkers, shopping accounted for another 7 percent, and 6 percent of walking trips were to work. Eighty-one percent of respondents walk once a week during the summer months.

Using the statistics from the 2002 National Survey of Bicyclist and Pedestrian Attitudes and Behavior, and generously calculating that 10 percent of the 193 residents in the town of Garberville would be willing to walk a distance of 1 mile (four times the usual acceptable walking distance of ¼-mile one-way), and noting that 81 percent walked once weekly with 7 percent choosing the destination of a park or recreational area, the park would generate an average of one pedestrian trip in one week during the summer months based on nationwide typical pedestrian behavior.

Considering the typical behavior of pedestrians for the 60 persons living within a ½-mile radius of the project site, and assuming one-half of the 60 residents within a ½-mile radius of the project site were walkers, 81 percent walked once weekly with 7 percent going to a park or recreational area, the park would generate two pedestrian trips per week.

Tooby Memorial Park and playground are located within the project site and have been in use by the public since the 1960s. Park staff reports very few park users either walking or bicycling to the park in the past decade.

*Pedestrian Activity Generated by Project.* While events would generate more activity at the park, the potential for walking trips remains low as there would still be a small population within walking distance, and of these residents, an even smaller number would be interested in attending the special events held at the site.

Given the rural nature of the site, low resident population surrounding the project site and in the town of Garberville, the distance to the project site and the difficult terrain of the roadway to the project site, including a steep grade to be climbed when leaving, pedestrian traffic to and from Garberville or other areas off-site is expected to continue to be limited. The proposed project would not produce sufficient pedestrian traffic to warrant providing improved pedestrian facilities, including upgrades to the existing shoulders or roadways.

Pedestrian activity would, however, be expected between and through the various components of the project. Paths and trails already exist on the site linking the Park Headquarters area through the Main Agricultural Area to the Community Facilities/Sports Area and the Community Commons, with multiple options existing for some routes that provide recreational opportunities for walking around the site. The proposed improved connection under the Sprowel Creek Road bridge between the Riverfront Area and Tooby Memorial Playground would provide connectivity for the northernmost facilities, and a crosswalk is proposed on Kimtu Road connecting the Riverfront area and the Community Facilities/Sports Area. However, no facilities connecting Tooby Playground to the Park Headquarters have been proposed. While there would likely be a minimal number of pedestrian crossings during typical operating conditions, there could be a substantial number of pedestrians during medium-sized special events and the large festival event.

Pedestrian facilities serving the project site are expected to be generally adequate, though as proposed there is not a connection between the Riverfront/Tooby Memorial Playground and the Park Headquarters. For this reason, the following mitigation measure is recommended.

*Mitigation Measure TRAFFIC-4a: For medium-sized special events and the festival, a temporary marked crosswalk shall be created connecting the Tooby Memorial Playground to the Park Headquarters area. The crossing shall be placed to maximize sight lines, and during periods of peak usage, there shall be a crossing guard or flagger available to assist pedestrians and control traffic. This measure is included in the Traffic Assessment Management Control Plan (see Appendix E).*

### *Bicycle Facilities*

There are no existing bicycle facilities in the vicinity, so bicyclists must share the roadway with vehicular traffic. While cyclists could easily travel at the same speed as vehicular traffic on the trip to the site, which is downhill, leaving the site requires uphill travel, which is typically quite a bit slower for cyclists. Park staff reports that the majority of bicyclists using the park arrive in vehicles, then unload their bicycles to ride the trails. With the low-resident population surrounding the park, bicycling to the site is not expected to be a primary mode of travel, though bicyclists do need to be accommodated on the roadway. The planned future widening of shoulders by the County would provide additional space for bicyclists to move over and allow vehicular traffic to pass.

In addition, the project site plan does not identify the provision of bicycle parking or storage facilities. Bicycle facilities serving the project site are not expected to be adequate.

*Mitigation Measure TRAFFIC-4b: "Share the Road" signs shall be posted, and consideration given to installing "sharrows" to indicate the potential presence of cyclists. Sharrows are markings that include a cyclist and arrows, and they are placed in the lane to identify the road as a shared use facility.*

*Mitigation Measure TRAFFIC-4c: For large festival events, accommodations shall be made either on the shuttle vehicles or by dedicated vans to ferry cyclists to the top of the hill on Sprowel Creek Road.*

*Mitigation Measure TRAFFIC-4d: Bicycle racks shall be included in each of the park's major entrances to encourage bicycle travel.*

### *Transit Service*

There are no regularly scheduled transit routes serving the project site. It is, however, anticipated that shuttle buses would be used during the festival and perhaps some of the medium-sized events. Permanent transit facilities serving the project site are not expected to be needed, but temporary shelters would be needed during events.

*Mitigation Measure TRAFFIC-4e: To facilitate shuttle bus users, a temporary shelter shall be provided during events that use a shuttle bus, both to protect attendees and to provide guidance as to the location of the shuttle stop.*

*The combination of the above mitigation measures would reduce this impact to a less-than-significant level. (LTS)*

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## 4.17 UTILITIES AND SERVICE SYSTEMS

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### INTRODUCTION

This section addresses potential project impacts on water, solid waste disposal, and energy services. Other sections of the Draft EIR address impacts on other services. Specifically, wastewater and drainage systems are addressed in Section 4.9, Hydrology and Water Quality; hazardous waste disposal is addressed in Section 4.8, Hazards and Hazardous Materials; schools, police, and fire protection services are addressed in Section 4.14, Public Services; and parks and recreation services are addressed in Section 4.15, Recreation.

### ENVIRONMENTAL SETTING

#### WATER

The analysis of water impacts in this EIR is based on the “Water Supply and Demand Analysis Memorandum” prepared for the project applicant by GHD (GHD, 2014). The “Water Supply and Demand Analysis Memorandum” is included as Appendix G of this EIR.<sup>1</sup>

#### Existing Water Sources and Supply

Three sources of water are currently in use at the project site (GHD, 2014):

- Source 1, a non-potable source that comes from the South Fork Eel River by a permitted infiltration gallery. This source has capacity to generate 107 gallons per minute (gpm) based on the existing pumping system. If pumping is assumed for 12 hours per day, this source can produce approximately 2.3 million gallons per month, with the amount varying slightly by the number of days in the month.
- Source 2, a potable source that comes from a tributary spring. The capacity of this source is 1.4 gpm and the monthly capacity ranges from approximately 56,000 gallons per month to 62,000 gallons per month depending on the number of days in the month. This source is not used during the months of July through October, due to an existing forbearance program.
- Source 3, a potable source that comes from a well located in Tooby Memorial Park. The capacity of this source is unknown; however, it currently generates approximately 7,950 gallons per month for the caretaker’s unit and irrigation in Area 1.

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<sup>1</sup> This section of the EIR relies on the “Water Supply and Demand Analysis Memorandum” (GHD, 2014) contained in Appendix G. A later study of water supply and demand was conducted for purposes of evaluating potential impacts on aquatic habitat in the South Fork Eel River. This study (*Independent Review of Southern Humboldt Community Park Water Supply and Demand Analysis and Potential Impacts on Surface Water and Aquatic Habitat*, prepared by Pacific Watershed Associates in 2015) included a refined estimate of the project’s irrigation water demand. Please refer to Section 4.4, Biological Resources, for details on this study.

A fourth source of potable water (Source 4), a well owned by the project applicant and located in Area 4 of the project site, is available but is not currently in use. The capacity of this source is 2.5 gpm, and assuming 12 hours of pumping per day the capacity is estimated to range from approximately 50,400 gallons per month to approximately 55,800 gallons per month, depending on the number of days in the month (GHD, 2014).

**Table 4.17-1** summarizes these sources. The pump at the infiltration gallery and the upland well (after installation) were assumed to run for 12 hours per day. Table 11 in the “Water Supply and Demand Analysis Memorandum” (Appendix G of this EIR) presents water source capacity by month.

According to the California Department of Public Health (CDPH), the water system at the project site is classified as “Transient Non-Community Water System,” meaning that it is not a public water system. (See Appendix A of the “Water Supply and Demand Analysis Memorandum” [Appendix G of this EIR] for the CDPH “Decision Tree for Classification of Water Systems.”)

### Existing Water Demand

**Table 4.17-2** shows existing water demand at the project site by water source, estimated from existing known uses. As shown in the table, the total peak demand at the site is 367,706 gallons per month, mostly attributable to irrigation, and the total off-peak demand is 21,379 gallons per month (GHD, 2014). Peak is defined as May 1 through October 31 (6 months), and off-peak is defined as November 1 through April 30 (6 months). See Table 2 in the “Water Supply and Demand Analysis Memorandum” (Appendix G of this EIR) for existing water demands at the project site by area.

### Water Storage

SHCP currently maintains one 55,000-gallon water storage tank. The tank holds water from the spring (Source 2) and is located on an adjacent property (Assessor’s Parcel Number 222-091-11), located immediately east of the project site boundary near the boundary between Area 3 and Area 4 of the project site. This tank is plumbed with a 1.5-inch line to hydrant connections, including a connection on the project site (GHD, 2014).

### SOLID WASTE DISPOSAL

The Humboldt Waste Management Authority (HWMA) is a Joint Powers Authority (JPA) that was created to provide economical coordination of solid waste management and disposal services. JPA members include Humboldt County and the cities of Arcata, Blue Lake, Eureka, Ferndale, Rio Dell, and Trinidad. The HWMA manages contracts with solid waste disposal companies and coordinates the disposal of waste collected within the boundaries of member jurisdictions. In addition, the HWMA manages waste reduction programs on behalf of Humboldt County (Humboldt County, 2012).

The HWMA manages contracts for the transport of the solid waste for disposal at either the Anderson Landfill in Shasta County or Dry Creek Landfill near Medford, Oregon. The Anderson Landfill has a daily permitted disposal of about 1,018 tons per day and a remaining capacity of



**TABLE 4.17-1 EXISTING WATER SOURCES AT PROJECT SITE**

Source No.	Water Source	Permit	Water Rights Filings	Pump	Storage Capacity	Potable	Conditions
1	South Fork Eel River – Infiltration Gallery	CDFW, LSA (R1-2009-0238)	SWRCB, Statement of Water Diversion and Use: S0243379	Gould's submersible pump 107 gpm (2013)	None	No	Rate of diversion 108 gpm or 10% of Stream flow (lesser of the two).
2	Spring – Unnamed Tributary			None. Gravity feed	55,000-gallon tank	Yes	Rate of diversion 1.39 gpm. No draw of water July 2 to October 31 each year.
3	Tooby Memorial Park – Well	-		Grundfos submersible pump	None	Yes	Capacity unknown.
4	Upland Park – Well	-	Will apply after use starts	None; to be installed in the future	None	Yes	Capacity approximately 2.5 gpm.

Notes: CDFW = California Department of Fish and Wildlife, SWRCB = State Water Resources Control Board, gpm = gallons per minute

Source: GHD, 2014.

**TABLE 4.17-2 EXISTING WATER DEMAND AT PROJECT SITE BY WATER SOURCE**

Source	Peak Demand (gallons per month)	Off-Peak Demand (gallons per month)
Source 1 (Non-Potable)	328,015	167
Source 2 (Potable)	31,741	13,262
Source 3 (Potable)	7,950	7,950
<b>Total</b>	<b>367,706</b>	<b>21,379</b>

Source: GHD, 2014.

about 8 million tons. The Anderson Landfill is not expected to reach capacity until 2036. The Dry Creek Landfill has a remaining capacity of about 50 million tons without additional site expansion. It is anticipated that the Dry Creek Landfill could provide disposal capacity for its current service area, including Humboldt County, for another 75 to 100 years (Humboldt County, 2012).

Humboldt County has a franchise agreement with Recology Humboldt County for the solid waste and recycling services in Garberville and Redway. For residents outside Garberville or Redway not served by curbside collection, the public can self-haul garbage and recycling to the Redway transfer station operated by Eel River Disposal.

Solid waste within the project site is collected weekly in an on-site dumpster contracted through Recology Humboldt County (Lobato, 2014a).

## **ENERGY**

The majority of energy consumed in Humboldt County is imported, with the exception of biomass energy and electricity. While the majority of electricity (73 percent) is generated within the county, a large portion of this locally generated electricity is generated using natural gas (through the 163-megawatt PG&E Humboldt Bay Power Plant that began operation in mid-2010), and the natural gas is primarily imported. The rest of locally generated electricity is primarily produced from biomass (Pacific Lumber and Fairhaven Power), with the remainder coming from local hydroelectric facilities and a very small amount from distributed rooftop solar electric and wind energy systems (Humboldt County, 2012).

PG&E currently serves the project site from three service connections: one for an agricultural well, one for the two residences and outbuildings in Area 2 (Park Headquarters), and one in Area 1 (Tooby Memorial Park) that is used for a caretaker's residence and limited park uses (Lobato, 2014a).

## **REGULATORY FRAMEWORK**

### **STATE INTEGRATED WASTE MANAGEMENT ACT**

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) was enacted to reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible. Specifically, AB 939 required city and county jurisdictions to plan and implement programs to divert 50 percent of the total waste stream from landfill disposal by the year 2000. AB 939 also requires each city and county to promote source reduction, recycling, and safe disposal or transformation. California cities and counties, including Humboldt County, are required to submit annual reports to the state on their progress toward AB 939 goals.

The County has prepared and adopted an Integrated Waste Management Plan (IWMP) consistent with the Integrated Waste Management Act. The IWMP addresses source reduction and recycling, household hazardous waste, and countywide landfill capacity needs (Humboldt County, 2012).

In 2011, AB 341 (Chesbro) was signed by Governor Brown and became law. The law made it a policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020. In complying with this state requirement, property owners are to arrange for services consistent with local laws or requirements, such as recycling collection services.

### **STATE OF CALIFORNIA ENERGY EFFICIENCY STANDARDS (TITLE 24)**

Any buildings constructed on the project site would be required to comply with State of California energy conservation regulations (Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations). These regulations specify the State of California's minimum energy efficiency standards and apply to new construction of nonresidential and residential buildings. The standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. Compliance with these standards is verified and

enforced through the local building permit process. Humboldt County reviews development plans prior to project approval to ensure that Title 24 energy conservation and efficiency standards are met and incorporated into project design.

## **HUMBOLDT COUNTY GENERAL PLAN**

### **Water**

Sections 3360 and 3361 of the Humboldt County General Plan contain the following relevant goals and policies related to water (Humboldt County, 1984):

- Goal 1: To maintain or enhance the quality of the County's water resources and the fish and wildlife habitat utilizing those resources.
- Goal 2: To maintain a dependable water supply, sufficient to meet existing and future domestic, agricultural, industrial needs and to assure that new development is consistent with the limitations of the local water supply.
- Policy 1: Ensure that land use decisions are consistent with the long term value of water resources in Humboldt County.
- Policy 2: Regulate development that would pollute watershed areas.
- Policy 3: Ensure that the intensity and timing of new development will be consistent with the capacity of water supplies.
- Policy 4: Existing water uses shall be considered during the review for new water uses.
- Policy 5: The availability of groundwater should be used as a prime factor in determining the desirable amount of residential development in a particular area in order to protect groundwater resources from depletion or contamination.
- Policy 6: Projects must provide evidence of water availability prior to recordation of map.
- Policy 7: Maximize the use of water conservation techniques appropriate for new and existing development.
- Policy 10: Large water export projects will not be approved or supported unless specific requirements and assurances are satisfied. These shall include the 1978 water policy statement policies regarding "Water Export Projects on Humboldt County Streams."
- Policy 13: Ensure that projects located within state designated wild, scenic or recreational river basins are consistent with the guidelines in the State Wild and Scenic Rivers Act (as amended).

*[NOTE: the Humboldt County General Plan states that the South Fork Eel River from the mouth of Section Four Creek near Branscomb to the river mouth below Weott has been designated as a component of the Wild and Scenic Rivers System. This stretch of the river includes the portion that extends through the project site.]*

## **Solid Waste Disposal**

Sections 4610 and 4611 of the Humboldt County General Plan contain the following relevant goals and policies related to solid waste (Humboldt County, 1984):

- Goal 2: Protect and improve the County environment, public health, safety, and economy.
- Goal 3: Reduce the amount and toxicity of waste generated by residents, businesses, industries, and institutions in the County to the greatest degree feasible.
- Goal 4: Establish an integrated waste management hierarchy consisting of the following: Source reduction, reuse and repair, recycling, composting, materials recovery, environmentally safe energy recovery, environmentally safe transformation, and landfill disposal.
- Goal 5: Maximize the achievement of integrated waste management objectives through education, economic incentives and voluntary participation in waste reduction programs.
- Goal 6: Maximize the opportunity for individuals and groups to participate in the planning and the implementation of waste reduction programs.
- Goal 7: Maximize the use of previously discarded materials as a resource for local businesses and manufacturers.
- Goal 8: Minimize, to the greatest degree possible, the per capita waste generated by the users.
- Goal 9: Ensure the coordination of and cooperation with all Federal, State and local programs and regulations.
- Policy 1: Reduce litter and other illegal solid waste disposal.
- Policy 4: Minimize the environmental impact of solid waste handling and disposal by mitigation measures such as using bear proof containers and fencing.
- Policy 7: Encourage waste reduction through source reduction, reuse and repair, recycling and recovery, and marketing programs.

## **Energy**

The Humboldt County General Plan does not contain any relevant goals or policies related to energy resources.

## **ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **SIGNIFICANCE CRITERIA**

#### **Water**

Based on Appendix G of the CEQA Guidelines, the project would have a significant impact on water facilities if it would:

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

### **Solid Waste Disposal**

Based on Appendix G of the CEQA Guidelines, the project would have a significant impact on solid waste disposal facilities if it would:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Not comply with federal, state, or local statutes and regulations related to solid waste.

### **Energy**

Based on CEQA Section 21100(b)(3), the project would have a significant impact on energy utilities if it would:

- Result in the wasteful, inefficient, or unnecessary consumption of energy.

### **LESS-THAN-SIGNIFICANT IMPACTS**

#### **Water Supply**

Water supplies are expected to be sufficient to serve the project, and the project would not require new or expanded water entitlements. The project's impact would therefore be less than significant in relation to this significance criterion.

#### *Total Water Demand*

According to the "Water Supply and Demand Memorandum" (Appendix G of this EIR), total water demand from the project would range from approximately 33,566 gallons per month (the estimate for the months of December and February) to 1,552,821 gallons per month (the estimate for the month of July, assuming minimum spots field irrigation). Total water supply would range from approximately 2,263,565 gallons per month (the estimate for the month of February) to 2,506,090 gallons per month (the estimate for the months of January, March, May, and December).

Total water demand is a combination of potable and non-potable uses served by multiple water sources, and the maximum month demand of 1,552,821 gallons per month (assuming minimum sports field irrigation) is in July. Under the proposed project water system (water supply Option 2 described in the "Water Supply and Demand Memorandum"), the demands on the Eel River infiltration gallery would be 1,475,565 gallons per month for non-potable uses compared to a supply of 2,388,240. Thus, there would be no shortage of supply for the infiltration gallery demands. For the spring and upland well, the demand in July when the forbearance period begins would be 48,661 gallons per month, compared to a supply of 55,800 gallons plus 55,000 gallons in

stored water. Thus, there is also no supply shortage for these sources. For the Tooby Park well, the demand would be 28,595 gallons per month, and supply is anticipated to meet demand.

#### *Groundwater Supplies*

Groundwater sources include the Tooby Park well and upland well. As shown in Table 13 of the “Water Supply and Demand Analysis Memorandum” (Appendix G of this EIR), the existing and proposed facilities using the Tooby Park well as a water source include the caretaker’s unit, irrigation, and restrooms (toilets, sinks and drinking fountains), all within Area 1. These facilities would continue to use the Tooby Park well as a water source, and demand ranges from a low of 9,072 gallons (January, February, March, November, and December) to a high of 30,245 gallons in September. The upland well is proposed to be used in conjunction with the spring to meet a majority of the potable water demands in the park. Assuming full use of the spring source, the upland well has a minimum demand of zero in the non-forbearance period of November through June, and a maximum demand of 48,661 gallons in the month of July. Upland well capacity ranges from a low of 50,400 gallons per month in February to a high of 55,800 gallons per month (in January, March, May, July, August, October, and December). Therefore, remaining capacity for the upland well during operations is estimated at a low of 7,139 gallons in July and a high of 55,800 gallons in December.

#### *Consistency with General Plan Policies Regarding Water Supply*

The proposed project would be consistent with the Humboldt County General Plan goals and policies listed under “Regulatory Framework” above. Specifically, the project would be consistent with Policies 3, 5, and 6 in that there would be a sufficient water supply for the project as identified in the “Water Supply and Demand Analysis Memorandum” (Appendix G of this EIR). Consistent with Policy 7, the project includes water conservation techniques; for example, the water used for irrigation and livestock in Area 2 has been changed to the infiltration gallery non-potable source in order to maximize potable water throughout the park. Consistent with Policy 13, the proposed project does not include any dam, reservoir, diversion, or other water impoundment facility on the Eel River, which is designated as a State Wild and Scenic River.

#### *Water Entitlements*

As shown in Table 4.17-1, the project applicant has a Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) (R1-2009-0238) for Sources 1 and 2. Sources 1, 2, and 3 have a Statement of Water Diversion and Use (S0243379) on file with the State Water Resources Control Board (SWRCB). Source 4 (an existing but currently unused well in Area 4) would also require a Statement of Water Diversion and Use with the SWRCB.

#### *Conclusion*

Existing water supplies are expected to be sufficient for the project’s everyday use and for emergency purposes. The impact is less than significant, and no mitigation measures are necessary.

## Solid Waste Disposal

The landfills serving the project would have sufficient capacity to accommodate the project's solid waste disposal needs. Therefore, the project's impact on landfill capacity would be less than significant.

The applicant estimates that everyday uses of the park (recreation and small gatherings) would generate approximately 130 yards of trash and 40.5 cubic feet of recyclables per year. The annual large-sized event would generate approximately 80 yards of trash, 1.5 tons of recyclables, and 600 pounds of paper/cardboard. The five medium-sized events per year would generate a total of 130 yards of trash, 2.5 tons of recyclables, and 1,000 pounds of paper/cardboard. The ten small events per year would generate a total of 15 yards of trash, 80 cubic feet of recyclables, and 200 pounds of paper/cardboard (Lobato, 2014b). Use of the proposed sports fields and skate park would generate a total of approximately 10,700 pounds (5.35 tons) of solid waste per year (Lobato, 2014c). Construction of buildings and structures included in the project would also generate solid waste and debris.

As discussed under "Environmental Setting" above, the HWMA manages contracts for the transport of the solid waste for disposal at either the Anderson Landfill in Shasta County or Dry Creek Landfill near Medford, Oregon. The Anderson Landfill has a daily permitted disposal of about 1,018 tons per day and a remaining capacity of about 8 million tons. The Anderson Landfill is not expected to reach capacity until 2036. The Dry Creek Landfill has a remaining capacity of about 50 million tons without additional site expansion. It is anticipated that the Dry Creek Landfill could provide disposal capacity for its current service area, including Humboldt County, for another 75 to 100 years. Therefore, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate solid waste disposal needs. The solid waste generated by the project would represent a relatively small percentage of total landfill capacity, and the project's impact on landfill capacity would be less than significant.

## Energy

The project would result in very little energy use except during large events when energy may be needed for temporary lighting or other uses. Project construction would also involve temporary use of energy. The project would not result in wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

As described in Chapter 3, Project Description, of this EIR, proposed lighting by area is as follows:

- **Area 1 – Tooby Memorial Park.** Outdoor lighting is proposed at the existing caretaker's residence and at the restrooms. Temporary lighting would be used on special occasions that continue beyond dark. Solar and battery-powered lighting options would be used whenever possible.
- **Area 2 – Park Headquarters.** Standard outdoor lighting may be installed at and between existing buildings. Additional solar and battery-powered lighting options would be used whenever possible.

- **Area 3 – Main Agricultural Area.** No permanent lighting fixtures would be installed. Special events each year may continue past dusk and would use portable lighting stations to illuminate the parking areas. Up to three temporary lighting stations for parking areas would be provided.
- **Area 4 – Community Commons.** One to three temporary light stands would be positioned in the parking lots during evening seasonal events. The entry to the event site would also be lit. Low-voltage lighting would be used to light the portable toilets. Portable solar and battery-powered lighting would be used when possible. Craft and food booths that remain open after dark would also provide their own lights. At the environmental camp, temporary solar or battery-powered lighting would be used to light portable toilets.
- **Area 5 – Community Facilities/Sports Area.** For occasional night games held during sports tournaments, lighting stands may be provided for the fields. Bathroom facilities and the concessions would also have outdoor lighting.
- **Area 6 – Riverfront.** No lighting is proposed for this area.
- **Area 7 – Forestland.** No lighting is proposed for this area.

As indicated above, much of the lighting would be temporary, and in many cases solar and battery-powered lighting would be used whenever possible. In several areas of the site, no lighting is proposed. The project therefore would not result in wasteful, inefficient, or unnecessary consumption of energy.

## POTENTIALLY SIGNIFICANT IMPACTS

This section addresses the potentially significant utilities impacts of the project and recommended mitigation measures.

### Water Facilities

#### **Impact UTIL-1: The project would require or result in the construction of new water facilities, the construction of which could cause significant environmental effects. (PS)**

The project would include installation of water tanks, potable water lines, and irrigation lines, as described in Chapter 3, Project Description, of this EIR. All of the proposed water facilities would be located on the project site.

The construction and installation of these new water facilities could cause significant environmental effects. These effects are evaluated in this EIR. (See Section 4.3, Air Quality, Impact AIR-1; Section 4.4, Biological Resources, Impact BIO-2; Section 4.5, Cultural Resources, Impact CULTURAL-2; Section 4.6, Geology and Soils, Impact GEO-2; Section 4.7, Greenhouse Gas Emissions, Impact GHG-1; Section 4.8, Hazards and Hazardous Materials, “Less-than-Significant Impacts;” Section 4.9, Hydrology and Water Quality, Impact HYDRO-1; and Section 4.12, Noise, Impact NOISE-2.)

Additional water facilities beyond those included in the project are not expected to be needed to serve the project. The existing on-site fire hydrant connection is located close to the proposed large event site, providing easy access in case of fire. The SHCP owns a portable 300-gallon fire



suppression water-pumper tank installed on a four-wheel-drive truck that can provide access to most areas of the project site (GHD, 2014). The park is not located within the Town of Garberville, and only three residences are located at the site. If an emergency takes place, there are a total of four water sources that these residences can divert water from to use.

*Mitigation Measure UTIL-1: The project shall comply with all applicable mitigation measures identified in this EIR. Compliance with these measures would ensure that the impact of the proposed water facilities included in the project would be reduced to a less-than-significant level. (LTS)*

### **Solid Waste Disposal**

**Impact UTIL-2: The project would comply with federal, state, or local statutes and regulations related to solid waste. However, The Humboldt County Division of Environmental Health has identified the potential for impacts resulting from the handling of solid waste and recycling at the project, especially during events attracting 500 or more attendees. (PS)**

The volume of solid waste generated by the project would depend on the size, nature, and timing of events. The applicant has provided estimates of solid waste generation from everyday uses of the park as well as from the proposed special events. (See discussion of solid waste disposal under “Less-than-Significant Impacts” above.)

As discussed in Chapter 3, Project Description, day-to-day use of the park is projected to draw a maximum of 800 persons per day during the peak seasons (late spring, summer, and early fall). Additional visitors would be allowed at the park for special events under a conditional use permit. Under the conditional use permit, one annual event per year with up to 5,000 attendees (4,000 guests plus up to 1,000 staff, vendors, and performances) and up to five events per year with 800 to 2,500 attendees are proposed.

An on-site dumpster issued by Recology Humboldt County, which provides weekly trash collection, is proposed to be used for regular trash collection. During small and large events, cardboard, plastic and aluminum items would be collected in ten 50-gallon recycling barrels strategically placed within the project site and recycled. Event staff and volunteers would recycle materials on a regular basis. An unspecified number of 50-gallon barrels would be available for trash and would be placed strategically throughout the event area and in parking areas. Waste generated by events or in excess of the dumpster’s capacity would be taken to the Eel River Disposal container site in Redway by the park staff when necessary. The SHCP indicates that the entire site would be cleaned up after the event to the condition it was in before the event (Lobato, 2014a).

Waste generated by the project would likely not affect the disposal contracts managed by the HWMA. However, the Humboldt County Division of Environmental Health has expressed concern regarding the management of solid waste and recyclables during events. Therefore, impacts from solid waste would be potentially significant without adequate mitigation.

*Mitigation Measure UTIL-2: The applicant shall submit a plan for the management of solid waste and recycling for events that would attract 500 or more attendees. The plan shall be*

*subject to approval by the Humboldt County Division of Environmental Health. Prior to events attracting 500 or more attendees, the applicant shall manage solid waste and recyclables a manner consistent with the approved plan. (LTS)*

## **Energy**

The project would not result in any potentially significant energy impacts.

## **CUMULATIVE IMPACTS**

### **Water**

CEQA Guidelines Section 15130(a) states that “an EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable, as defined in Section 15065(a)(3). Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.”

The proposed project, in conjunction with other past, present, and reasonably foreseeable future projects, as listed in Table 6-1, would not result in a cumulatively considerable effect on water supply and demand or the need for new or expanded water entitlements and water facilities because the proposed project would have an adequate water supply to meet its needs, and future individual projects would be analyzed with regard to water supply and demand against existing entitlements, and a determination would be made about whether there is a sufficient water supply.

Most of the cumulative projects listed in Table 6-1 are small residential, retail, hospitality, and related uses that would use minimal amounts of water. The Garberville Sanitary District (GSD) water intake refurbishment project is the refurbishment of the existing water intake from the South Fork Eel River. The GSD project is a drinking water system improvement project, not a water capacity-increasing project. None of the cumulative projects listed in Table 6-1 would use a substantial amount of water that would be considered cumulatively considerable.

Overall, the effect of the proposed project on water service, in combination with other past, present, and reasonably foreseeable future projects, would not be cumulatively considerable.

### **Solid Waste Disposal**

For solid waste disposal service, the geographic scope for assessing cumulative impacts consists of the service areas of the Anderson Landfill in Shasta County and the Dry Creek Landfill in Medford, Oregon. These landfills have adequate capacity, as discussed under “Environmental Setting” above.

Construction of buildings and structures included in the proposed project, in conjunction with past, present, and reasonably foreseeable future projects, could result in a cumulative increase in construction-related solid waste and debris. Operation of the project also would contribute to cumulative increases in solid waste and debris. Comprehensive implementation of state and local waste reduction and diversion requirements and programs has and would continue to reduce the

potential for exceeding existing capacities of the landfills, which still have adequate capacity. Mitigation Measure UTIL-2 would ensure that solid waste from the project is responsibly managed.

Overall, the effect of the proposed project on solid waste disposal service, in combination with other past, present, and foreseeable projects, would be less than significant. The proposed project would not result in or contribute to any significant cumulative solid waste disposal service impacts.

## Energy

For electrical and natural gas service, the geographic scope for assessing cumulative impacts is PG&E's northern and central California service area.

Despite annual statewide increases in energy consumption, the net increased energy demand from the project, combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact, for the following reasons:

- As discussed in the project-specific analysis above, the proposed project would not result in any significant impacts on energy services. Many energy uses associated with the project would be temporary, and in many cases solar and battery-powered lighting would be used whenever possible.
- The proposed project and other projects have been and would be required to comply with all applicable standards of Title 24 of the California Code of Regulations.
- PG&E, which provides energy to the project site and vicinity, produces much of its energy from renewable sources and has plans in place to increase reliance on renewable energy sources. Because many agencies in California have adopted policies seeking increased use of renewable resources (and have established minimum standards for the provision of energy generated by renewable resources), it is expected that PG&E will continue to meet future demand for energy via a gradually increasing reliance on renewable resources, including small-scale sources such as photovoltaic panels and wind turbines, in addition to larger-scale facilities, such as wind farms. Therefore, although the proposed project and other anticipated projects would be expected to increase the demand for energy-producing facilities, this increase in demand would likely be met through the development of renewable resources that would have fewer environmental effects than the development of new conventional gas- or coal-fired power plants.

Thus, the project would not result in or contribute to any significant cumulative energy service impacts.

## REFERENCES

GHD, 2014. *Water Supply and Demand Analysis Memorandum*. (Included as Appendix G of this EIR.)

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## 5. ALTERNATIVES

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The State CEQA Guidelines (Section 15126.6) require that an EIR describe and evaluate the comparative merits of a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the basic objectives of the project. The CEQA Guidelines further require that the discussion focus on alternatives capable of avoiding or substantially lessening any of the significant effects of the project, including the “No Project” Alternative. Furthermore, if the environmentally superior alternative is the “No Project” Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

The project objectives are discussed in Chapter 3, Project Description. This discussion will focus on alternatives that could address potentially significant impacts. The EIR identifies potentially significant impacts that can be reduced to a less-than-significant level with implementation of mitigation measures.

Three alternatives are evaluated in this section:

- Alternative 1: No Project
- Alternative 2: Reduced Public Facilities Acreage
- Alternative 3: Benbow Lake State Recreation Area

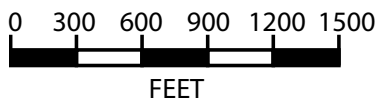
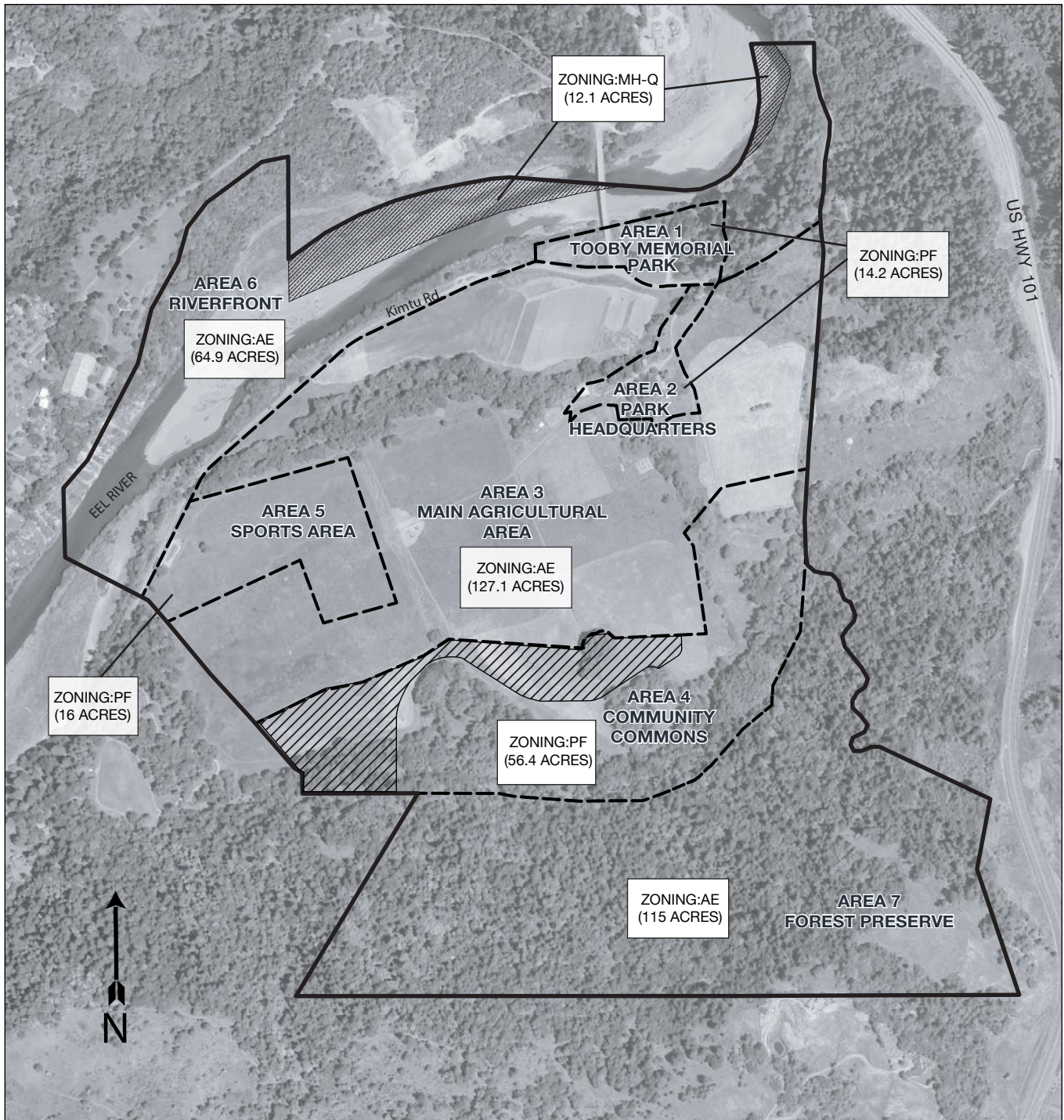
### 5.1 SUMMARY OF ALTERNATIVES

#### **ALTERNATIVE 1: NO PROJECT**

The No Project Alternative would leave the site in an unchanged condition from its existing use. It is uncertain if existing park activities at Tooby Memorial Park would be allowed to continue under existing Agriculture Exclusive zoning. No public uses and access of the property would be allowed. There would be no public access to trails, public events, and no festival events would occur. The site would not go through any rezoning or General Plan amendment. For this reason, the No Project Alternative also addresses what land uses could occur without such rezoning or General Plan amendment. This alternative would not meet many of the project objectives.

#### **ALTERNATIVE 2: REDUCED PUBLIC FACILITY ACREAGE ALTERNATIVE**

This alternative would reduce the amount of land to be rezoned from Agriculture Exclusive to Public Facility from 86.6 acres to 69.5 acres. By reducing the acreage, more agricultural land would be preserved. About 17.1 acres of land originally proposed to be designated in Area 4 as Public Facility would retain its agricultural zoning (**Figure 5-1**). Some of this acreage has been shown to be “Farmland of Statewide Significance.” This alternative would also protect a known cultural resource area. This alternative would meet all of the project objectives.




PF = PUBLIC FACILITIES  
 AE = AGRICULTURE EXCLUSIVE  
 MH-Q = HEAVY INDUSTRIAL  
 ACREAGE TO BE LEFT AS AGRICULTURE EXCLUSIVE

Figure 5-1

SOURCE: Huber C&D, 2014

**ALTERNATIVE 2 - REDUCED PUBLIC FACILITIES ACREAGE**

### **ALTERNATIVE 3: BENBOW LAKE STATE RECREATION AREA ALTERNATIVE**

The Benbow Lake State Recreation Area Site alternative would occur if some or all of the proposed project were located on a site other than the Southern Humboldt Community Park. Benbow Lake State Recreation Area (APN 033-301-017 and 033-301-018) is approximately 2 miles south of the proposed project site. This alternative is similar in nature to the No Project Alternative because the project applicant does not own and cannot purchase or allow community uses of the Benbow site as a Community Park. Most of the significant project features would be eliminated in this Alternative 3 with the exception of six temporary events. The project applicant would not have control of the property for agricultural or organized recreation purposes. As with the No Project Alternative, no sports facilities construction activities could occur on the Benbow site.

Given the limited use of the Benbow site for anything requiring the permanent installation of improvements, the Benbow Alternative analyzes the impacts of conducting the parts of the proposed project that could occur on the site which are six temporary events not associated with permanent improvements. Under this Alternative 3, it is assumed that the Southern Humboldt Community Park (SHCP) site would not be available for other project features.

There are numerous project objectives and goals that cannot be satisfied with the Benbow Alternative that render the site inappropriate for this project. The size of Benbow Lake State Recreation Area is a limiting factor. The Benbow 40-acre site (with about 7 acres of accessible land) is significantly less than the project site's 405 acres. Thus, site uses are significantly constrained at the Benbow site. In addition, the permanent changes in community facilities proposed for the proposed project site, such as the facilities for organized sports including soccer, baseball, softball, and football fields and as a facility for organized tournaments for various sport competitions, would not be possible at the Benbow site. Also, the Benbow site would not be available to the community for additional recreational facilities.

Additional project features that would not be able to occur at the Benbow site include the playground, skate park, dog park, bike skills park, and 3.5 miles of multi-purpose trails for bicyclists, hikers, and equestrians. There would be no appropriate location for community-based agriculture such as CSA programs, farming, grazing, animal husbandry, and agriculturally-based cottage industry. There also would be no facilities on-site that would be appropriate community meeting spaces.

Without the majority of the proposed project features and particularly the income-generating features of the project occurring at the Benbow site, Alternative 3 would be economically infeasible.

The Benbow Lake State Recreation Area is not under the control of the Southern Humboldt Community Park and as such, none of the project applicant's proposed facilities could be constructed on the site.

## **5.2 ALTERNATIVES CONSIDERED AND REJECTED**

### **RELOCATION OF SOME ON-SITE FACILITIES**

This alternative addresses some of the earlier proposals for the project site that were identified in the Notice of Preparation. Since that time, many elements of the project were revised to account for specific environmental constraints (e.g., wetlands) on the site. For this reason, the applicant does not wish to go back to the earlier proposals, but they are explained herein for context on the evolution of the site planning for the project.

#### **Changes to Public Facility Zone**

The original area proposed for Public Facility (PF) zoning included 96.7 acres in one, continuous, crescent-shaped area. The discovery of wetlands in the area initially planned for the sports fields caused a redesign of the plan in order to avoid impacts on the wetland and buffer zones.

The Public Facility area was then broken up into four different areas: Area 1-Tooby Memorial Park, Area 2-Park Headquarters, Area 4-Community Commons, and Area 5-Community Facilities. As reconfigured, the proposed PF-zoned areas now total 86.6 acres—10 acres less than originally proposed.

Other possible locations for the sports fields were rejected because they would require significant road building and would bring public vehicles through the center of the project site. Road construction would create more significant ground disturbances, as well as an impact to the aesthetic appeal with a public two-lane roadway bisecting the site. Such a roadway would affect the overall open space and natural beauty of the site. Improvements were redesigned to be located close to existing roadways and infrastructure to avoid and minimize those impacts.

Approximately 15 acres (planned for sport fields) were removed from the PF zone and became part of what is now of Area 3-Main Agricultural Area. Area 5-Community Facilities/Sports Area was added to the plan.

#### **Removal of the Multi-Family Residential Area**

In addition, the 3-5 acre area proposed for multi-family residential zoning was abandoned when it was discovered that wetlands existed at that site. Another suitable location on the project site could not be found. Thus, residential uses were removed from consideration.

### **ALTERNATIVE WITHOUT LARGE FESTIVAL EVENTS FOR FIRST TWO YEARS**

This alternative would delay any large events on the project site (4,000 project attendees) until 2 years after issuance of the Conditional Use Permit so that the County and applicant could monitor the small and medium events and do “adaptive management” to determine what additional measures may be needed to allow large events to run smoothly. Otherwise, this alternative would match the proposed project in all ways. The applicant would provide monitoring reports to Humboldt County each year for the first 2 years, summarizing how the small and medium events have run and identifying any issues that may need to be addressed. This monitoring would also



include any issues raised by the Humboldt County Sheriff's Office, the California Highway Patrol, and other applicable agencies. This alternative would meet all of the project objectives. However, it was rejected because it would not be significantly different from the proposed project.

### **5.3 IMPACTS OF ALTERNATIVES**

This section summarizes the impacts of each alternative as compared to the proposed project. When impacts are similar to the proposed project, this is called out. A comparison of the alternatives to the proposed project is provided in **Table 5-1**.

#### **ALTERNATIVE 1: NO PROJECT**

##### **Aesthetics**

This alternative would leave the site unchanged. No additions of new facilities or recreational amenities would occur, and thus no changes to existing visual conditions would occur. No new parking would be added at the site that would require landscape screening. This alternative would not include any rezoning or a General Plan amendment; thus, up to 54 new residential units could possibly be developed on the site, which would result in potential visual impacts depending on the design and location of new residences. However, it is assumed that visual impacts of such new residences could be mitigated by proper site planning and landscape screening.

##### **Agricultural/Forestry Resources**

This alternative would leave the existing agricultural operations in place and no changes to prime agricultural soils would occur. However, if new residences are developed on the site within the areas where residential uses are allowed, prime agricultural lands could also be removed under the No Project Alternative. In addition, more impacts to forestry resources could occur if areas of the "Forest Preserve" are used for new residential development.

##### **Air Quality**

No construction of new structures would occur under this alternative except for the possibility of 54 new residences under existing zoning. New construction-related and operation-related emissions would occur if residences were constructed. If no new development took place, emissions would be much lower than estimated for the project. With residential construction, mitigation measures for construction emissions could be implemented as proposed for the project.

##### **Biological Resources**

If no development took place on the site, there would be no impacts on biological species or habitats. However, developing the site with up to 54 residential units could have substantial impacts on sensitive natural resources and wildlife habitat. Potential impacts would depend on specific development plans, but the extent of grading and impervious surfaces of roadways, residences, and other improvements would most likely be much greater than under the proposed project. Grading and development could affect areas of freshwater marsh and seasonal streams for roadway access and lot development, which are largely avoided under the proposed project.

**TABLE 5-1 COMPARISON OF IMPACTS OF PROJECT ALTERNATIVES (AFTER MITIGATION)**

<b>Environmental Issue Area</b>	<b>PP Proposed Project</b>	<b>ALT 1 No Project and No Rezoning</b>	<b>ALT 2 Reduced Public Facility Acreage</b>	<b>ALT 3 Benbow Lake State Recreation Area</b>
Aesthetics	LTS	LTS	LTS	LTS+
Agricultural/Forestry Resources	SU	SU+	SU-	LTS-
Air Quality	LTS	LTS	LTS	LTS-
Biological Resources	LTS	LTS+	LTS	LTS-
Cultural Resources	LTS	SU+	LTS-	LTS-
Geology and Soils	LTS	LTS	LTS	LTS-
Greenhouse Gas Emissions	LTS	LTS+	LTS	LTS-
Hazards and Hazardous Materials	LTS	LTS	LTS	LTS
Hydrology and Water Quality	LTS	LTS	LTS	LTS-
Land Use and Planning	LTS	LTS	LTS	LTS
Mineral Resources	LTS	LTS	LTS	LTS
Noise	LTS	LTS-	LTS	LTS
Population and Housing	LTS	LTS	LTS	LTS
Public Services	LTS	LTS+	LTS	LTS
Recreation	LTS	LTS	LTS	LTS+
Transportation/Traffic	LTS	LTS	LTS	LTS-
Utilities and Service Systems	LTS	LTS	LTS	LTS

Notes: PP = Proposed Project  
 ALT 1 = No Project Alternative  
 ALT 2 = Reduced Public Facility Acreage  
 LTS = less than significant  
 SU = significant and unavoidable  
 + = Greater adverse impact than proposed project  
 - = Lesser adverse impact than proposed project

Source: A. Skewes-Cox, 2015.

Drainage improvements to address flooding and surface runoff could also affect areas of freshwater marsh and the bank stability of seasonal streams, particularly if runoff volumes and velocities increase as a result of impervious surfaces. Residential development could also result in substantial tree removal where existing unpaved roadways are widened to accommodate minimum roadway standards, changes in drainage ways, and other required modifications.

## **Cultural Resources**

No ground-disturbing activities would occur under this alternative unless new residential structures were built. Therefore, there would be no potential to affect archaeological resources, paleontological resources, or human remains interred outside of formal cemeteries. If residential units were built on the site, the impacts would largely depend on where those units would be located. Generally speaking, however, a development of 54 units would potentially have more impacts on archaeological resources than the proposed project. Such impacts would occur from the (presumably) greater volume of soil that would need to be moved to construct a 54-unit development. This ground disturbance would have the potential to affect previously unrecorded (i.e., buried) prehistoric archaeological deposits that could be located on terraces along the South Fork of the Eel River. Indirect impacts on archaeological resources would likely be the same or similar to those of the project and would occur from increased exposure of recorded archaeological deposits to unauthorized collection and foot traffic.

The known historical resource consists of the Wood/Tooby Ranch Complex. A 54-unit development would potentially affect this resource by introducing new construction that could impair this resource's integrity of setting, one of seven components of integrity that are used to evaluate a resource's historical significance. Demolition or relocation of the buildings from such a development would also have a potentially significant, unavoidable impact, even after mitigation. Without knowing the details of this proposed alternative, it could have a potentially greater impact on historical resources than the proposed project.

## **Geology and Soils**

No new structures would be built under this alternative unless new residences were developed as allowed by existing zoning. Without new development, there would be no potentially significant impacts related to seismic and geologic hazards under this alternative, including hazards related to ground shaking, seismic-related ground failure, lateral spreading, slope instability, and differential and total settlement. If new residential units were constructed, there could be impacts related to existing geologic conditions, and each new development would require a geotechnical study to determine the required mitigation measures.

## **Greenhouse Gas Emissions**

No demolition of buildings or construction of new structures would occur under this alternative unless new residences were constructed. Therefore, there would be no greenhouse gas (GHG) emissions related to construction activity. There would be no new operational GHG emissions, and existing emissions of GHGs would continue. With new residential development, GHG emissions could be similar to the proposed project and may even be greater due to the potential for 54 new residential structures.

## **Hazards and Hazardous Materials**

No demolition of buildings would occur under this alternative unless new residences were constructed as allowed by existing zoning. The impacts associated with hazardous materials would be similar to those of the proposed project, and all potential impacts could be mitigated.

## Hydrology and Water Quality

No new structures would be built under this alternative unless new residences were constructed as allowed by existing zoning. If there were no development, no effects on stormwater quality related to construction or operation of the project would occur. Therefore, the project's potential hydrology and water quality impacts would be avoided under this alternative if there were no development. If there were new residences on the site, increased stormwater would result and on-site retention of runoff would be required on a site-specific basis. During construction, Best Management Practices would be required to reduce erosion and sediment impacts. The hydrology impacts of the residential development are potentially significant and implementation of the existing requirements with the performance standards contained in Mitigation Measures HYDRO-1 and HYDRO-2 would be required to mitigate the impacts to a less-than-significant level.

## Land Use and Planning

The No Project Alternative would not require a General Plan amendment or rezoning for the project site. No changes would occur in the land uses at the site; no potential conflicts with General Plan policies would occur. However, new residential development could occur under the existing zoning, which could possibly result in land use conflicts between residential uses and nearby mining activities on the north side of the South Fork Eel River, depending on the location of new residences.

## Mineral Resources

Under the No Project Alternative, on-site gravel extraction activities would continue. New residential development may result in some land use conflicts with such operations, depending on the location of the residences.

## Noise

The No Project Alternative would leave the site in an unchanged condition from its existing use unless new residences were developed. The absence of large festival events at the site would reduce on-site, temporary noise impacts. New residential construction is not expected to result in any significant noise impacts that could not be easily mitigated.

## Population and Housing

The No Project Alternative, like the proposed project, would not induce significant population or housing growth or displace any communities. Thus, impacts would be similar to those of the proposed project and no mitigation measures would be required.

## Public Services

Impacts of this alternative would be comparable to those of the project because this alternative would not create a need for new or physically altered fire stations or police facilities, schools, or recreational facilities. The recreational facilities proposed by the project would not be built. New residential development would require increased police and fire services, but these may be similar

demands to the proposed project. With residential development as allowed by current zoning, there could be increased demands on schools as compared to the proposed project.

### **Transportation/Traffic**

Under this alternative, the site would not have increased trips associated with special events on the site. If there were residential development, new residences could generate about 540 daily trips, assuming about 10 trips per single-family home. However, peak hour trips would not be expected to result in significant changes in level of service at nearby intersections. This issue would require further study once locations of residences were known, and depending on how many homes are proposed under existing zoning.

### **Utilities and Service Systems**

Impacts of this alternative would be comparable to those of the project because the alternative 1) would not require the construction of new water treatment facilities or expansion of existing facilities, 2) would not require new or expanded water entitlements, 3) would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, 4) would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, 5) would not exceed landfill capacity, and 6) would not conflict with federal, state, or local statutes and regulations related to solid waste. Impacts of new residential development on the site would generally be similar to the proposed project; however, the impacts on utilities would depend on how many residences are ultimately developed.

## **ALTERNATIVE 2: REDUCED PUBLIC FACILITY ACREAGE**

### **Aesthetics**

This alternative would leave more land in agricultural use. With less acreage in Area 4 that could ultimately be converted to public facility use, the site would retain more of its rural character. The area is currently used for hay crops and is assumed to remain in this use. In addition, some trails traverse this area and these are also assumed to remain.

### **Agricultural/Forestry Resources**

This alternative would retain about 17 acres of agricultural land, including Farmland of Statewide Significance by not changing the designation from Agriculture Exclusive to Public Facility. While there would still be significant, unavoidable impacts related to removal of prime farmland, this alternative would reduce the loss of farmland acreage on the overall site. Without this 17 acres designated as Public Facility, expansion of active uses would be constrained to 39.4 acres in Area 4 and the existing hay production in this area is likely to remain. Total agricultural land to remain in Agriculture Exclusive zoning would be 335.7 rather than 318.7 acres.

### **Air Quality**

Air quality impacts would be similar to the proposed project. With retention of the agricultural acreage, there could be some emissions associated with agricultural operations but this would not be significant.

## **Biological Resources**

Biological impacts would be similar to the proposed project. Hay crop production would most likely continue as an existing practice, under both this alternative and proposed project. And there would be no changes in the location of existing or proposed trails and other facilities as a result of this alternative, so biologically there would no substantial difference in impacts to common and sensitive biological and wetland resources as compared to the proposed project.

## **Cultural Resources**

This alternative would protect a previously recorded archaeological deposit by limiting development in this portion of Area 4. Historic resource impacts would be similar to the proposed project.

## **Geology and Soils**

Impacts related to seismic and geologic hazards under this alternative, including hazards related to ground shaking, seismic-related ground failure, lateral spreading, slope instability, and differential and total settlement would be similar to the proposed project. By leaving the 17 acres in an agricultural designation (vs. Public Facility), long-term impacts may be slightly reduced due to the reduced amount of development that could occur in this area of the site.

## **Greenhouse Gas Emissions**

GHG emission impacts would be similar to the proposed project. However, by retaining the 17 acres in agricultural zoning, less acreage of the site would be developed which could reduce the long-term potential for GHG emissions.

## **Hazards and Hazardous Materials**

The impacts associated with hazardous materials would be similar to those of the proposed project, and all potential impacts could be mitigated.

## **Hydrology and Water Quality**

The project's potential hydrology and water quality impacts would be similar to the proposed project. Over the long term, the retention of the 17 acres in agricultural use may result in less site development which would have water quality and runoff benefits.

## **Land Use and Planning**

This alternative would have a small area (about 17 acres) retained as Agriculture Exclusive as compared to the proposed project, thus resulting in less acreage subject to a General Plan amendment and rezoning. The retention of these agricultural lands would conform to County policies encouraging the retention of such lands.

## **Mineral Resources**

Impacts related to mineral resources would be similar to the proposed project.

## Noise

Noise impacts of Alternative 2 would be similar to the proposed project. Over the long term, the retention of the 17 acres in an agricultural designation could result in reduced noise impacts as compared to ultimately developing this acreage in public facility uses.

## Population and Housing

Impacts would be similar to those of the proposed project and no mitigation measures would be required.

## Public Services

Impacts of this alternative would be comparable to those of the project because this alternative would not create a need for new or physically altered fire stations or police facilities, schools, or recreational facilities.

## Transportation/Traffic

Traffic impacts of this alternative would be similar to the proposed project.

## Utilities and Service Systems

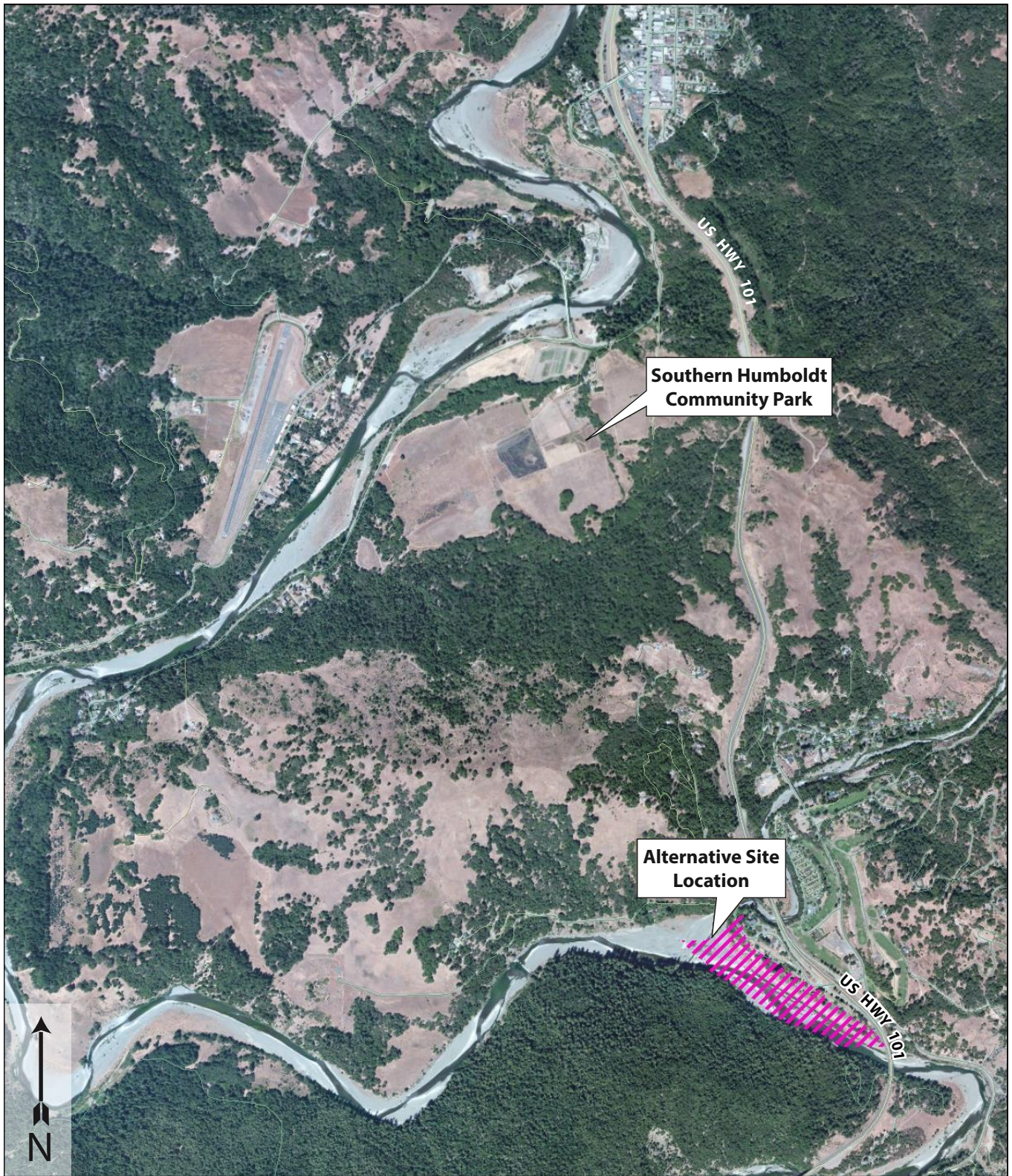
Impacts of this alternative would be comparable to those of the project because the alternative 1) would not require the construction of new water treatment facilities or expansion of existing facilities, 2) would not require new or expanded water entitlements, 3) would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, 4) would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, 5) would not exceed landfill capacity, and 6) would not conflict with federal, state, or local statutes and regulations related to solid waste.

## ALTERNATIVE 3: BENBOW LAKE STATE RECREATION AREA ALTERNATIVE

The Benbow Lake State Recreation Area Site Alternative (hereinafter referred to as the “Benbow Alternative” or “Alternative 3”) would occur if some or all of the proposed project were located on a site other than the Southern Humboldt Community Park. Benbow Lake State Recreation Area (APN 033-301-017 and 033-301-018) is approximately 2 miles south of the proposed project site (see map below in **Figure 5-2**).

Given the steep topography of the general area, and the need to locate the public facilities of the proposed project near population centers, alternative sites are extremely limited. The Benbow site is considered the only site in the area that could feasibly accommodate the proposed project.

The Benbow site is adjacent to and west of Lake Benbow Drive on the property known as 360 Lake Benbow Drive. This site was selected for comparison purposes in this EIR because it has some key qualities similar to the proposed site location. The Benbow Lake State Recreation Area property is currently used for picnicking, swimming, and some similar public assembly activities as those proposed by the Southern Humboldt Community Park. Like the proposed project site, the



Southern Humboldt  
Community Park

Alternative Site  
Location

Figure 5-2

**ALTERNATIVE 3 - SITE AT BENBOW STATE PARK**

SOURCE: Humboldt County Planning Dept., 2015



Benbow site has good access to the South Fork of the Eel River; it is near U.S. Highway 101; and, it is a relatively large site, more than 40 acres in size, with flat areas for camping and for concerts. It should be noted that the Benbow Lake State Recreation Area campground has been closed since 2013 due to budget cuts.

While there are similarities between the Benbow site and the proposed project site that work well as an alternative considered in the EIR, there are also some important differences. Many of the uses described in the EIR for the SHCP property are not feasible to be accommodated at the Benbow site. For example, since the Benbow site is owned by California State Parks, it would not be available for any of the agricultural or organized sport uses proposed for the SHCP project. Proposed physical changes to the project site would not be possible. It would also not be feasible as a site for any of the other uses listed below that require the permanent installation of structures, facilities, equipment, or other permanent improvements:

- One of the most common features of the proposed project is a trail system that includes 3.5 miles of existing trails and 3 miles of new additional trails, a labyrinth, benches, way-finding signs, and interpretive signs, Tooby playground, kiosks and shade structures, and a fenced dog park. These features would not occur at the Benbow site.
- Additional proposed Community Park uses that would be unlikely to occur at the Benbow site range from weddings and memorial services to non-profit fundraisers, community enrichment and educational classes.
- No community facilities would be constructed for meetings or classes or workshops and those activities would be unlikely to occur.
- Proposed recreational uses that would not occur at the Benbow site include sports facilities with soccer fields, baseball fields, a football field, sports storage facility, a disc golf course, specialty group camping, sporting events, tournaments, bicycle races, and skate park.
- Agricultural uses would not occur, including general agricultural production, community agricultural use of existing structures (e.g., two barns, greenhouses, outbuildings, chicken coop, stables, and farm stand), horse stable facilities, and equestrian uses. Agricultural products processing would not occur such as post-harvest handling and market preparation.
- Agricultural storage and refrigeration would not be available at the Benbow site. Community supported agricultural (CSA) projects would not occur.
- Cottage industry, value-added farm products, food products, nursery, or seed production would not occur at the Benbow site.
- Watershed management, forest management, and ecological restoration projects would not occur at the Benbow site.

This alternative is similar in nature to the No Project Alternative because the project applicant does not own and cannot purchase or allow community uses of the Benbow site as a Community Park. Most of the significant project features would be eliminated in this Alternative 3 with the exception of six temporary events. The project applicant would not have control of the property for agricultural or organized recreation purposes. As with the No Project Alternative, no residential construction activities could occur on the Benbow site.

Given the limited use of the Benbow site for anything requiring the permanent installation of improvements, the Benbow Alternative analyzes the impacts of conducting the parts of the proposed project that could occur on the site which are six temporary events not associated with

permanent improvements. Under this Alternative 3, it is assumed that the SHCP site would not be available for other project features.

## **AESTHETICS**

The Benbow Alternative would cause increased impacts on visual quality as compared to the proposed project because the Benbow site is closer to, and more visible from, U.S. Highway 101 which is a heavily-travelled corridor. While there would be different people affected, there would be about the same number of neighbors visually impacted by the project at the Benbow site. Lighting of nighttime events could result in glare for both neighbors and motorists on U.S. Highway 101.

## **AGRICULTURE**

The Benbow site has been used for recreational purposes by the public for many years. Currently, there are no agricultural uses of the Benbow site; thus, impacts to agriculture would be lessened with this project alternative.

## **AIR QUALITY**

No construction of new structures would occur under this alternative. With many of the project features eliminated in this alternative, no new construction would take place and as such, emissions would be lower than estimated for the project. Construction and operational emissions would be less than for the proposed project due to the reduced activities at the Benbow site. Some operational emissions associated with transportation would occur with the use of the site for six temporary events, but these would not be significant. If diesel generators were used to provide electricity for music events, some emissions would also be associated with these diesel generators.

## **BIOLOGICAL RESOURCES**

There are biological resources on the project site that are not found on the Benbow site. For example, there is a large wetland feature at the north end of the proposed project site. Impacts to biological features would be less with the use of the Benbow site. Both sites have access to the Eel River with swimming areas which are well used by the community. But impacts to biological resources associated with use of the Eel River would be similar to the proposed project and would not be significant.

## **CULTURAL RESOURCES**

No ground-disturbing activities would occur under this alternative at the Benbow site. Therefore, there would be no potential to affect archaeological resources, paleontological resources, or human remains interred outside of formal cemeteries. Indirect impacts on archaeological resources would likely be reduced, as compared to the proposed project, as related to exposure of recorded archaeological deposits to unauthorized collection and foot traffic because there would be less intensive use of the Benbow site as compared to the use of the proposed project site.

## **GEOLOGY AND SOILS**

No new structures would be built under the Benbow Alternative. Without new development, there would be no potentially significant impacts related to seismic and geologic hazards under this alternative, including hazards related to ground shaking, seismic-related ground failure, lateral spreading, slope instability, and differential and total settlement. Temporary use of the Benbow site for events would expose visitors to the potential for seismic activity but this impact would not be significant.

## **GREENHOUSE GAS EMISSIONS**

No demolition of buildings or construction of new structures would occur under the Benbow Alternative. Therefore, there would be no GHG emissions related to construction activity. There would be increased operational GHG emissions due to increased traffic to the Benbow site. GHG emissions would be less than those of the proposed project due to reduced activity at the Benbow site.

## **HAZARDS AND HAZARDOUS MATERIALS**

The Benbow site is in an area of high fire hazard according to the County's Framework Plan. This is the same hazard rating that applies to the proposed project site. Accordingly, impacts associated with exposure to the threat of wildland fire are the same with both the Benbow site and the proposed project. No demolition of buildings would occur under this alternative, thus resulting in reduced potential hazards associated with asbestos removal.

## **HYDROLOGY AND WATER QUALITY**

No new structures would be built under this alternative. Thus, this alternative would not result in increased runoff during storm events. There would be no effects on stormwater quality related to construction or operation of the project except for the potential increase in oils and grease in areas of parking for the six community events that could occur at the Benbow site. Therefore, the project's potential hydrology and water quality impacts would be reduced under this alternative.

## **LAND USE AND PLANNING**

The Benbow site would not require a General Plan amendment or rezoning for the project site. The site is currently used for recreational purposes. No changes would occur in the land uses at the site; no potential conflicts with General Plan policies would occur. However, no new community recreational facilities such as sports field would be able to be located at this site.

## **MINERAL RESOURCES**

Under this Alternative 3, no gravel extraction activities would be impacted. This would be similar to impacts at the proposed project site.

## **NOISE**

The Benbow site would have similar noise impacts to the proposed project. While there would be different people affected by exposure to noise and vibrations, there generally would be the same number of neighbors impacted by the project at the Benbow site because the residential density of the surrounding properties is similar to the proposed project site.

## **POPULATION AND HOUSING**

The Benbow Alternative, as the proposed project, would not induce significant population or housing growth or displace any communities. Thus, impacts would be similar to those of the proposed project and no mitigation measures would be required.

## **PUBLIC SERVICES**

Impacts of this alternative would be comparable to those of the project because this alternative would not create a need for new or physically altered fire stations or police facilities, schools, or recreational facilities. However, the recreational facilities proposed by the project would not be built, leaving the general area with very limited recreational facilities as compared to the proposed project.

## **TRANSPORTATION/TRAFFIC**

Under this alternative, the Benbow site would have increased trips associated with six special events on the site. Access to the Benbow site would be less constrained as compared to the proposed project. The access to the SHCP property is along Sprowel Creek Road, a two lane paved road that narrows in some areas to 20 feet or less with little or no shoulders. In comparison, the Benbow site is accessed by Lake Benbow Drive, a relatively flat, two-lane paved road that is 30 feet in width with 5-foot paved shoulders on either side. Also, the Benbow site is approximately 2,000 feet from U.S. Highway 101, which is much closer than the proposed project to this highway. Therefore, this alternative has fewer traffic safety impacts compared to the proposed project. With reduced on-site activities, Alternative 3 would also have less traffic generated as compared to the proposed project.

## **UTILITIES AND SERVICE SYSTEMS**

Impacts of this alternative would be comparable to those of the project because the alternative 1) would not require the construction of new water treatment facilities or expansion of existing facilities, 2) would not require new or expanded water entitlements, 3) would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, 4) would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, 5) would not exceed landfill capacity, and 6) would not conflict with federal, state, or local statutes and regulations related to solid waste. Fewer people over the year would attend the Benbow site as compared to the proposed project; thus, water supply and wastewater treatment impacts would be reduced as compared to the proposed project. It is assumed that temporary sanitary waste facilities would be used during the six annual events.

## 5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines require that the “environmentally superior alternative” be identified. If the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

For this project, the No Project Alternative would not be the environmentally superior alternative as it would leave the site in the existing zoning in which up to 54 new residences could be developed, potentially resulting in more impacts than identified for the proposed project. Thus, the Environmentally Superior Alternative would be Alternative 2 in which a total of 335.7 acres would remain in an agricultural designation and would not be rezoned as Public Facility. All of the project objectives would be met.

While Alternative 3 has reduced impacts compared to the proposed project, this alternative is very limited as to what could occur at the Benbow site and many of the project objectives would not be met. For this reason, Alternative 3 was not considered the Environmentally Superior Alternative.



## **6. CEQA CONSIDERATIONS**

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### **6.1 SIGNIFICANT IRREVERSIBLE EFFECTS**

California Environmental Quality Act (CEQA) states that impacts associated with a proposed project may be considered to be significant and irreversible for the following reasons:

- Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes the removal or non-use thereafter unlikely;
- Primary impacts and, particularly, secondary impacts (such as a highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses; and
- Irreversible damage can result from environmental accidents associated with the project.

This project would include the development of new on-site facilities such as playing fields, parking areas, restrooms, camping facilities, trails, pedestrian bridges, and playground equipment. Some structures would be permanent and their installation would constitute an irreversible use of these lands, as it is unlikely that the buildings would be removed for many years. The proposed project would irretrievably commit materials to the construction and maintenance of new buildings/ structures. In addition, the construction and operation of the project would result in the use of energy, including fossil fuels. The applicant is committed to reducing energy use and has proposed some energy saving features such as the use of solar lighting whenever possible. The project is not expected to result in any activities likely to cause accidents that could lead to irreversible environmental damage.

### **6.2 SIGNIFICANT UNAVOIDABLE IMPACTS**

Development in accordance with the project would convert agricultural land to non-agricultural use, reducing the overall inventory of agricultural land in Humboldt County. No mitigation is available for this loss of agricultural land. The impact would therefore be significant and unavoidable.

### **6.3 GROWTH INDUCEMENT**

Section 15126.2(d) of the CEQA Guidelines requires that EIRs discuss the potential for projects to induce population or economic growth, either directly or indirectly. CEQA also requires a discussion of ways in which a project may remove obstacles to growth, as well as ways in which a project may set a precedent for future growth.

#### **POPULATION AND ECONOMIC GROWTH**

The proposed project does not involve a residential component; therefore, it would not directly result in population growth. The proposed project would directly generate temporary employment opportunities on-site. Operation of the proposed Community Park would incrementally increase

long-term employment associated with park maintenance. Maintenance of the proposed project would require the need to hire one or two new employees to operate and maintain the Southern Humboldt Community Park (SHCP). The Community Park is designed to accommodate the recreational needs of existing southern Humboldt residents. If new employees are required, it is not likely that these positions would induce people to relocate to the area to fill the new job opportunities.

Activities that would be principally permitted under new zoning involve the use of the site for community assembly and events numerous times each year such as sport fields, sporting events, weddings, classes, and birthday parties. These activities would trigger the potential for additional seasonal employment. During large festivals, up to 1,000 staff could be on the site for the short duration of the festival but this would not result in the indirect growth inducing impact of requiring nearby housing as employees would be from both the local area and more distant locations.

The project would have beneficial economic impacts on local businesses by temporarily increasing the demand for goods and services in southern Humboldt County during the community assembly events and any sports tournaments that may be held at the project site. The project also has a similar beneficial impact on non-profit organizations and private sector businesses that sell concessions at the ball fields and events. However, such economic benefits would not result in any significant growth inducement.

For activities that would require a Conditional Use Permit on the property, such as seasonal events, these activities may provide new part time seasonal employment. The seasonal nature of this employment makes it unlikely that such employment would, however, induce new residents to move to the area. The Summer Arts and Music Festival has been held in the southern Humboldt area for 36 years and it would be hard to argue that it has induced growth in southern Humboldt County. Any growth inducing impacts of the community assembly events are temporary, and limited in nature.

## **REMOVAL OF OBSTACLES TO GROWTH**

The proposed project would facilitate development of a park on land currently designated for mixed agricultural and clustered rural residential uses. The proposed land use and zoning would reduce the number of potential residences that could be developed on the site. However, the proposed project would potentially allow transfer of those development “credits” to another part of the County; thus, there would be no change in the overall development potential for the County.

The proposed project does not include expansion of water services beyond those currently allocated to the property. No new roads or other major infrastructure would be developed as part of the project. Thus, the project would not result in removing obstacles to growth.

## **6.4 CUMULATIVE IMPACTS**

The CEQA Guidelines require a discussion of the cumulative effects that could result from a project (Section 15130). Cumulative impacts could result from the combination of the project and past, present, and probable future projects. This analysis can either be based on a list of such projects or a summary of projections in an adopted General Plan or related planning document.



For this EIR, the authors selected to rely on a list of projects that could occur in the general vicinity of the project, as the scale and location of this project would have the most relevant cumulative impacts related to the immediate vicinity (i.e., tree removal, traffic, etc.). At the time of publication of this Draft EIR, the following were the most relevant cumulative projects for consideration, as shown in **Table 6-1**.

Cumulative projects are evaluated at the end of each section of Chapter 4, by topic.

**TABLE 6-1 CUMULATIVE PROJECTS IN VICINITY OF PROJECT SITE**

<b>Key Parcel #</b>	<b>Location <sup>a</sup></b>	<b>Project Description</b>	<b>Effective Date</b>	<b>Notes</b>
223-311-014-000	The project is in the Redway area, on the southeast side of Evergreen Road, at the intersection of Evergreen Drive and Tunnel Road, on the properties known as 1101 and 1151 Evergreen Road.	A Conditional Use Permit for the construction and operation of an approximately 26,450-square-foot business center on an approximately 128,555-square-foot parcel (after lot merger). Proposed uses include a mix of retail sales and service as well as manufacturing	07/22/2005	New
222-156-019-000	The project is located in the Garberville area, on the north side of Kadin Way, approximately 150 feet east from the intersection of Connick Creek Road and Kadin Way, on the property known as 10 Kadin Way.	A Special Permit for a cottage industry which began without the benefit of County review. The applicant proposes to operate a commercial kitchen to produce samosas and mango sauce. There is no foot traffic to the site; all goods are sold off-site.	10/26/2012	Existing/minor change
222-091-002-000	The project site is located in the Garberville area, on the north side of Camp Kimtu Road, just west from the intersection of Camp Kimtu Road with Sprowel Creek Road, on the property known as 1122, 1144 Sprowel Creek Road.	Conditional Use Permit, Surface Mining Permit and Reclamation Plan to continue mining on a site already in operation. The proposed new permit would result in the extraction of a maximum volume of 50,000 cubic yards (cy) in a given year, not to exceed an annual average of 40,000 cy over a 3-year period. The new Conditional Use Permit would expand the extraction area to include gravel bars on both sides of the river and an adjacent upstream property. Additionally, the applicant proposes to expand the processing site to include the "incidental use" of two properties adjacent to the existing processing site for limited processing-related activities and remove the limitations on maximum volumes for specific gravel bars in favor of a total maximum volume for any combination of gravel bars included in the project area, thus allowing more flexibility for adaptive management strategies.	09/14/2004	
222-211-002-000	The project is located in in the Garberville area, on the north side of Old Briceland Road, approximately 2.3 miles west from the intersection of Sprowel Creek Road and Old Briceland Road, on the property known as 1901 Old Briceland Road.	This project is a Special Permit for a secondary dwelling unit built without the benefit of County review. The 336-square-foot residence is located on an approximately 13.5-acre parcel. The parcel is currently served by two on-site septic systems	7/18/2014	Minor
222-111-009-000	The project site is located in the Garberville area, on the east side of Sprowel Creek Road, approximately 400 feet south from the intersection of Sprowel Creek Road with Briceland Road on the property known as 2166 Sprowel Creek Road	A Special Permit to bring an existing Secondary Dwelling Unit into zoning compliance. The structure is 768 square feet in size and 13 feet in height. The Secondary Dwelling Unit and the existing primary residence are on a 0.69-acre parcel	/ /	Minor
223-061-011-000	The project is located in Humboldt County, in the Garberville area, on the north side of Sprowel Creek Road, approximately 0.36 miles northeast from the intersection of Camp Kimtu Road and Sprowel Creek Road, on the property known as 1353 and 1777 Sprowel.	Split 30-acre parcel into two; 1 23 acres, other 7 acres. Single-family residence on each	09/18/2007	Two new residences
223-171-006-000	The project is located in Humboldt County, in the Garberville area, on the west side of Bear Canyon Road, approximately 260 feet southwest from the	Conversion of a portion of an existing 1,800-square-foot commercial building (formerly operated as a Health Club) to a Medical Cannabis Collective engaged in the distribution of medical cannabis amongst qualified members.	03/18/2011	Change in use

TABLE 6-1 CUMULATIVE PROJECTS IN VICINITY OF PROJECT SITE

Key Parcel #	Location <sup>a</sup>	Project Description	Effective Date	Notes
223-171-011-000	intersection of Redwood Drive and Bear Canyon Road, on the property known as 1385 Redwood Drive. The project is located in Humboldt County, in the Garberville area, on the west side of Redwood Drive, approximately 763 feet north from the intersection of Bear Canyon Road and Redwood Drive, on the property known to be in Southwest 1/4 Section 13 Towns.	Instream gravel operation.	10/22/2012	New
223-135-003-000	The project is located in the Garberville area in the following areas: On the northwest, north, east & south sides of the intersection of Skyway Road and Highway 101, on the properties known in Sections 11, 12, and 13 Township.	A Final Map Subdivision of 1,054 acres into Parcels 1, 2, 3, 4, and Remainder of approximately 386, 362, 259, 9.8, and 37 acres, respectively. The subdivision will allow for termination of the Wallan-Johnson partnership of the subject lands.	05/31/2006	Subdivision but no specific project
223-136-003-000	The project is located in the Garberville area, on the north side of Alderpoint Road, approximately 1.10 miles northeast from the intersection of Highway 101 and Alderpoint Road, on the properties known to be in Section 18 Township.	Intermittent extraction/processing of up to 50,000 cy with average annual rate not exceeding 35,000 cy from existing rock quarry.	01/06/2009	Existing with change
033-301-020-000	The project is located in the Benbow area, on both sides of Mountain View Road, approximately 0.65 miles north from the intersection of Lake Benbow Drive and Mountain View Road, on the property known as 500 Mountain View Road.	CUP/SP for 145-foot cell tower.	05/16/2008	Cell tower
033-301-014-000	The project site is located in Humboldt County, in the Benbow area, on the south side of Benbow Dam Road, approximately 800 feet west from the intersection of Benbow Dam Road with Lake Benbow Drive, on the property known as 255 Benbow Dam Road.	A Special Permit is required for a 400-square-foot addition to an existing legal, non-conforming second unit of ±1608 square feet.	06/01/2000	Minor
033-301-015-000	The project site is located in Humboldt County, in the Benbow area, on the east side Lake Benbow Drive, approximately 500 feet northwest from the intersection of Lake Benbow Drive with Highway 101, on the property known as 445 Lake Benbow Drive.	A Special Permit to allow the Benbow Inn to construct an addition to the existing inn which will exceed the 45-foot height limit of the zone. The project will add 18 new suites, a new conference room, and new restrooms.	06/12/2002	Expansion

TABLE 6-1 CUMULATIVE PROJECTS IN VICINITY OF PROJECT SITE

Key Parcel #	Location <sup>a</sup>	Project Description	Effective Date	Notes
223-311-011-000	The project site is located in Humboldt County, in the Redway area, on the east side of Evergreen Road, approximately 150 feet south from the intersection of Evergreen Road with Barnett Road, on the property known as 1241 Evergreen Road.	Establishment of a <b>transmission repair shop</b> (minor automobile repair) within a proposed 6,000-square-foot building, approximately 16 feet in height. The vacant 0.17-acre parcel is located in the Meadows Business/Industrial Park.	05/18/2001	New repair shop
223-311-032-000		<b>Grading and site preparation</b> of a parcel in the Meadows Business Park.	03/13/2008	Site prep
223-311-035-000	The project site is located in the Humboldt Hill area on the North side of Fisher Lane, approximately 300 feet East from the intersection of Humboldt Hill Road with Fisher Lane	A Special Permit for an exception to the number of <b>off-street parking spaces</b> for a proposed church.	06/10/2005	Parking
223-311-009-000	The project site is located in the Garberville area, on the west side of Evergreen Road, approximately 0.45 mile north from the intersection of Evergreen Road with Redwood Drive, on the property known as 1270 Evergreen Road.	The Design Review of an approximately <b>6,000-square-foot commercial building</b> in the Evergreen Business Park. The metal building's exterior and roof will be painted and non-reflective. The building will be approximately 20' in height.	//	Design Review only
223-311-029-000	The project is located in the Redway area, on the northeast side of Barnett Road, approximately 450 feet southeast of the intersection of Barnett Road and Evergreen Road, on the property known as 1911 Barnett Road.	A Conditional Use Permit for the construction and operation of an approximately <b>7,500-square-foot business center and an approximately 2,880-square-foot office building</b> on an approximately 61,800-square-foot parcel. Proposed uses include a mix of wholes	07/01/2005	New business center and office building
223-311-012-000	The project site is located in the Redway area, east of Evergreen Road, approximately 450 feet northeast of the intersection of Evergreen Road with Tunnel Road, on the property known as 1211 Evergreen Road.	A Conditional Use Permit and Special Permit for the development of a <b>7,000-square-foot commercial building</b> .	04/30/2004	New commercial building
222-111-009-000	The project site is located in the Garberville area, on the east side of Sprowel Creek Road, approximately 400 feet south from the intersection of Sprowel Creek Road with Briceland Road on the property known as 2166 Sprowel Creek Road.	A Special Permit to bring an existing Secondary Dwelling Unit into zoning compliance. The structure is 768 square feet in size and 13 feet in height. The Secondary Dwelling Unit and the existing primary residence are on a 0.69-acre parcel; both residences	//	Minor
032-043-001-000	The project site is located in Humboldt County, in the Garberville area, at the southeast corner of the intersection of Locust Street and Pine Street, on the property known as 783 Locust Street.	An applicant-initiated General Plan Amendment and Zone Reclassification to change the designation of the 9,800-square-foot parcel that is currently planned Residential, Multiple-Family (RM) and zoned Apartment Professional (R-4) to Commercial General (CG)	10/07/2010	GPA and rezoning from residential to commercial

**TABLE 6-1 CUMULATIVE PROJECTS IN VICINITY OF PROJECT SITE**

<b>Key Parcel #</b>	<b>Location <sup>a</sup></b>	<b>Project Description</b>	<b>Effective Date</b>	<b>Notes</b>
032-211-012-000	The project is located in the Garberville area, on both sides of Hillcrest Drive, approximately 230 feet southeast of the intersection of Hillcrest Drive and Locust Street, on the property known as 1160 Hillcrest Drive and properties.	An application for the subdivision of a 19.4+/-acre parcel into two parcels of about 10.7 and 8.7 acres. Parcel 1 is developed with a single-family residence. Proposed Parcel 2 is vacant. Community water is on site and available to Parcel 2.	//	Possible new single-family residence
032-051-072-000	The project site is located in the Garberville area, on the north side of Melville Road, approximately 150 feet east from the intersection of Melville Road with Redwood Drive.	A Special Permit application to allow a reduction in the number of parking spaces and loading spaces required for the construction of a two story commercial building of 12 rental units.	05/04/2001	Parking
032-051-033-000	The project is located in the Garberville and Redway areas. The proposed Garberville distribution facility is located on the south side of Maple Lane.	A Conditional Use Permit is requested to allow operation of a Medical Cannabis Collective with storefront facilities in the Garberville and Redway areas. The Collective proposes to engage in the distribution of Medical Marijuana (Cannabis)	//	Medical marijuana use
032-231-024-000	The project site is located in the Garberville area, east of Maple Lane, approximately 500 feet southeast of the intersection of Pine Lane with Maple Lane, on the property known as 799 Maple Lane.	A Zone Reclassification	05/21/2004	Rezoning of 0.13 acres from TPZ to R-1
APN Unknown (see dot on map)		Garberville Sanitary District (GSD) to replace a 30,000-gallon tank with a 200,000-gallon tank at the same location as the existing tank. GSD proposes construction of a 200,000-gallon tank, increasing available storage by 170,000 gallons.		
APN Unknown (see dot on map)		<b>Drinking Water System Improvement Project.</b> GSD proposes: 1) the refurbishment of the existing water intake from the south fork of the Eel River, including installation of a duplex pumping system; 2) construction of a new surface water treatment plant (SWTP) on Tooby Ranch Road; 3) construction of a new pipeline within the roadway easement in Tooby Ranch Road to Sprowel Creek Road, where the line will connect the new SWTP to the existing 8-inch Kimtu transmission line; and 4) construction of a new 8-inch line inside the Town of Garberville within Sprowel Creek Road, starting at the west side of the Highway 101 overpass to the Redwood Drive intersection. The project was designed to treat up to 336 gallons per minute (gpm) from the South Fork of the Eel River plus up to 33 gpm of recycled backwash water.		

Notes: Y=Yes

<sup>a</sup> See Figure 6-1 for parcel location.

Source: Humboldt County Planning Department and K. Lobato, 2014.

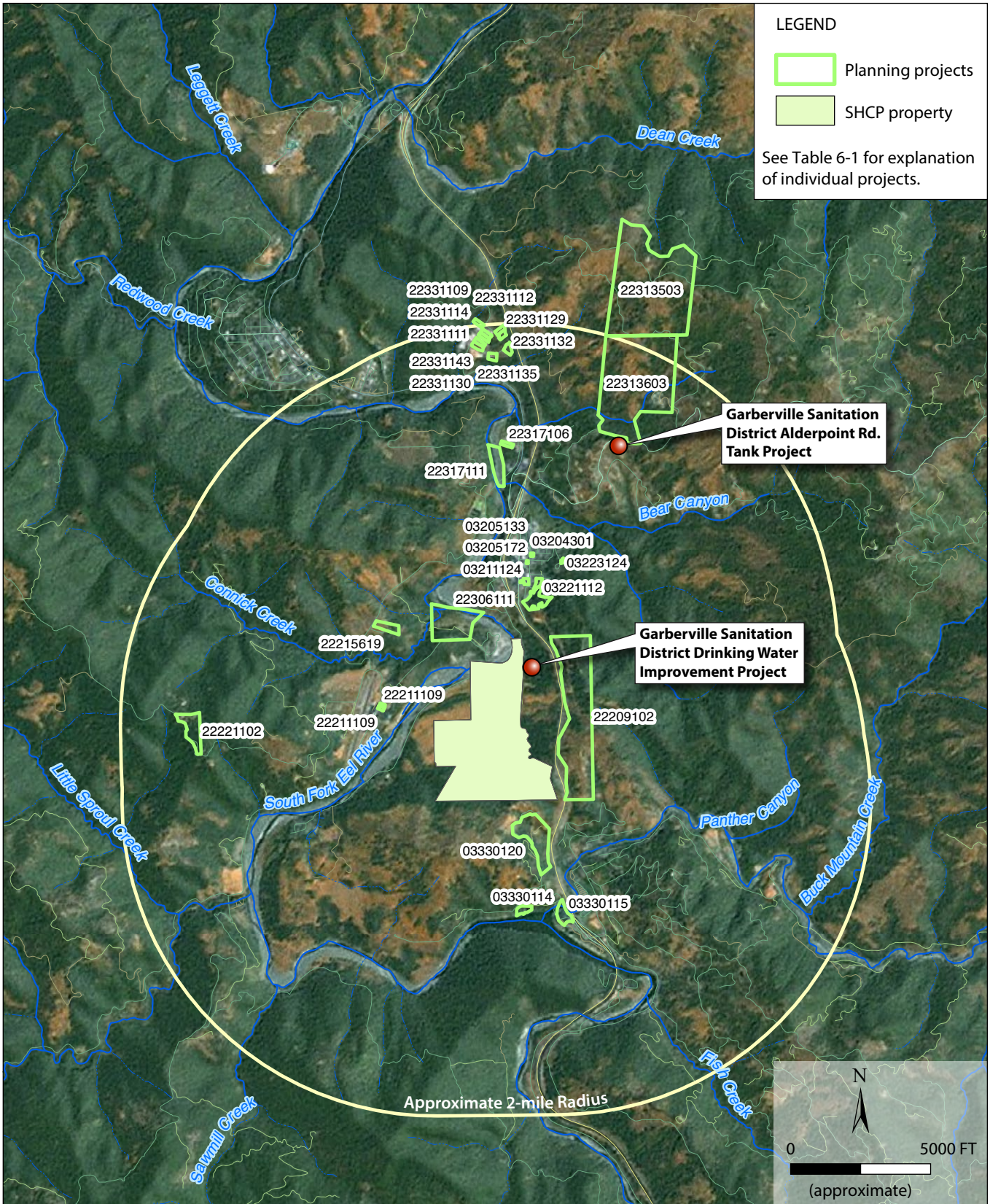


Figure 6-1

**CUMULATIVE PROJECTS WITHIN  
TWO MILES OF PROJECT SITE**

SOURCE: Humboldt County Dept. of Planning, 2014,  
and K. Lobato, 2014

## 7. EIR AUTHORS

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<sup>1</sup> Consultations with local, State, and federal agencies, as well as other references, are included in Chapter 8, References.

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#### **4.14 PUBLIC SERVICES**

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#### **4.15 RECREATION**

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**APPENDIX A  
NOTICE OF PREPARATION (NOP)  
AND NOP COMMENTS**

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Arnold Schwarzenegger  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Cathleen Cox  
Acting Director

Notice of Preparation

September 13, 2010

To: Reviewing Agencies  
Re: Southern Humboldt Community Park  
SCH# 2010092037

Attached for your review and comment is the Notice of Preparation (NOP) for the Southern Humboldt Community Park draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**Michale Richardson**  
Humboldt County Community Development Services  
Planning Department  
3015 H Street  
Eureka, CA 95501

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

Attachments  
cc: Lead Agency



**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2010092037  
**Project Title** Southern Humboldt Community Park  
**Lead Agency** Humboldt County

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**Type** NOP Notice of Preparation  
**Description** This project involves 3 parts: First, a General Plan Amendment is proposed to change the General Plan designations on portions of the 430 acre property from Agricultural Lands (AL20) and Agricultural Rural (AR5-20) to allow recreation open to the public, multifamily housing, and community assembly uses. The second part of this project is rezoning portions of the property consistent with the new Plan designations. The third part of the project is the proposed Conditional Use Permit and Special Permit to allow specific activities within the AE and PR areas. Portions of the AE designated areas are proposed to be used for small picnics, day use parking, portable restrooms, public access, a labyrinth, nature study, outdoor education and staff access along existing dirt roads during large events in the PR areas.

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**Lead Agency Contact**

**Name** Michale Richardson  
**Agency** Humboldt County Community Development Services  
**Phone** 707-268-3723 **Fax**  
**email** mrichardson@co.humboldt.ca.us  
**Address** Planning Department  
3015 H Street  
**City** Eureka **State** CA **Zip** 95501

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**Project Location**

**County** Humboldt  
**City**  
**Region**  
**Cross Streets** 222-091-06  
**Lat / Long**  
**Parcel No.**  
**Township** **Range** **Section** **Base**

---

**Proximity to:**

**Highways**  
**Airports**  
**Railways**  
**Waterways**  
**Schools**  
**Land Use** PLU: AL20 )GRBAP)  
Z: AE

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**Project Issues** Aesthetic/Visual; Biological Resources; Landuse; Minerals; Agricultural Land; Other Issues; Water Quality; Noise; Recreation/Parks; Geologic/Seismic; Population/Housing Balance; Traffic/Circulation

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**Reviewing Agencies** Resources Agency; Department of Conservation; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 1E; Native American Heritage Commission; State Lands Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 1; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 1

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**Date Received** 09/13/2010 **Start of Review** 09/13/2010 **End of Review** 10/12/2010

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- Resources Agency
- Fish & Game Region 1E Laurie Harnsberger
- Resources Agency Nadell Gayou
- Fish & Game Region 2 Jeff Drongesen
- Dept. of Boating & Waterways Mike Sotelo
- Fish & Game Region 3 Charles Armor
- Fish & Game Region 4 Julie Vance
- California Coastal Commission Elizabeth A. Fuchs
- Fish & Game Region 5 Don Chadwick
- Colorado River Board Gerald R. Zimmerman
- Dept. of Conservation Rebecca Salazar
- California Energy Commission Eric Knight
- Cal Fire Allen Robertson
- Central Valley Flood Protection Board James Herota
- Office of Historic Preservation Ron Parsons
- Dept of Parks & Recreation Environmental Stewardship Section
- California Department of Resources, Recycling & Recovery Sue O'Leary
- S.F. Bay Conservation & Dev't. Comm. Steve McAdam
- Dept. of Water Resources Resources Agency Nadell Gayou
- Conservancy
- Fish and Game
- Dept. of Fish & Game Scott Flint
- Environmental Services Division
- Fish & Game Region 1 Donald Koch
- Native American Heritage Comm. Debbie Treadway
- Public Utilities Commission Leo Wong
- Santa Monica Bay Restoration Guangyu Wang
- State Lands Commission Marina Brand
- Tahoe Regional Planning Agency (TRPA) Cherry Jacques
- Air Resources Board
- Airport Projects Jim Lerner
- Transportation Projects Douglas Ito
- Industrial Projects Mike Tollstrup
- State Water Resources Control Board Regional Programs Unit Division of Financial Assistance
- State Water Resources Control Board Student Intern, 401 Water Quality Certification Unit Division of Water Quality
- State Water Resources Control Board Steven Herrera Division of Water Rights
- Dept. of Toxic Substances Control CEQA Tracking Center
- Department of Pesticide Regulation CEQA Coordinator
- Cal EPA
- Air Resources Board
- Airport Projects Jim Lerner
- Transportation Projects Douglas Ito
- Industrial Projects Mike Tollstrup
- State Water Resources Control Board Regional Programs Unit Division of Financial Assistance
- State Water Resources Control Board Student Intern, 401 Water Quality Certification Unit Division of Water Quality
- State Water Resources Control Board Steven Herrera Division of Water Rights
- Dept. of Toxic Substances Control CEQA Tracking Center
- Department of Pesticide Regulation CEQA Coordinator
- Business, Trans & Housing
- Caltrans - Division of Aeronautics Sandy Hesnard
- Caltrans - Planning Terri Pencovic
- California Highway Patrol Scott Loetscher
- Office of Special Projects
- Housing & Community Development CEQA Coordinator Housing Policy Division
- Dept. of Transportation
- Caltrans, District 1 Rex Jackman
- Caltrans, District 2 Marcelino Gonzalez
- Caltrans, District 3 Bruce de Terra
- Caltrans, District 4 Lisa Carboni
- Caltrans, District 5 David Murray
- Caltrans, District 6 Michael Navarro
- Caltrans, District 7 Elmer Alvarez
- Independent Commissions, Boards
- Delta Protection Commission Linda Flack
- Cal EMA (Emergency Management Agency) Dennis Castillo
- Governor's Office of Planning & Research State Clearinghouse
- Regional Water Quality Control Board (RWQCB)
- RWQCB 1 Cathleen Hudson North Coast Region (1)
- RWQCB 2 Environmental Document Coordinator San Francisco Bay Region (2)
- RWQCB 3 Central Coast Region (3)
- RWQCB 4 Teresa Rodgers Los Angeles Region (4)
- RWQCB 5S Central Valley Region (5)
- RWQCB 5F Central Valley Region (5) Fresno Branch Office
- RWQCB 5R Central Valley Region (5) Redding Branch Office
- RWQCB 6 Lahontan Region (6)
- RWQCB 6V Lahontan Region (6) Victorville Branch Office
- RWQCB 7 Colorado River Basin Region (7)
- RWQCB 8 Santa Ana Region (8)
- RWQCB 9 San Diego Region (9)
- Other

**NOTICE OF SCOPING MEETING  
NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT**

To: **Neighbors of the Southern Humboldt  
Community Park**

From: **Humboldt County Department  
of Community Development Services  
3015 H Street  
Eureka, CA 95501**

**Subject: This is to advise you that you are invited to attend a public meeting on Thursday, September 9, 2010 from 5 – 7pm in front of the barn on the Southern Humboldt Community Park (SHCP) property to identify potentially significant environmental impacts of the project described below. These impacts will be discussed in the Draft Environmental Impact Report (DEIR)**

The proposed project is a General Plan Amendment, Zone Reclassification, Conditional Use Permit and Special Permit on the Southern Humboldt Community Park in the Garberville Area. This project involves three parts. First, a General Plan Amendment is proposed to change the General Plan designations on portions of the 430 acre property from Agricultural Lands (AL20) and Agricultural Rural (AR5-20) to allow recreation open to the public, multifamily housing, and community assembly uses. Most of the property (305 acres) is proposed for continued agricultural use. The 38 acres of the property currently used for a gravel mining operation would also continue with that use. The 3 - 5 acres proposed for multifamily housing will have an RM - Residential Multifamily Plan designation. The 96 acres proposed for public recreation, the agricultural areas, and the gravel mining areas are proposed to be assigned a PR-Public Recreation designation, a new Plan designation which allows agriculture, playing fields, special events and other recreational uses open to the public.

The second part of this project is rezoning portions of the property consistent with the new Plan designations.

The third part of the project is the proposed Conditional Use Permit and Special Permit to allow specific activities within the PR areas. Portions of the PR designated areas are proposed to be used for small picnics, day use parking, portable restrooms, public access, a labyrinth, nature study, outdoor education and staff access along existing dirt roads during large events.

Portions of the PR areas are proposed to be used for small events of 500 persons or less, such as weddings, birthdays and memorials. Up to five (5) times per year, medium sized events for up to 1,200 persons would be allowed. And one time per year an event is proposed for up to 5,000 persons similar to the Benbow Summer Arts Fair. Amplified music would be allowed at all these events.

Other portions of the PR areas will be used as playing fields and accessory uses, such as bleachers, and concession stands, a disc golf course, camping areas, a skate park, a group picnic area, public restrooms, a playground, and multi use trails. The parcel is served by community water and on-site sewer.

**Humboldt County Department of Community Development Services** will be the Lead Agency and will prepare a draft environmental impact report for the project identified below.

The project location, surrounding land uses and setting, and potential environmental effects are described below. A copy of the Initial Study is not attached. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Michael Richardson at the address shown above. We will need the name, phone number, and email address of a contact person. Your comments may also be transmitted electronically to [mrichardson@co.humboldt.ca.us](mailto:mrichardson@co.humboldt.ca.us). We may wish to directly contact NOP respondents for assistance in preparing the Draft EIR. Please identify the name(s) of the person(s) to contact in the event there are questions about your agency's comments.

**Location:** The project site is located in Humboldt County, in the Garberville area, at the intersection of Sprowel Creek Road with Camp Kimtu Road, on the property known as the Southern Humboldt Community Park located at 1144 Sprowel Creek Road.

**Surrounding land uses and setting:** The Southern Humboldt Community Park's 430 acre property is located approximately one mile from the town of Garberville, Humboldt County, California. There is one-mile of Eel River frontage within the property borders. The property borders Highway 101 (without access) and is one-mile from the town of Garberville. The location has been used for ranching and agricultural activities for many decades. There are numerous dwellings and out-buildings clustered on the property. The park property offers aquatic, riverine habitats bordered by riparian vegetation as well as mixed deciduous and conifer forest, native redwoods, regionally-unique grasslands and prime farmland.

Adjoining properties across the river include a cluster of low-density rural-residential single-family zoned properties, single family horse ranch and a 20-acre parcel zoned Heavy Industrial – Qualified (MH-Q) in operation.

To the west the property is bordered by a 70-acre undeveloped and unoccupied property in private ownership. To the east the property is bordered by an 80-acre unoccupied parcel where the Garberville Services District is currently planning installation of expansion facilities on a portion of the property.

With the exception of a separate parcel of property owned by SHCP zoned Heavy Industrial – Qualified (MH-Q) and Single Family Residential (R-1-B-6) on the north side of the South Fork of the Eel River, the property is zoned AE.

Tooby Memorial Park has been operating as a park for more than fifty years and is a part of the Southern Humboldt Community Park parcel. Nearby Benbow State Recreation area offers compatible recreational land-use and public access opportunities as well as the potential for future trail and facility linkages through future collaborative projects.

**Project Applicant:** Southern Humboldt Community Park

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact".

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Aesthetics           | <input checked="" type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality                       |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources                 | <input checked="" type="checkbox"/> Geology /Soils         |
| <input type="checkbox"/> Hazards & Hazardous Materials   | <input checked="" type="checkbox"/> Hydrology / Water Quality          | <input checked="" type="checkbox"/> Land Use / Planning    |
| <input checked="" type="checkbox"/> Mineral Resources    | <input checked="" type="checkbox"/> Noise                              | <input checked="" type="checkbox"/> Population / Housing   |
| <input type="checkbox"/> Public Services                 | <input checked="" type="checkbox"/> Recreation                         | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities / Service Systems     | <input checked="" type="checkbox"/> Mandatory Findings of Significance |  |

Date

9/1/10

Signature



Title:

Senior Planner

Telephone

(707) 268-3723

*Reference:* California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

## **Responses to Notice of Preparation**

The following comments were submitted to the Humboldt County Planning Department, the lead agency, in response to the Notice of Preparation (NOP) of a draft environmental impact report (DEIR) for a general plan amendment, a zone reclassification, conditional use permit on the Southern Humboldt Community Park. The NOP was noticed on September 5, 2010 and the following responses were received. A public scoping meeting was held on September 9, 2012.

### **Inventory of Agency Letters Submitted**

1. Bear River Rancheria
2. California Department of Transportation CalTrans
3. California Regional Water Quality Control Board
4. California Dept. of Forestry and Fire Protection (CalFire) Planning Battalion CalFire Humboldt—  
Del Norte Unit-Letter1
5. CalFire- Letter 2
6. California Department of Fish and Game (Fish and Wildlife)
7. California Highway Patrol
8. Garberville Sanitation District- Mark Bryant
9. Garberville Sanitation District – Herb Schwartz- Board Chair
10. Humboldt County Building Dept.
11. Humboldt County Department of Public Works

**BEAR RIVER BAND of ROHNERVILLE RANCHERIA**

27 BEAR RIVER DR. LOLETA, CA 95551 707.733.1900, fax 733.1972



9-27-10

M Richardson  
HCPC  
3015 H Street  
Eureka, CA 95501

RE: Southern Humboldt Community Park

Dear, Mr. Richardson

This letter is in regards to Southern Humboldt Community Park. We have no knowledge of cultural resources in your project area if identify cultural resources during your project implementation please remit the appropriate site records to our office for our future use if you have any questions please contact our THPO Asst. Eli Sanderson at 707-733-1900 x229.

Sincerely,



Elijah Sanderson  
Archaeological Technician  
esanderson@bearrivertribe.com



-----Original Message-----

**From:** Alyson Hunter [mailto:[alyson\\_hunter@dot.ca.gov](mailto:alyson_hunter@dot.ca.gov)]

**Sent:** Thursday, September 09, 2010 3:41 PM

**To:** Richardson, Michael

**Subject:** So Hum Comm Park Scoping Sesh

Hi Michael -

Unfortunately, we just got this notice in our mail in Planning this afternoon, so I will not be able to attend tonight's meeting in Garberville. Is there talk of either of the Reggae events moving to this site? Caltrans will have similar comments to this that we generally have for Reggae; i.e., traffic control for events, signage, CHP coordination, etc. This site would seem preferable to us since the distance from the highway will help filter impacts to our facility. We will provide additional comments when the DEIR is circulated, but those mentioned above generally suffice at this point.

Regards,

Alyson Hunter, Associate Transportation Planner  
Caltrans, District 1, System Planning  
PO Box 3700, Eureka CA 95502  
Ph: 707-441-4542

*Please consider the environment before printing this email.*

-----Original Message-----

**From:** Kathryn Lobato [mailto:[kathryn@sohumpark.org](mailto:kathryn@sohumpark.org)]

**Sent:** Thursday, September 23, 2010 3:04 PM

**To:** Richardson, Michael

**Subject:** Re: So Hum Comm Park Scoping Sesh

Hi Michael,

Am I reading this correctly? Are they saying they think the Park would be the preferable location for the Reggae events? Interesting input.

Kathryn

**From:** [Richardson, Michael](#)

**Sent:** Thursday, September 23, 2010 3:09 PM

**To:** [Kathryn Lobato](#)

**Subject:** FW: So Hum Comm Park Scoping Sesh

That's my read of it as well. I'm not sure that everyone in CalTrans feels that way. We won't know until they give us their official written comments.

Michael.

-----Original Message-----

**From:** Alyson Hunter [mailto:alyson\_hunter@dot.ca.gov]  
**Sent:** Monday, October 18, 2010 9:59 AM  
**To:** Richardson, Michael  
**Subject:** Southern Humboldt Community Park NOP Comments

Michael -

My apologies that these comments are a little late. I was away on Caltrans-sponsored training last week. Our Safety and Operations units have reviewed the proposal and concur with County staff's recommendation that a Traffic Impact Study (TIS) be prepared to determine whether or not impacts to circulation created by the proposal would require mitigation. Please ensure that the project proponent's traffic engineer is directed to our website for more information on the preparation of the TIS:

<http://www.dot.ca.gov/dist1/d1transplan/tisguide-Dec02.pdf>

Regards,

Alyson Hunter, Associate Transportation Planner  
Caltrans, District 1, System Planning  
PO Box 3700, Eureka CA 95502  
Ph: 707-441-4542

-----Original Message-----

**From:** Alyson Hunter [mailto:alyson\_hunter@dot.ca.gov]  
**Sent:** Thursday, September 09, 2010 3:41 PM  
**To:** Richardson, Michael  
**Subject:** So Hum Comm Park Scoping Sesh

Hi Michael -

Unfortunately, we just got this notice in our mail in Planning this afternoon, so I will not be able to attend tonight's meeting in Garberville. Is there talk of either of the Reggae's moving to this site? Caltrans will have similar comments to this that we generally have for Reggae; i.e., traffic control for events, signage, CHP coordination, etc. This site would seem preferable to us since the distance from the highway will help filter impacts to our facility. We will provide additional comments when the DEIR is circulated, but those mentioned above generally suffice at this point.

Regards,

Alyson Hunter, Associate Transportation Planner  
Caltrans, District 1, System Planning  
PO Box 3700, Eureka CA 95502  
Ph: 707-441-4542





Linda S. Adams  
Secretary for  
Environmental Protection

**California Regional Water Quality Control Board  
North Coast Region  
Geoffrey M. Hales, Chairman**

www.waterboards.ca.gov/northcoast  
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403  
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135



Arnold  
Schwarzenegger  
Governor

October 25, 2010

Mr. Michael Richardson  
Humboldt County Community Development Services  
Planning Department  
3015 H Street  
Eureka, CA 95501

Dear Mr. Richardson:

Subject: Comments on the Notice of Preparation for the Southern Humboldt  
Community Park draft Environmental Impact Report (EIR),  
SCH No. 2010092037

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report for the Southern Humboldt Community Park. We appreciate the chance to participate early in the environmental review process. The North Coast Regional Water Quality Control Board (Regional Water Board) is a responsible agency for this project, with jurisdiction over the quality of ground and surface waters (including wetlands) and the protection of the beneficial uses of such waters. Many individual projects implemented pursuant to the EIR may require specific permitting from the Regional Water Board.

The proposed project consists of a General Plan Amendment to allow recreation open to the public, multifamily housing, and community assembly uses. Additionally, Zone Reclassification, a Conditional Use Permit, and a Special Permit are being requested so the property is consistent with the new plan designations and allows for specific activities within the AE and PR areas.

As noted in the NOP, the proposed project site is in very close proximity to Eel River. The Eel River is listed as impaired on the Clean Water Act section 303(d) due to sedimentation/siltation, and temperature.

### **Comments**

The NOP describes the general scope of development intended to occur through the project but it does not identify potentially significant environmental impacts of the proposed project. The Regional Water Board is supportive of the implementation of the Southern Humboldt Community Park as long as the project is fully protective of water quality. Therefore, we strongly recommend that the full impacts to water quality, from all viable alternatives, be evaluated in an Environmental Impact Report for the proposed

**California Environmental Protection Agency**

Recycled Paper

project. Specific analysis regarding water quality impacts due to new construction, wastewater disposal, land disturbance within waters of the state, and modification to storm water runoff quality and quantity should be included.

We expect that a forthcoming environmental document will address areas of concern. Consequently we will withhold specific comments until we receive an Environmental Impact Report.

If you have any questions regarding these comments, you may contact me at (707) 576-2065 or [jshort@waterboards.ca.gov](mailto:jshort@waterboards.ca.gov).

Sincerely,

John Short  
Senior Water Resource Control Engineer

cc: Scott Morgan, State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812,  
RE: SCH No. 2010092037

**DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

Humboldt – Del Norte Unit  
118 Fortuna Blvd.  
Fortuna, CA 95540  
Website: [www.fire.ca.gov](http://www.fire.ca.gov)  
(707) 726-1272

Ref: 7100 Planning  
Date: September 2, 2014

Kirk A. Girard, Director  
Humboldt County Community Development Services Department  
3015 H Street  
Eureka, CA 95501

Project:            APN:            Area:            Attention:

So. Humboldt Community Park c/o Kathryn Lobato General Plan Amendment, APN 222-091-03-06&-241-08  
Garberville Area Richardson

Mr. Girard,

The California Department of Forestry and Fire Protection (CALFIRE) provides these standard project review comments on the above noted project.

**FIRE SAFE****General**

CALFIRE has responsibility for enforcement of Fire Safe Standards as required by Public Resources Code (PRC) 4290 and 4291. However CALFIRE is not the lead agency in planning development and project permitting. CALFIRE provides input as a contributing agency, generally limited to plan review, and is not the approving agency for these projects.

**Local Responsibility Areas**

Should this project include Local Responsibility Area (LRA) lands, CALFIRE has no direct fire safe input on those parcels. However, in those areas with LRA parcels adjacent to State Responsibility Area (SRA) land, CALFIRE recommends that local standards be applied that are consistent with those CALFIRE makes for SRA lands.

**State Responsibility Areas**

Should this project include State Responsibility Area (SRA) lands, the following are CALFIRE's Fire Safe minimum input and recommendation for any and all development.

1. In Humboldt County, developments must meet minimum fire safe standards by constructing the project in conformance with County Fire Safe Ordinance 1952, which the California Board of Forestry and Fire Protection has accepted as functionally equivalent to PRC 4290. The County Fire Safe Ordinance provides specific standards for roads providing ingress and egress, signing of streets and buildings, minimum water supply requirements, and setback distances for maintaining defensible space.
2. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas shall comply with the 2007 California Building Code (CBC) Section 701A.3.2. This requires roofing assemblies, attic and eave ventilation, exterior siding, decking and deck enclosure, windows and exterior doors, and exposed under floor areas that are approved "ignition resistive" in design.
3. All development, especially commercial or industrial development, should be designed to comply with the most current versions of the following standards:

- a) California Fire Code (CFC) — for overall design standards
  - b) Public Utilities Commission (PUC) General Order 103 — for design of water systems
  - c) National Fire Protection Association Standards (NFPA) for fire flow minimums and other design questions not specifically covered by CFC and PUC
  - d) Housing and Community Development Codes and Standards —for mobile home parks and recreational camps
4. For Department of Real Estate reporting purposes, fire protection coverage in SRA is generally described as follows:  
 During the declared fire season (usually June through October) CALFIRE responds to all types of fires and emergencies in SRA.  
 During the remainder of the year (winter period), CALFIRE responds to emergency requests with the closest available fire engine, if a response can reasonably be expected to arrive in time to be effective. A fire engine is usually available somewhere in the Unit, but may have an extended response time.  
 There are many hazards confronting fire protection agencies in most subdivisions on SRA lands. Steep terrain and heavy wildland fuels contribute to fire intensity and spread. The distances from fire stations and road grades encountered usually create an excessive response time for effective structure fire suppression purposes.  
 Subdivisions increase fire risks from additional people and increase probable dollar losses in the event of fire due to added structures and improvements.
5. If the project expects to produce densities consistent with a major subdivision, the impacts on all infrastructures should be mitigated. Local government more appropriately provides the responsibility for high-density area protection and services. Annexation or inclusion into Local Responsibility Area should be studied as well.
6. CALFIRE does not support development in areas where there is no local agency fire service for structure fires and emergency medical response. Fire services should be extended into service gap areas as a condition of development. New development can adversely impact existing fire services. Careful consideration must be given where development may overload the local fire service's ability to respond.

## **RESOURCE MANAGEMENT**

CALFIRE has enforcement responsibility for requirements of the Z'berg—Nejedly Forest Practice Act of 1973. CALFIRE is also the lead agency for those parts of projects involving the scope of the Forest Practice Act. The following basic input will cover the majority of projects. Each project will be reviewed with additional input sent at a later date, if needed.

The following comments reflect the basic Resource Management policies of the Board of Forestry and Fire Protection and CALFIRE on CEQA review requests. These policies apply to both Local and State Responsibility Areas.

1. If this project reduces the amount of timberland, by policy, the Board of Forestry and CALFIRE cannot support any project that will reduce the timberland base of California. "Timberland" means land which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees regardless of current zoning (PRC 4526). However, if the zoning and intended use are consistent with the county's general plan; and if no land other than timberland can be identified to site the project; then CALFIRE may choose not to oppose the project.
2. If **any** commercial timber operations are involved with a project, the timber operations cannot be conducted without a CAL FIRE permit. Commercial timber operations include the cutting or removal of trees offered for sale, barter, exchange, or trade or the conversion of timberlands to land uses other than the growing of timber (PRC 4527). Contact your nearest CAL FIRE Resource Management office for guidance on obtaining the necessary permits.
3. If **any** timberlands are being converted to a non-timber growing use by this project, the conversion operations cannot be conducted without a CAL FIRE permit (PRC 4621). Conversion of timberland takes place when trees are removed and the land use changes, even without the sale, barter, exchange, or trade of the trees.

Contact your nearest CAL FIRE Resource Management office for guidance on obtaining the necessary permits.

4. If timberland is in the viewshed of a project, the current and future owners should be overtly notified that changes will occur to their views due to timber management activities. Further, no project should be allowed to negatively affect access to timberland for timber management purposes; neither on the project parcel(s) nor any other timberland parcels.
5. If timber harvesting has occurred and post-harvest restocking and prescribed erosion control maintenance obligations have not been met on a parcel, future owners should be overtly notified (14 CCR 1042). The current owner of a parcel is responsible for restocking requirements and maintenance of roads whether or not they were involved in the actual harvest plan.
6. If the project involves the development of parcels zoned as Timber Production Zone (TPZ), CALFIRE cannot support the project. Dividing TPZ land into parcels of less than 160 acres requires a Joint Timber Management plan prepared by a Registered Professional Forester (RPF), recorded as a deed restriction for a minimum of 10-years on all affected parcels, and approved by a four – fifths vote of the full board (Govt. Code 51119.5). TPZ may be rezoned using a “Ten Year Phase Out,” which precludes the need for a Timberland Conversion Permit. CALFIRE opposes immediate rezoning of TPZ land.

If CALFIRE staff develops additional comment on this project, it will be forwarded in an additional response letter.

By  
Planning Battalion  
CALFIRE Humboldt – Del Norte Unit

For Ralph Minnich, Unit Chief



State of California Natural Resources Agency  
**DEPARTMENT OF FISH AND GAME**  
Northern Region  
601 Locust Street, Redding, CA 96001  
<http://www.dfg.ca.gov>

**ARNOLD SCHWARZENEGGER**, Governor  
**JOHN McCAMMAN**, Director



October 21, 2010



Mr. Michael Richardson  
Senior Planner  
Humboldt County Planning and Building Department  
3015 H Street  
Eureka, CA 95501-4484

**RE: Notice of Preparation for the Southern Humboldt Community Park  
(SCH #2010092037), Humboldt County, California**

Dear Mr. Richardson:

On September 15, 2010, the Department of Fish and Game (DFG) received from the Humboldt County Planning and Building Department (Lead Agency) a Notice of Preparation (NOP) for the Southern Humboldt Community Park (Project) draft environmental impact report (DEIR). It is our understanding based on our conversation with you that Humboldt County Planning and Building Department will accept comments on this Project up to October 27, 2010. The Project site is approximately 430 acres and is located between the town of Garberville and the South Fork of the Eel River along Camp Kimtu Road and Sprowl Creek Road. The subject parcel contains approximately one mile of river frontage on the South Fork Eel River.

As a trustee for the State's fish and wildlife resources, DFG has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and their habitat. As a responsible agency, DFG administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code (FGC) that conserve the State's fish and wildlife public trust resources. DFG offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA), California Public Resource Code §21000 *et seq.*

DFG's most substantial environmental concerns relate to the current health of the South Fork Eel River, as explained below, and how the Project as proposed may lead to additional cumulative effects such as decreased water quality and availability.

### **Project Description**

The Project includes three elements; first, a general plan amendment to change the General Plan designation on portions of the 430-acre property from agricultural lands (AL20) and agricultural rural (AR5-20) to allow recreation open to the public,

*Conserving California's Wildlife Since 1870*

Mr. Michael Richardson  
October 21, 2010  
Page Two

multifamily housing, and community assembly uses. Approximately 305 acres are proposed to stay in agricultural exclusive (AE) designations. Approximately 38 acres of the property currently used for gravel mining would continue in the AE plan designation. In addition, 3-5 acres are proposed to be multifamily housing and will have a Residential Multifamily Plan designation. Approximately 96 acres of the 430-acre parcel are proposed for public recreation and will be assigned a Public Recreation (PR) designation, a new plan designation which allows agriculture, playing fields, special events and other recreational uses open to the public. The second element of the Project includes rezoning portions of the property consistent with the new plan designations. The third element of the Project is a proposed Conditional Use Permit and Special Permit to allow specific activities within the AE and PR areas. These activities include picnics, day use parking, portable restrooms, public access, a labyrinth, nature study, outdoor education and staff access along existing dirt roads during large events in the PR areas. Portions of the PR areas will also have small events of 500 people or less and large events up to 5,000 people five times a year.

#### **Listed and Species of Special Concern**

The South Fork Eel River is a regionally-important fish-bearing stream that currently supports three listed salmonid species. Coho salmon (*Oncorhynchus kisutch*) is State- and federally-listed as "threatened" pursuant to CESA and the federal Endangered Species Act (ESA). Chinook salmon (*O. tshawytscha*) and steelhead (*O. mykiss*) are federally-listed as "threatened" pursuant to the ESA. DFG has identified the South Fork Eel River coho salmon population key to maintain or improve as part of the *Recovery Strategy of California Coho Salmon* (DFG 2004). Coho salmon has undergone at least a 70% decline in abundance since the 1960s, and is currently at 6 to 15% of its abundance during the 1940s (DFG 2004).

Pursuant to Clean Water Act §303(d), the North Coast Regional Water Quality Control Board has identified the South Fork Eel River as impaired due to elevated levels of sedimentation/siltation and temperature. Additionally, the South Fork Eel River had extreme low-flows in 2008 and 2009. The U.S. Geologic Survey gauge at Miranda shows that for the 69-year period of record, the mean discharge in September is 53 cubic feet per-second (cfs). The discharge in September 2009 was around 20 cfs. The record low discharge was in September 2008 at 13 cfs, a quarter of the mean discharge for the period of record. Low instream flow leads to increased water temperature, disconnected pools, and degraded salmonid rearing habitat.

DFG maintains historic files and databases on the abiotic and biotic condition of streams within the region. Numerous aquatic dependent Species of Special Concern (SSC) are present in the South Fork Eel River and its tributaries and wetlands

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including the foothill yellow-legged frog (*Rana boylei*), northern red-legged frog (*Rana aurora*), western tailed frog (*Ascaphus truei*), and western pond turtle (*Actinemys marmorata*). Recent studies in the South Fork Eel River in Mendocino County have shown that increased water temperatures, decreased daily discharge, or a combination of both, promote outbreaks of non-native parasites (i.e., copepods) in foothill yellow-legged frogs and present a threat to the long-term conservation of the species (Kupferberg et al., 2009).

DFG designates certain vertebrate species as SSC because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction or extirpation in California. Though not listed pursuant to the ESA or CESA, the goal of designating taxa as SSC is to halt or reverse these species' decline by calling attention to their plight and addressing the issues of conservation concern early enough to help secure their long-term viability. Hence, the ultimate goal of the SSC designation is to avoid CESA or ESA listing.

### **Wetlands**

The Project area contains wetlands. DFG recommends that a wetland delineation be conducted to identify, map, and characterize all wetland habitats within the Project area. DFG recommends that all wetland delineation work be conducted by a biologist/ecologist with formal training and experience in wetland delineation using guidelines provided by the U.S. Army Corps of Engineers (ACOE). Furthermore, it is important to note that DFG and the U.S. Fish and Wildlife Service recognize one-parameter wetlands, so it is imperative that any wetland delineation include one-three parameter wetlands. The DEIR should evaluate alternatives that avoid or minimize temporary and permanent impacts to wetlands. Where wetland impacts cannot be avoided, mitigation measures should be developed in consultation with the ACOE and DFG to ensure that project improvements will not result in a net loss of wetland acreage or habitat values. A typical mitigation ratio for the loss of high-quality wetland and riparian habitat is 3:1.

### **Stream Restoration**

The Project area contains tributaries to the South Fork Eel River. DFG finds there is a direct linkage between in-stream and near-stream biological communities, with near-stream riparian communities providing vital in-stream ecological services such as bank protection, habitat heterogeneity, shade, microclimate, and woody debris, as well as providing habitat for invertebrates, birds, mammals, and amphibians. It is therefore imperative to protect and restore near-stream riparian habitat to maintain or achieve properly functioning stream ecosystems.



Mr. Michael Richardson  
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Page Four

Based on the aerial imagery provided in the NOP package, the western-most stream on the subject parcel appears to lack overstory vegetation (i.e., riparian habitat). DFG recommends the Project applicant restore overstory vegetation through native plant planting. Riparian planting should extend out beyond the top of both banks to re-establish a properly functioning riparian habitat buffer. Guidance on restoration techniques and appropriate species for use should be consistent with the *California Salmonid Stream Habitat Restoration Manual* (DFG 2002), and can be found at the following link: <http://www.dfg.ca.gov/fish/REsources/HabitatManual.asp>.

### **Stream and Wetland Buffers**

Buffers have been widely used for many years to mitigate impacts to sensitive habitats such as wetlands, streams and riparian habitat, and are a principal tool to protect and conserve natural resources, as well as provide for public health and safety. The rationale for using buffers (rather than protecting only the footprint of a sensitive habitat or population) is based upon the sound ecological principles and decades of research that shows that habitats and populations: 1) are dynamic and ever-changing, 2) are not typically discrete entities with clearly defined boundaries but rather a part of an ecological continuum, and 3) because of their ecological interconnectedness with adjacent habitats, they can be significantly impacted, indeed, even eliminated, by indirect effects of adjacent activities. These principles are well-established in the ecological literature.

To adequately minimize anthropogenic disturbance to stream and wetland function, and fish and wildlife value, DFG recommends a minimum 150-foot buffer on the South Fork Eel River and 100-foot buffers on the streams within the subject parcel. Protective buffers should be established from the top-of-bank on both sides of the stream(s). Minimum buffers proposed in this letter will more effectively minimize impacts to the South Fork Eel River by maintaining forest canopy, microclimate, water temperature, hydrology, native plant and animal diversity, and minimize potential sediment discharge from erosion and stormwater run-off. This mitigation approach would be consistent with the *Recovery Strategy for California Coho Salmon* as it pertains to the Eel River, specifically, recovery task ER-HU-03 which calls for (b) improvement of existing riparian zones through native plantings, and c) bank stabilization and fencing projects (DFG 2004).

For delineated wetlands, DFG recommends protective buffers of at least 100 feet from all Project related activities. During festivals and events, when temporal impacts could occur, DFG recommends either temporary (i.e., construction fencing) or permanent symbolic fencing (i.e., split rail) to exclude "people areas" from resource areas. The later fencing approach will likely be more beneficial and cost effective over the life of the Project and will exhibit a commitment to resource protection.

Mr. Michael Richardson  
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### **Lake or Streambed Alteration Notification**

To protect streams from sediment discharge during or after construction activities, during festivals and events, or use of roads, all streams in the Project area shall be identified. California Code of Regulations §1.72 defines a stream as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.”

If Project-related activities will result in substantial modifications to streambed, bank, or channel or substantial water diversion from a lake or stream, the Project proponent is required to notify DFG pursuant to FGC §1602 before undertaking any of these activities. When notified, DFG will determine whether or not a lake or streambed alteration agreement (LSAA) is required. The LSAA will include conditions to protect fish and wildlife resources, habitat, and water quality that are mutually agreed to by DFG and the Project proponent.

In issuing an LSAA, DFG will be acting as a Responsible Agency pursuant to CEQA. DFG is required by CEQA Guidelines §15096 to review the CEQA document certified by the lead agency approving the Project, and from that review, to make certain findings concerning the activities' potential to cause significant, adverse environmental effects. It is, therefore, important that the DEIR address all of the potential biological streambed alteration impacts and propose feasible mitigation. This will reduce the need for DFG to require additional environmental review for preparation of the LSAA. The process for notifying for an LSAA will be administered through the DFG Office in Eureka. Further information can be obtained by contacting DFG at (707) 441-2075 or from the DFG website at <http://www.dfg.ca.gov/habcon/1600>.

### **Water Use and Availability**

On October 12, 2009, DFG issued an LSAA (R1-2009-0238) to Southern Humboldt Community Park for water diversion from the South Fork Eel River and an unnamed tributary to the South Fork Eel River. The LSAA limited the rate and season of diversion to protect instream flows. The LSAA was analyzed only for the purposes of irrigation, domestic use, and fire suppression. The Project as described in the NOP is beyond the stated scope of the water diversions described in the LSAA (R1-2009-0238).

The NOP states additional water will be supplied from several sources. However, the water sources are not identified. DFG recommends the DEIR identify all Project-related water sources not already permitted for Southern Humboldt Community Park

Mr. Michael Richardson  
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in LSAA R1-2009-0238. The rate of diversion permitted from the unnamed tributary to the South Fork Eel River, presumably the identified storage tank source and spring source is 2,000 gallons per day and the season of diversion is limited to November 1 to July 1 of each year. This source can not be used as a water supply beyond 2,000 gallons per day. Additionally, according to LSAA R1-2009-0238, water cannot be diverted from the spring from July 2 to October 31 of each year.

The rate of diversion from the infiltration gallery under the South Fork Eel River is limited to 108 gallons per minute or 10% of the stream flow whichever is less. However, the NOP states 400 gallons per minute will be used. DFG recommends the rate of diversion be limited to that which is permitted in LSAA R1-2009-0238 of 108 gallons per minute or 10% of the stream flow, whichever is less.

The South Fork Eel River has experienced record low flows in recent years during summer months. The stated additional uses will further impair an already impacted watershed during the lowest flow period. DFG recommends all water supplies be accurately identified and permitted, the quantity of water available verified, and water conservation measures employed to reduce demand.

### **Pollution and Event Parking**

The Project as proposed includes festival and event vehicle parking below the top-of-bank or below the ordinary high water mark of the South Fork Eel River. DFG has determined through inspection of other large events in Humboldt County that vehicle parking on the active river bar will likely result in the release of petrochemicals associated with automobiles. Fish and Game Code §5650 states, "(a) it is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this State any of the following, (1) any petroleum...or residuary product of petroleum..." DFG believes it is likely that parking several hundred or more vehicles on the river bar could result in the discharge of automobile related petroleum product. In preparation of the DEIR, the Lead Agency should find an alternative location for vehicle parking independent of the river bar, or the Project should be re-sized to fit the subject parcel without use of the river bar for automobile parking.

### **Exterior Lighting Standards and Photo-pollution**

Artificial light is another consequence of development and large outdoor festivals and events. Roads and buildings typically include exterior night lighting and therefore have the potential to introduce light pollution to adjacent fish and wildlife habitat. The adverse ecological effects of artificial night lighting on terrestrial, aquatic, and marine resources such as fish, birds, mammals, and plants are well documented (Johnson

Mr. Michael Richardson  
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and Klemens 2005; Rich and Longcore 2006). Some of these effects include altered migration patterns and reproductive and development rates, changes in foraging behavior and predator-prey interactions, altered natural community assemblages, and phototaxis (attraction and movement towards light). Johnston et al., (2004) list artificial lighting as a permanent impact to bat roosts and recommend that artificial lighting be directed away from bat roosts or possibly shaded by trees. To minimize the adverse effects of artificial light on wildlife habitats, DFG recommends that exterior lighting fixtures be fully-shielded and designed and installed to minimize off-site glare and photo-pollution.

### **Rare Plants and Sensitive Natural Communities**

DFG's California Natural Diversity Data Base (CNDDDB) indicates that several rare plants and sensitive natural communities occur within close proximity to the Project. The Project applicant is advised to use the CNDDDB as a preliminary scoping tool to best direct focused surveys. It should also be noted that the CNDDDB is not comprehensive and is only as reliable as the data submitted and by no means removes the necessity for on the ground evaluation by a qualified botanist. Species within the project area may meet the criteria set forth in §15380(b) of the CEQA Guidelines. Therefore, any potential impacts to these species must be reduced to a less than significant level. We recommend a qualified botanist review the Project site for rare plant habitat, and if suitable habitat is found, then field surveys should be conducted according to DFG's *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*. Mitigation measures should be developed in consultation with DFG staff if special status plant species are identified within the Project impact area.

### **CNDDDB Reporting**

Any special status species detected during surveys should be reported to the CNDDDB. The CNDDDB field survey form can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB\\_FieldSurveyForm.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf). The completed form can be mailed electronically to the CNDDDB at the following address: [cnddb@dfg.ca.gov](mailto:cnddb@dfg.ca.gov). Species that warrant reporting to the CNDDDB include Species of Special Concern, rare species as defined by the California Native Plant Society, species proposed for listing or candidate species, and species listed as threatened or endangered by either the State or federal endangered species acts.

## Recommendations

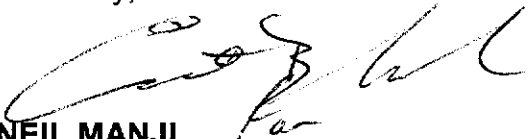
1. Wetlands on the subject parcel shall be delineated. The DEIR should evaluate alternatives that avoid or minimize temporary and permanent impacts to wetlands.
2. The western-most stream on the subject parcel lacks overstory vegetation (i.e., riparian habitat). The Project proponent should restore riparian habitat on this stream with native plant planting.
3. A minimum 150-foot buffer shall be established on the South Fork Eel River and 100-foot buffers on streams within the subject parcel.
4. For delineated wetlands, establish protective buffers of at least 100 feet from all Project related activities.
5. During festivals and events, use fencing to exclude "people areas" from resource areas.
6. If Project-related activities will result in substantial modifications to streambed, bank, or channel or substantial water diversion from a lake or stream, the Project proponent is required to notify DFG pursuant to FGC §1602 before undertaking any of these activities. The Project as described in the NOP is beyond the stated scope of the water diversions agreed upon in the previously issued LSAA (R1-2009-0238) for Southern Humboldt Community Park.
7. All water supplies shall be accurately identified and permitted, the quantity of water available verified, and water conservation measures employed to reduce demand.
8. Parking on the river bar for festivals and events could result in water pollution. An alternative location for vehicle parking independent of the river bar should be determined or the Project should be re-sized to fit the subject parcel without use of the river bar for automobile parking.
9. Exterior lighting fixtures shall be fully-shielded and designed and installed to minimize off-site glare and photo-pollution.

Mr. Michael Richardson  
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10. Rare plants could occur on the subject parcel. A qualified botanist should evaluate the Project site for rare plant habitat. If the Project site contains habitat suitable for rare plants, then rare plant surveys shall be conducted in accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. The DEIR should evaluate alternatives that avoid or minimize temporary and permanent impacts to rare plants.
11. Report any special status species detected during surveys to the CNDDDB.

As stated above, DFG anticipates continued involvement and interaction with the Lead Agency/Project proponent as needed to assist in further Project design, permitting, and implementation and to help meet the Project objectives. If you have questions or comments regarding this matter, please contact Environmental Scientist Michael van Hattem at (707) 445-5368 at 619 Second Street, Eureka, California 95501.

Sincerely,



**NEIL MANJI**  
Regional Manager

ec: Kelley Reid  
Army Corps of Engineers  
[Kelley.E.Reid@usace.army.mil](mailto:Kelley.E.Reid@usace.army.mil)

Dan Free  
National Marine Fisheries Service  
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Dean Prat and Mona Dougherty  
North Coast Regional Water Quality Control Board  
[dprat@waterboards.ca.gov](mailto:dprat@waterboards.ca.gov), [mdougherty@waterboards.ca.gov](mailto:mdougherty@waterboards.ca.gov)

Messrs. Curt Babcock, Gordon Leppig, Scott Bauer, Shane Embry, and  
Michael van Hattem  
Mss. Laurie Harnsberger, Jane Arnold, and Gayle Garman  
Department of Fish and Game  
[cbabcock@dfg.ca.gov](mailto:cbabcock@dfg.ca.gov), [wcondon@dfg.ca.gov](mailto:wcondon@dfg.ca.gov), [gleppig@dfg.ca.gov](mailto:gleppig@dfg.ca.gov),  
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- Rich, C. and T. Longcore, 2006. *Ecological consequences of artificial night lighting*. Island Press, Washington, DC.

Subject: Southern Humboldt Community Park Plans for Concerts & Festival Venue

Michael,

Sgt Martin Abshire will be attending this Scoping meeting as I can not make it. This is my response to your Notice of Preparation which I received on September 2, 2010.

I have reviewed the Southern Humboldt Community Park Plan of Operation document. The CHP does not support the size of the proposed events being held in this location. In my opinion, Sprowel Creek Road leading down to the park is narrow and in its current condition, is not adequate to allow for the increased traffic flow these proposed events would bring. In addition, I see some real public safety issues with vehicles exiting US 101 S/B and N/B. On the S/B US 101 Sprowel Creek exit, event traffic would have the potential to back up onto US 101 causing a hazard. On the N/B US 101 Redwood Drive exit, traffic has the potential to back up as well. The Plan does not address the other US 101 exits, N/B and S/B or signs and traffic control on US 101. Garberville traffic is already congested on Redwood Drive with businesses, especially during the summer months. If event traffic is added, there could be real problems as vehicles travel S/B and N/B on Redwood Drive and have to stop at Sprowel Creek Road and make a right/left turn onto Sprowel Creek Road. This intersection is especially congested with businesses on each corner.

The alternate emergency route of using Old Briceland Road to Briceland would not be in the best interest of public safety due to being narrow and curved. Allowing these types of events is going to increase traffic flow on these roads even when there is not an emergency, as there will be a certain percentage that will want to avoid the congestion in Garberville and the possibility of having law enforcement encounters.

The Plan of Operation does not adequately address traffic concerns in the town of Garberville, the lack of parking in Garberville and/or Redway, traffic on US 101, the amount of traffic proposed traversing down Sprowel Creek Road to the park, and the public safety issues of event goers leaving the park at night and traversing these roads, especially if alcohol is being served to event goers.

If the re-zoning of this area is allowed, the Garberville CHP Area would be taxed with traffic control at Redwood Drive and Sprowel Creek Road intersection, US 101 S/B exits at Sprowel Creek and Redwood Drive, both US 101 N/B exits, on Sprowel Creek Road to enforce no pedestrians, bicyclists and equestrians who normally have the right to traverse



Sprowel Creek Road, the intersection of the park entrance and extra patrol in the area due the increased traffic flow and potential of under the influence drivers. In addition, the CHP would be called upon to migrate concerns of property owners who can not access their property, illegal parking, illegal camping, and provide assistance to the HCSO and local/state fire agencies.

Thank you

Lt. Adam Jager  
Garberville CHP Commander



# GARBERVILLE SANITARY DISTRICT

P.O. BOX 211 • GARBERVILLE, CA 95542 • (707) 923-9566

11-30-2010

Michael Richardson  
Humboldt County Community Development Dept.  
3015 H Street  
Eureka CA, 95501

Subject; Rezoning of APN 222-091-03 & 241-08

Mr. Richardson

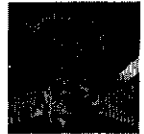
The above noted parcels are within the Garberville Sanitary District's (GSD) current Sphere of Influence (SOI). At this time the districts does not have the infrastructure necessary to serve additional development in that area. GSD has major concerns with any development in that area. The communities drinking water source is in the aquifer directly beneath adjacent to the properties mentioned above. If any development was to happen the District will require connecting to the Recycled Wastewater Treatment Facility and additional water storage. The District is currently developing unfunded Capital Improvement Projects in the area.

The community is currently working through the SOI and Master Services Review processes hopping for competition by April 2011. This process will guide future development for the District.

Respectfully,

Mark Bryant  
General Manager

**From:** HERB SCHWARTZ <herb@changemediation.com>  
**Subject:** Garberville Sanitary District Response to Case No. GPA-10-02, SHCP's request for a General Plan Amendment  
**Date:** December 2, 2010 10:45:43 PM PST  
**To:** Michael Richardson <m.richardson@co.humboldt.ca.us>, Kirk Gothier <kirkgothier@gmail.com>, "Miller, John" <jpmiller@co.humboldt.ca.us>, Clif Clendenen <cclendenen@co.humboldt.ca.us>  
**Cc:** Mark Bryant <mbryant@garbervillesd.org>, Bill Stewart <bstewart@bluestargas.com>, Peter Connolly <peter@humboldtnaturalfoods.com>, Dennis Bourassa <dennisbour@yahoo.com>



Dear Michael:

The Board of the Garberville Sanitary District has just received on December 2, 2010, your notice dated September 5, 2010, requesting our comments and any recommended conditions of approval with respect to the SHCP's request for a General Plan Amendment, rezoning, and Conditional Use and Special Permit to allow specific activities with the Agricultural Exclusive and Public Recreation designations.

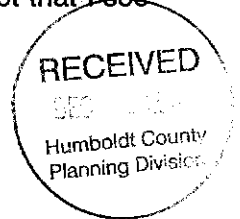
We will need an extension of time to file complete comments and recommendations, but:

As you know several major planning actions are happening in our area at the same time which includes, among others, the General Plan Update and Garberville's Sphere of Influence Study and Municipal Service Review. With regards to the Sphere of Influence work, we plan to have public meetings throughout that process which we hope will actually become a template for SOI public participation for Special Districts as well as Municipal Agencies throughout the county. We have hired Kirk Gothier to help us with this process.

Now is a critical and opportune time to integrate public participation in the County's review of SHCP's application at the same time the Garberville Sanitary District, the only local public agency whose jurisdiction and mission is critically impacted by the issues raised in SHCP's application, is engaged in its own self examination of available and appropriate services within the context of the General Plan Update that is taking place simultaneously with SHCP's Amendment to the out of date (and probably out of compliance with state law) existing General Plan.

Having said all of this, knowing that our General Manager Mark Bryant is managing our major rehabilitation of our existing sanitary remediation system and bringing to our district the complex funding of our almost simultaneous rehabilitation of our drinking water system, and starting construction on that project, all within the next few months, asking him to take the lead managing an initiative on the part of our District and community to address the issues both with the GPU and the SHCP application, is asking, too much. And I will be unavailable because of legal/professional and personal obligations until approximately February 1, 2011. Further I do not want to unnecessarily delay the SHCP's process. Yet I can not responsibly avoid the issues that must be addressed with both the SHCP application, the GPU, the SOI and MSR and whatever other collateral study and work required by LAFCo given the fact that the Garberville Sanitary District's 1987 SOI report was made well before GSD became the provider of healthy drinking water for our community.

It is a bit of a time quandary. Ideally, you and I and Mark and Clif should meet to develop a "local governmental" point of view. Then we would meet with local stakeholders, like the SHCP, and members of the community. Finally we would meet with the state agencies that are also stake holders around the nexus of services and development centered around the South Fork of the Eel River, a wild and scenic river that needs major environmental protections and consideration of health impacts for our own as well as downstream communities. But this could take many months. I don't have a ready answer except that I see a significant responsibility but don't see a way of "shouldering it."



I look forward to your comments as well as the comments of all of the other recipients of this email except for the other Board members of the Sanitary District who are prohibited from answering this email or participating in this discussion unless it is in a public meeting. BROWN ACT NOTICE to other members of the Board of the Garberville Sanitary District: Do not disclose this email to any other person, respond to me as the sender of this email via email or any other communication or discuss this email with any other person. Remember it is a violation of the Brown Act if through serial meetings a quorum of the Board (three members) discusses this email outside of a public meeting.

Note: I will be out of the office and in a hearing in San Francisco until December 11th.

Best,

*Herb Schwartz*

HERB SCHWARTZ  
[herb@changemediation.com](mailto:herb@changemediation.com)  
829 Locust Street  
Garberville, CA 95542  
Office: 707 923 2223  
Fax: 707 923 2082  
Cell: 707 499 4936

P S to Mark: Please deliver a copy of this email to our other Board member, Dwight Knapp, who no longer uses email. (Smart fellow)

Humboldt County Building Department  
Todd Sobolik  
September 2, 2010

-----Original Message-----

**From:** Sobolik, Todd

**Sent:** Thursday, September 02, 2010 9:10 AM

**To:** Richardson, Michael

**Subject:** RE: Scoping meeting for the Southern Humboldt Community Park Project and Notice of Preparation of Draft Environmental Impact Report

Michael,

A couple of items:

- Permits will be required for any building, plumbing, mechanical, or electrical work.
- This is a commercial facility, all plans will have to be prepared by a licensed engineer or architect.
- Use of the "Barn" or any other structures as a public buildings is a change of occupancy.

Todd



DEPARTMENT OF PUBLIC WORKS  
**COUNTY OF HUMBOLDT**

MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579  
AREA CODE 707

ARCATA-EUREKA AIRPORT TERMINAL  
McKINLEYVILLE  
FAX 839-3596

PUBLIC WORKS BUILDING  
SECOND & L ST., EUREKA  
FAX 445-7409

CLARK COMPLEX  
HARRIS & H ST., EUREKA  
FAX 445-7388

AVIATION 839-5401

ADMINISTRATION 445-7491  
BUSINESS 445-7652  
ENGINEERING 445-7377  
FACILITY MAINTENANCE 445-7493

NATURAL RESOURCES 445-7741  
PARKS 445-7651  
ROADS & EQUIP. MAINT. 445-7421

LAND USE 445-7205

**LAND USE DIVISION INTEROFFICE MEMORANDUM**

TO: Michael Richardson, Senior Planner

FROM: Robert W. Bronkall, Associate Engineer *RB*

DATE: 11/24/2010

RE: **SOUTHERN HUMBOLDT COMMUNITY PARK  
TRAFFIC ASSESSMENT, MANAGEMENT AND CONTROL PLAN  
GPP-10-02; ZR-10-02; CUP-10-04; SP-10-10  
APN 222-091-003, -006, & -241-008**

The Department does not maintain any parks in the vicinity; therefore the Department supports the concept of expanding the existing park in order to provide recreational opportunities to the community. However, the Department is concerned that the existing roadway infrastructure serving the subject property is not be appropriate for the proposed level of use. The Department's primary concern involves impacts to non-motorized traffic on Sprowel Creek Road. In general, Sprowel Creek Road from Riverview Lane to Camp Kimtu Road is paved roughly 18 feet wide without any shoulders. In general, Camp Kimtu Road within the subject property is paved roughly 20 feet wide without any shoulders. Other concerns of the Department involve traffic management and traffic control issues regarding events that are proposed to be held on the subject property.

As part of the project, a traffic assessment, management and control plan should be prepared by a traffic engineer licensed by the State of California. The Department has prepared an outline of what the plan should include. This is included as Attachment "A". The plan also includes the assessment of capacity / quality of service of the existing roads:

1. To determine the maximum level of use before improvements to Sprowel Creek Road can be constructed.
2. To identify the needed improvements necessary for all of the proposed uses (ultimate plan).

Depending upon the maximum level of use that could be permitted without improvements to Sprowel Creek Road, this could allow the park to operate with some limited functionality. In the mean time, the park could then begin the process of funding and constructing improvements on Sprowel Creek Road to allow more intensified uses on the subject property.



**Attachment "A": Outline of the Traffic Assessment, Management and Control Plan  
for Southern Humboldt Community Park APN 222-091-003, -006, & -241-008**

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*Above: Picture of Sprowel Creek Road*



*Above: Picture of Camp Kimtu Road*

**Attachments:**

- Attachment "A": Outline of the Traffic Assessment, Management and Control Plan for Southern Humboldt Community Park

// END //

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**1.0 APPLICABILITY**

The project shall be conditioned to comply with the traffic assessment, management and control plan approved by the Department of Public Works.

**2.0 PROPOSED LEVEL OF USE**

The applicant shall furnish to their traffic engineer and the Department an estimate of the daily number of employees, vendors, and event patrons expected for each proposed planned event. The estimates may be based upon similar recent events at other venues.

The applicant’s traffic engineer shall apply this information in the preparation of a comprehensive traffic assessment, management and control plan that:

- Establishes event size group categories based upon levels of anticipated use of the facility in terms of event size.
- For each event size group category, ensures traffic management and control measures will address both efficiency and safety for all attendees accessing to and from the event.



**Attachment "A": Outline of the Traffic Assessment, Management and Control Plan  
for Southern Humboldt Community Park APN 222-091-003, -006, & -241-008**

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- For each event size group category, ensures minimal disruption to local residents who access the adjacent County roadways.
- Provide mitigation that ensures non-motorized traffic (such as bicycles and pedestrians) use of Sprowel Creek Road will not be adversely impacted by event vehicular traffic. Example: Provide off-site parking and shuttle attendees –versus-increased traffic from on-site parking.
- Furnish parking layouts for both on-site and off-site parking facilities that include all dimensions necessary for the layout of access and parking for each parking facility; illustrates planned traffic flow to and from adjacent County roads; placement of traffic control personnel and signage for each proposed on-site and off-site parking facility.
- Provide procedures for traffic control personnel that meet or exceed the procedures specified herein.

If future events are scheduled that are similar in nature to previously identified events, the traffic control plan established for a similar event may be utilized.

## **2.1 CAPACITY OF ROADS AND QUALITY OF SERVICE**

The applicant's traffic engineer must assess the capacity and quality of service of the existing roads to serve both motorized and non-motorized transportation. In particular, the plan must:

- Determine the maximum level of use for the park before improvements to Sprowel Creek Road can be constructed.
- Identify the needed improvements necessary for all of the proposed uses of the park (ultimate plan).

## **3.0 PARKING DEMAND DETERMINATION**

The applicant's traffic engineer shall utilize the estimate of daily number of employees, vendors, and event patrons expected for each proposed planned event to determine the number of separate parking spaces required for each of the following groups:

- **Vendors** - The determination of the minimum number of parking spaces required for vendors shall not be less than one (1) parking space per each vendor.
- **Employees** – The determination of the minimum number of parking spaces required for employees shall not be less than that specified within Humboldt County Code (HCC) Section 109.1.3.3.4., as provided directly below:

**109.1.3.3.4 Theaters or Stadiums. One (1) parking space for every four (4) seats, plus one (1) space for every two (2) employees. (Former Section INL#316-13.3(c)(4); Ord. 1668, Sec. 5, 1/15/85; Amended by Ord. 1692, Sec. 2, 6/11/85; Amended by Ord. 1842, Sec. 13, 8/16/88)**

- **Patrons** – The determination of the minimum number of parking spaces required for patrons shall not be less than that specified within HCC Section 109.1.3.3.4, as provided directly below:

**109.1.3.3.4 Theaters or Stadiums. One (1) parking space for every four (4) seats, plus one (1) space for every two (2) employees. (Former Section INL#316-13.3(c)(4); Ord. 1668, Sec. 5, 1/15/85; Amended by Ord. 1692, Sec. 2, 6/11/85; Amended by Ord. 1842, Sec. 13, 8/16/88)**

- **Physically Handicapped** – The determination of the minimum number of parking spaces required for the physically handicapped shall not be less than that specified within HCC Section 109.1.2.8, including HCC Sections 109.1.2.8.1 through 109.1.2.8.3 inclusive, as provided directly below:

**109.1.2.8 Parking Facilities for the Physically Handicapped. Facilities accommodating the general public, including but not limited to auditoriums, theaters, restaurants, hotels, motels, stadiums, retail establishments, medical offices and office buildings shall provide parking spaces for the physically handicapped in compliance with Section 431-2 of the Humboldt County Code and the following provisions: (Former Section INL#316-13.2(h); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)**

**109.1.2.8.1 Handicapped parking spaces shall be at least fourteen feet (14') wide and eighteen feet (18') long. (Former Section INL#316-13.2(h)(1); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)**

**109.1.2.8.2 Parking facilities containing six (6) through (40) spaces, inclusive, shall include one (1) handicapped parking space permanently signed with the international symbol of accessibility. One more handicapped space shall be provided for each additional forty (40) spaces or increment thereof. (Former Section INL#316-13.2(h)(2); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)**

**109.1.2.8.3 Two (2) handicapped spaces permanently signed, shall be required in conjunction with any use or combined uses which occur within a space of more than 10,000 square feet gross floor area. (Former Section INL#316-13.2(h)(3); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)**

In the event parking demand exceeds on-site parking capacity, the ratio of one (1) required handicapped space for every forty (40) spaces or increment thereof shall apply to the total combined number of on-site and off-site parking spaces required. The total required handicapped spaces shall be sited at on-site parking facilities.

In addition to the above referenced requirements, the applicant's traffic engineer shall apply HCC Sections 109.1.2.9 through 109.1.2.12 when necessary.

### **3.1 PARKING CAPACITY DETERMINATION**

The applicant's traffic engineer shall estimate available on-site parking, off-site parking allowed per HCC Section 109.1.2.1.1.3, or off-site parking beyond the distance allowed by HCC Section 109.1.2.1.1.3, by applying the dimensions per parking stall established within HCC Section 109.1.2.2:

#### **109.1.2.2 Size and Improvement.**

**109.1.2.2.1** Each normal size parking space shall be not less than eight feet (8') wide, eighteen feet (18') long and contain seven feet (7') of vertical clearance. (Former Section INL#316-13.2(b)(1); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

**109.1.2.2.2** Each compact car space shall be not less than seven and one-half feet (7-1/2') wide and sixteen feet (16') long. (Former Section INL#316-13.2(b)(2); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

**109.1.2.2.2.1** No compact car spaces shall be allowed in parking areas containing less than ten (10) parking spaces. (Former Section INL#316-13.2(b)(2)(a); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

**109.1.2.2.2.2** In lots where compact car spaces are permitted, up to twenty-five percent (25%) of all spaces in the lot may be compact car parking spaces. (Former Section INL#316-13.2(b)(2)(b); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

**109.1.2.2.2.3** Compact car spaces shall be visibly marked with signs and shall be clustered in one section of the parking area. (Former Section INL#316-13.2(b)(2)(c); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

In addition to the individual parking stall dimensions established within HCC Section 109.1.2.2, access lanes between parking and encompassing the perimeter of each parking area shall be identified that satisfy HCC Section 109.1.5.1:

**109.1.5 Additional Requirements.**

109.1.5.1 Any off-street parking area for other than residential uses wherein five (5) or more spaces are proposed shall be in conformance with the standards in this Code which pertain to encroachment (Section 411 and following), and shall be designed so as to provide sufficient maneuvering room for vehicles on-site so that they may leave the site to enter onto any street without backing onto the street. The adequacy of maneuvering room shall be determined by the Department of Public Works, based upon engineering standards. (Former Section INL#316-13.5 (a); Added by Ord. 1668, Sec. 7, 1/15/85)

**3.2 PARKING FACILITY LIGHTING**

Any events that do not end within one-half hour before dusk shall require all parking facilities to be properly illuminated with either permanent or temporary lighting facilities per HCC Section 109.1.2.7:

109.1.2.7 Lighting. Any lights used to illuminate the parking spaces or driveways shall be designed and located so that direct rays are confined to the property where the parking area is located. (Former Section INL#316-13.2(g); Added by Ord. 1668, Sec. 3, 1/15/85; Amended by Ord. 1692, Sec. 1, 6/11/85)

**3.3 IDENTIFICATION OF PARKING FACILITIES**

Based upon the parking demand determined for each event size group category, the comprehensive traffic assessment, management and control plan shall identify all required parking areas that meet the requirements of HCC Section 109.1.2.1.

Where exceptions to HCC Section 109.1.2.1 are necessary due to estimated parking demand for any event size group category exceeding existing on-site parking capacity, the provisions of HCC Section 109.1.2.1.1 shall apply.

If the requirements of HCC Section 109.1.2.1.1.3 cannot be met, the comprehensive traffic assessment, management and control plan shall include requirements for the safe and efficient transportation of attendees to the event from off-site parking facilities properly secured by the applicant.

**3.4 MINIMUM NUMBER OF PARKING LOT ACCESS POINTS**

The minimum number of access points from any County road to any parking area, whether on-site or off-site, shall be two (2), utilizing a primary / secondary access plan. The primary access shall be the longest access route from the County road to the parking area to enable the longest available queue (back-up of waiting vehicles) into the parking area without queuing into or over the County right of way. Should the primary access queue extend to the County road, the traffic control personnel on the County road at the primary access point shall redirect traffic to the secondary access point until the queue along the primary parking lot access road is satisfactorily reduced to allow resumption of traffic onto the primary parking lot access. Traffic control personnel stationed on the County road at the primary parking lot access location may also release traffic to the secondary parking lot access location when outbound traffic on the County road is

approaching and passing through the primary parking lot access location to avoid a stoppage of inbound event traffic and interference with the passage of local traffic.

### **3.5 PARKING AREA ACCESS**

All access roads serving parking areas from County roads shall have a durable dust free surface (either compacted gravel aggregate base or asphalt pavement), and shall be a minimum Class 3 Road (16 foot width) with two foot (2') gravel shoulders on each side.

The first fifty feet (50') of any access road and the first twenty-five feet (25') of any driveway from the edge of pavement of any County road serving any parking area utilized by the event shall be surfaced with asphalt concrete. If it is necessary to improve any access road or driveway to meet this requirement, a minimum of 0.2 foot of Class A asphalt concrete pavement shall be placed over a prepared subgrade consisting of a minimum 0.6 foot of Class 2 or Class 3 aggregate base compacted to 95% per California Test 216 specifications.

### **3.6 PARKING RESTRICTIONS ON COUNTY ROADS**

Event parking on all County roads west of the intersection of Sprowel Creek Road and Route US 101 southbound off and on ramps shall be prohibited and signed in accordance with California Vehicle Code Sections 22651.(m) or 22651.05.(3). The applicant shall furnish and erect signage as directed by the Department herein that includes the telephone number of the local traffic law enforcement agency.

### **3.7 PARKING RESTRICTIONS ON PRIVATE ROADS**

Wherever the width of the durable dust free surface of any access road to event parking is less than twenty-eight feet (28'), the access road shall be properly signed prohibiting parking along both sides of the access road. Wherever the width of the durable dust free surface of any access road to event parking is greater than twenty-eight feet (28') but less than thirty-six feet (36'), the access road shall be properly signed prohibiting parking along one side of the access road.

Event parking shall be prohibited along Leino Road, a private road, in its entirety, and signed in accordance with California Vehicle Code Section 22658.(a)(1). The applicant shall furnish and erect signage as directed by the Department herein that includes both the telephone number of the local traffic law enforcement agency and the name and telephone number of each towing company that is a party to a written general towing authorization agreement with the owner(s) or person(s) in lawful possession of the property that encompasses Leino Road.

### **3.8 ADDITIONAL PARKING RESTRICTIONS**

Event parking shall be prohibited within Tooby Park and signed in accordance with California Vehicle Code Sections 22651.(m) or 22651.05.(3). The applicant shall furnish and erect signage as directed by the Department herein that includes the telephone number of the local traffic law enforcement agency.

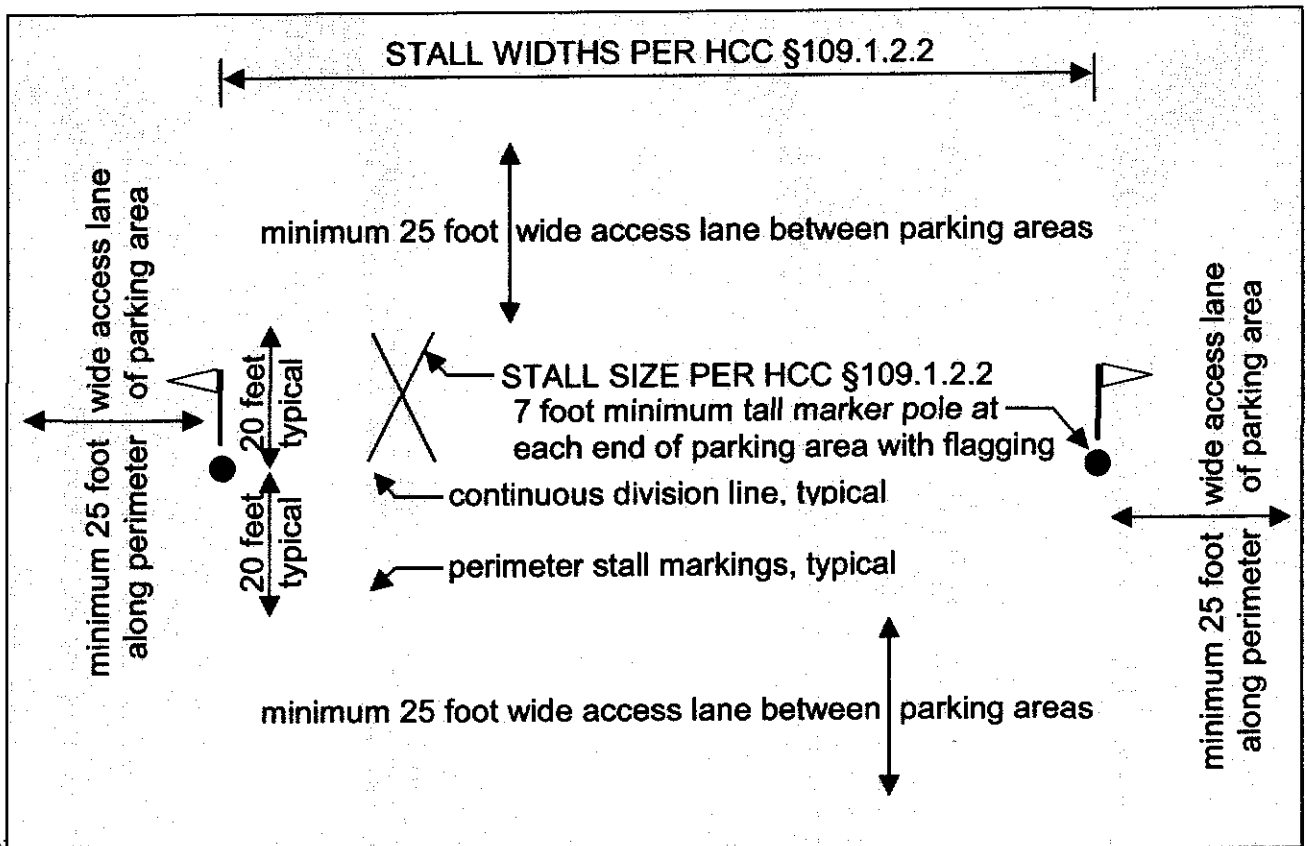
If it is determined by the Department that any further parking restrictions are required, whether on private property or within public rights of way to ensure local traffic accessing the County road in either direction is not stopped nor delayed by traffic control personnel except for allowing emergency vehicles to pass, applicant shall, upon notification by the Department, immediately take all measures necessary or required to establish traffic conditions whereby local traffic accessing the County road in either direction is not stopped nor delayed by traffic control personnel except for allowing emergency vehicles to pass.

**3.9 PARKING AREAS**

Parking areas should either be surfaced with a durable, dust-free material (compacted gravel aggregate base or asphalt pavement), or closely mowed grass. Grass fields shall be sufficiently watered in the morning and repeatedly sprinkled throughout the day of any event to prevent any potential occurrence of ignition of the grass and to serve as a dust palliative.

The ends of parking rows should be prominently marked by poles with flags and the division line between adjacent head-to-head parking spaces lined with either temporary marking paint or lime chalk striping from pole to pole on a straight, even alignment. Individual parking stalls should be marked out with twenty foot by nine foot (20' x 9') dimensions off both sides of each division line. Stall markings opposite the division lines may consist of either lines or "X"s or "T"s along the faces of the parking rows.

The following example illustrates the fundamental layout requirements for a parking lot:



**4.0 NON-MOTORIZED DEMAND DETERMINATION**

For each event size group category, the applicant's traffic engineer shall determine an estimated anticipated volume of non-motorized traffic, both event related and local, originating from the urban center of Garberville to and through the event site via County roads. The applicant's traffic engineer shall determine specific event size group categories where non-motorized safety mitigation along Sprowel Creek Road will be required. The applicant's traffic engineer shall include within the traffic assessment, management and control plan detailed non-motorized safety mitigation plans for any event size group category identified by the traffic engineer to require such a mitigation plan.

If future events are scheduled that are similar in nature to previously identified events, the non-motorized safety mitigation plan established for a similar existing event may be utilized.

**4.1 NON-MOTORIZED LEVEL OF SERVICE / QUALITY OF SERVICE**

Safe non-motorized (bicycle and pedestrian) traffic shall be maintained at all times on Sprowel Creek Road from one (1) hour before to one (1) hour after each and every event.

As a condition for the approval of the Conditional Use Permit (CUP), the applicant's traffic engineer shall determine specific event size group category thresholds that would require a need for improved shoulder widths along Sprowel Creek Road for non-motorized traffic. Establishing such an event size group category threshold enables the applicant to operate under limited conditions without otherwise burdening the applicant with costly shoulder improvements to safely accommodate non-motorized traffic.

Shoulder improvements may include, but not be limited to the widening, grading, and compaction with aggregate base gravel and asphalt concrete paving of the existing road shoulder along Sprowel Creek Road from approximately Post Mile (P.M.) 0.2 to the last parking area access from a County road. Shoulder improvements shall be completed that achieve a clear, uniform asphalt concrete pavement surface no less than four feet (4') in width from the existing edge of pavement or behind guard railing with a minimum five foot by five foot (5' x 5') path area at a spacing not less than two hundred feet (200'). Existing turnout shoulders shall satisfy, where required, the minimum five foot by five foot (5' x 5') path area.

Upon the satisfactory completion of shoulder improvements by the applicant as determined by the Department, the applicant, notwithstanding any other requirements conditioned by the CUP, may conduct event size group categories that required the level of non-motorized traffic improvements along Sprowel Creek Road.

**5.0 TRAFFIC CONTROL PERSONNEL**

The traffic engineer shall establish minimum standards for traffic control personnel. In determining the minimum standards, the following shall be considered:

**Attachment "A": Outline of the Traffic Assessment, Management and Control Plan  
for Southern Humboldt Community Park APN 222-091-003, -006, & -241-008**

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All traffic control personnel, whether working on County roads or on private grounds, shall be properly trained and fully knowledgeable of the procedures established within the Caltrans document entitled: "Flagging Instruction Handbook", a copy of which can be found at the following web address:

<http://www.dot.ca.gov/hq/construc/flagging/flaggerhandbook2007.pdf>

Each individual assigned to traffic / parking control shall wear a standard safety vest (retro reflective international orange or lime green), and be in possession of a flag and an operable two-way radio with sufficient extra batteries to allow radio communication over the time period individuals are assigned to traffic / parking control. Individuals assigned to traffic control on County roads (Sprowel Creek Road or Camp Kimtu Road) shall wear either a white hardhat or white baseball-type cap to increase visibility and awareness by drivers, and have a standard STOP / SLOW paddle sign in addition to a flag and operable two-way radio.

Traffic control measures and personnel in place and working beyond one-half hour before sunset shall adhere to the procedures as outlined within the Caltrans document entitled "North Region Construction Nightwork Guide", a copy of which can be found at the following web address:

<http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf/2007NRNightWorkGuide.pdf>

Traffic control personnel assigned to public street intersections for the purposes of traffic control shall adhere to the requirements of California Vehicle Code Section 21100.(e):

*21100.(e) Regulating traffic by means of a person given temporary or permanent appointment for that duty by the local authority whenever official traffic control devices are disabled or otherwise inoperable, at the scenes of accidents or disasters, or at locations as may require traffic direction for orderly traffic flow.*

*A person shall not be appointed pursuant to this subdivision unless and until the local authority has submitted to the commissioner or to the chief law enforcement officer exercising jurisdiction in the enforcement of traffic laws within the area in which the person is to perform the duty, for review, a proposed program of instruction for the training of a person for that duty, and unless and until the commissioner or other chief law enforcement officer approves the proposed program. The commissioner or other chief law enforcement officer shall approve a proposed program if he or she reasonably determines that the program will provide sufficient training for persons assigned to perform the duty described in this subdivision.*

Traffic control personnel meeting the requirements within California Vehicle Code Section 21100.(e) shall display proper insignia as required by California Vehicle Code Section 21100.3:



**Attachment "A": Outline of the Traffic Assessment, Management and Control Plan  
for Southern Humboldt Community Park APN 222-091-003, -006, & -241-008**

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21100.3. It is unlawful for any person to disobey the traffic directions of a person appointed or authorized by a local authority to regulate traffic pursuant to subdivision (e) of Section 21100 when such appointee is wearing an official insignia issued by the local authority and is acting in the course of his appointed duties.

In addition to the aforementioned required training, all personnel assigned to traffic control shall be briefed and fully understand the procedures specified under the heading "Emergency Access" below.

**5.1 MINIMUM NUMBER OF TRAFFIC CONTROL PERSONNEL**

The traffic engineer shall determine the quantity of traffic control personnel needed. The following shall be evaluated as part of the plan:

- One (1) traffic control person stationed at the intersection of Sprowel Creek Road with Redwood Drive in Garberville.
- One (1) traffic control person stationed on Sprowel Creek Road at the intersection with the Route US 101 southbound off / on ramps.
- One (1) traffic control person stationed at the intersection of Sprowel Creek Road with Alsford Lane and Riverview Lane approximately four hundred feet (400') west of the Sprowel Creek Road intersection with the Route US 101 southbound off / on ramps.
- One (1) traffic control person stationed on Sprowel Creek Road at each access point to event parking.
- Two (2) traffic control personnel assigned within the parking area for each access point to event parking consisting of: One (1) directing traffic off any private access road into the parking area and one (1) directing each vehicle into a designated parking space to assure vehicle parking is efficiently arranged in a timely manner to prevent queuing and delays.
- If off-site parking lots are used, the number of personnel will be determined by the Department based upon the primary exit point from Route US 101 and existing physical conditions of County roads and access off County roads onto the proposed parking locations via private access roads.
- In addition to the minimum required number of traffic control personnel specified, sufficient additional traffic control personnel shall be furnished to relieve personnel for mandatory break periods.

Example of break period required pursuant to Part 12. of the California Industrial Welfare Commission Order No. 9-2001M:

**Attachment "A": Outline of the Traffic Assessment, Management and Control Plan  
for Southern Humboldt Community Park APN 222-091-003, -006, & -241-008**

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**12. REST PERIODS**

(A) Every employer shall authorize and permit all employees to take rest periods, which insofar as practicable shall be in the middle of each work period. The authorized rest period time shall be based on the total hours worked daily at the rate of ten (10) minutes net rest time per four (4) hours or major fraction thereof. However, a rest period need not be authorized for employees whose total daily work time is less than three and one-half (3 1/2) hours. Authorized rest period time shall be counted as hours worked for which there shall be no deduction from wages.

(B) If an employer fails to provide an employee a rest period in accordance with the applicable provisions of this order, the employer shall pay the employee one (1) hour of pay at the employee's regular rate of compensation for each workday that the rest period is not provided.

(C) This section shall not apply to any public transit bus driver covered by a valid collective bargaining agreement if the agreement expressly provides for rest periods for those employees, final and binding arbitration of disputes concerning application of its rest period provisions, premium wage rates for all overtime hours worked, and regular hourly rate of pay of not less than 30 percent more than the State minimum wage rate.

**5.2 REQUIRED PARKING RESTRICTION SIGNAGE**

The traffic engineer shall determine the required locations, type and quantity of parking restriction signs. All parking restriction signs shall be in place no less than twenty-four (24) hours or one (1) day before the date of the event taking place.

**5.3 ADVANCED WARNING SIGNS**

Advanced warning signs shall be placed at locations designated by the Department at approximately evenly spaced intervals not less than two hundred feet (200') nor more than five hundred feet (500') apart consisting, in order, of a SC5 (CA) ("SPECIAL EVENT AHEAD"), a C9A (CA) (pictorial flagman ahead), and a W3-4 ("BE PREPARED TO STOP") fabric retro reflective signs on collapsible flag stands with a retro reflectorized cone placed adjacent to each flag stand.

The traffic engineer shall determine the required locations, type and quantity for advanced warning signs. The following locations should be evaluated as part of the plan:

1. Between the intersection of Redwood Drive and Sprowel Creek Road facing eastward towards westbound traffic.
2. On Sprowel Creek Road west of the most westerly event access location, facing westward towards eastbound traffic.
3. On Camp Kimtu Road, south of the most southerly event access location, facing southward towards northbound traffic.
4. If any Caltrans encroachment permit issued for the special event does not otherwise specify, an identical arrangement of signage shall be placed along the southbound Route US 101 off-ramp northerly of the Sprowel Creek Road intersection at a 500 foot minimum spacing between signs and the intersection with Sprowel Creek Road and the last sign (Type W3-4) .

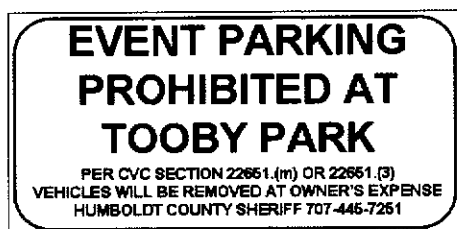
5.4 SAMPLE SIGNS



SIGN DETAIL 1



SIGN DETAIL E



SIGN DETAIL 3



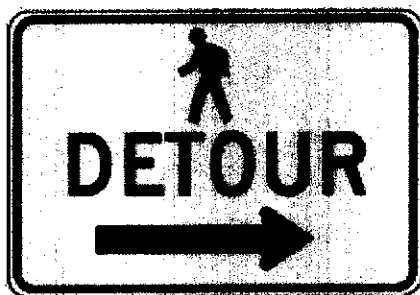
R28A LEFT



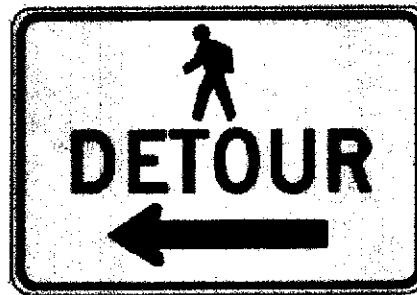
R28A RIGHT



R28A BOTH



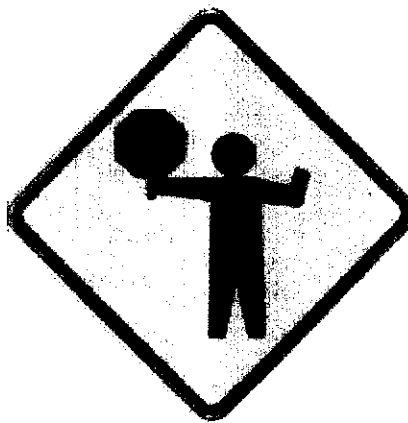
W11-1 MODIFIED  
LEFT ARROW



W11-1 MODIFIED  
RIGHT ARROW



SC5



C9A



W3-4

## **6.0 EMERGENCY ACCESS**

In the event an emergency vehicle requires access to a County road, event site, or points beyond, traffic control personnel shall adhere to the guidelines established within the Caltrans Flagging Instruction Handbook. The traffic engineer shall provide a plan to accommodate emergency vehicles.

*Example: Immediately upon determination by traffic personnel located at either the Sprowel Creek Road intersection with Route US 101, or the intersection of Redwood Drive and Sprowel Creek Road, that an emergency vehicle needs to proceed on the County road through the event area, an "all stop, emergency vehicle" or similar order shall be given over the radio by the traffic control personnel first aware of the emergency vehicle's presence. Traffic control personnel stationed on the County road at all parking lot access points shall immediately require all traffic in both directions to stop and direct outbound traffic on the County road to pull over onto the shoulder area or otherwise move or back-up so as to allow sufficient clearance for emergency vehicles to get through the event area.*

*Upon securing a clear path, traffic control personnel stationed on the County road at each parking lot access point should broadcast on the radio a "cleared route secured" or other brief communication stating the emergency vehicle can proceed.*

*Traffic control personnel stationed on the County road at each parking lot access point securing a clear road should hold all traffic in both directions until the emergency vehicle has passed.*

*Traffic control personnel shall be in constant radio contact with event personnel and advised of the need for any emergency vehicle to access a County road.*

## **6.1 LOCAL TRAFFIC ACCESS**

Local traffic accessing a County Road in either direction shall not be stopped nor delayed by traffic control personnel except for allowing emergency vehicles to pass.

**6.2 SHUTTLE BUS ACCESS AND PICK-UP LOCATIONS**

All shuttle bus pick-up and drop-off locations shall be situated upon the private parking facilities properly secured by the applicant and shall not be established within any County right of way. Shuttle bus stops shall be located to prevent parking lot traffic queuing into County roads.

// END //

## **Individuals Letters Submitted**

1. Roger and Kristi Clark
2. Ann Constantino
3. Charlotte Silverstein
4. Dennis O'Sullivan
5. Doug Ingold
6. Gina Paine
7. Jay Sooter
8. Jerry Latsko
9. John Hardin
10. Kyle Keegan
11. John Laboyteaux
12. Margaret Lewis
13. Mateel Community Center
14. John Christianson
15. Susan Gardner
16. Gladys Madsen
17. Sandy Ferreto
18. Jayne Slabaugh
19. Ed Voice
20. Pam Hansen

-----Original Message-----

**From:** Ann Constantino [mailto:[aconstantino@humboldt.k12.ca.us](mailto:aconstantino@humboldt.k12.ca.us)]

**Sent:** Friday, September 17, 2010 1:52 PM

**To:** Richardson, Michael

**Subject:** Southern Humboldt Community Park, neighbor of park response

PO Box 337

215 Leino Lane,

Sprowel Creek Road

Garberville, CA 95542

707-923-7227

[hounddog@asis.com](mailto:hounddog@asis.com); [aconstantino@humboldt.k12.ca.us](mailto:aconstantino@humboldt.k12.ca.us)

Michael Richardson, County Planning Commission

3015 H Street, Eureka, CA 95501

[mrichardson@co.humboldt.ca.us](mailto:mrichardson@co.humboldt.ca.us)

September 17, 2010

Dear Mr. Richardson:

As a near neighbor of the Southern Humboldt Community Park there are a few issues that alarm me about the proposed rezoning which would allow amplified events and other developments in the park.

**Safety:** The road to the park is narrow and windy. Inebriated people driving home from amplified events are going to have bad accidents. Security of my property and other properties adjacent to the park will be compromised as concert goers cross private property on foot or in vehicles to get to and from events.

**Property value:** My property value could potentially be damaged by the security and safety issues. Other locations in this area where big concerts are held have had problems with concert-goers being disrespectful of private property.

**Wildlife:** As an almost daily user of the park for seven years I have found it to be a treasure of local wildlife. Every year I see young families of turkey, quail, countless other birds, as well as deer, raccoon, and squirrels. Their reproductive cycles will be impaired if not destroyed by the constant presence of noise and traffic during the breeding season.

**Type of recreation:** Southern Humboldt has numerous developed locales for amplified concerts and arts fairs. It has no public access areas for family recreation that serve the working class people of Southern Humboldt. For people who live and work in town the park is an oasis of

peace and quiet. Many studies show that it is disconnection from this kind of closeness to nature that contributes to stress-related ailments. There is a mental and physical health need for public access to nature. The state parks do not serve this function as well due to seasonal restrictions, closures, high entrance fees, and distance from town.

**Cost of maintenance:** I completely reject the idea that the developments allowing for amplified events will raise money. The maintenance and upkeep of concert areas is extremely expensive and will require a lot of manpower to achieve. Until there are concrete numbers proving money will be raised from these events beyond the cost of maintenance the park board is being very irresponsible in its claims that money will be raised in this way. There are numerous local examples of big events failing to net income, and in fact causing debt.

Let's keep this precious resource for outdoor education, family recreation, and interaction with nature as clean and untouched as possible. It is time to make some unselfish choices when human desires for certain kinds of recreation will negatively impact nature. I suspect many park board members and other supporters of the development would label themselves environmentalists. Yet a true environmentalist in this day and age must be willing to make sacrifices in order to make up for the countless sacrifices and degradation forced upon nature by human encroachment.

Thank you for your time.

Ann Constantino

Michael,

I should add that I'd be happy to contribute up to \$500 per year to keeping the park undeveloped. I know I am not alone. Thanks for your attention.

Does my letter suffice as a response to the letter I received from the County as a neighbor, or should I send something under separate cover?

Ann



Hello,

I just wanted to put my two cents in.

I have lived in Southern Humboldt for 25 years. I am a local business owner.

I think that having amplified music at the Community Park and any other gatherings there would be beneficial to the whole entire community. Any event that brings outside visitors and their spending power and their tax revenue into this business community would be an extra added bonus.

The local businesses of Southern Humboldt have been struggling for several years. Any move to bring more entertainment, more people traffic to the region would be supported by me. We have lost several large events in our area.

As a business person, my bottom line is going to be greatly affected if we do not find other venues to create revenue.

Please feel free to contact me, if need be.

Sincerely,

Charlotte Silverstein, owner, Garden of Beadin'

Good Morning,

We live at the end of Kimtu Road and we are some of the original donors to the park.

We were thrilled to help preserve the area and to avoid residential and commercial development.

What we didn't expect was that the park board would eventually want to stage large events of 5000 people and amplified rock concerts there. Sprowel Creek Road in its present condition cannot handle all that traffic and we are very concerned about access for emergency vehicles during such events. We object to the idea of parking on the river bar. We vehemently object to the idea of using our neighborhood as a turnaround. The road narrows to one lane before you get out here and it's a private road from the Mitchell property on. We never envisioned the park being used to build housing and we also object to that. That doesn't say "park" to us.

Thank you for your time,  
Roger and Kristi Clark

**From:** Susan and Dennis OSullivan [mailto:sprowlcreekcottage@gmail.com]  
**Sent:** Thursday, September 30, 2010 10:23 PM  
**To:** Richardson, Michael; Clendenen, Clif  
**Subject:** So. Humboldt Community Park

Good evening, we are Susan and Dennis O'Sullivan and we reside at 4235 Sprowl Creek Road. Thank you for the opportunity to provide input on the Draft EIR. We have been hesitant to respond to your request because on one hand we support the original vision of the Park to preserve one of the last flat agricultural pieces of property in So. Humboldt and on the other hand we have direct contact with the Park that infringes on our right to a peaceful residence. We understand your request for facts and we support and applaud your desire to view the request objectively and not politically. We have many concerns environmentally with respect to the entire amendment but we do not possess the knowledge to address them factually.

Our immediate concerns are related to the portions of the PR areas that will be used for events that are noted as medium sized and one sized at 5,000. We would like to state as fact that amplified events impact our property and the privacy we cherish. We also note as fact that Sprowl Creek Road cannot handle the flow of traffic required to handle large events. It is also fact that the CHP is in a much better position than your staff or other County agencies in assessing the roadway as worthy of this flow. While any County investment into the structure of this roadbed would be well received by residents and those that travel this route it is a fact that other roads in Southern Humboldt are in much greater need. Please consult Garberville VFD and Redway VFD who would be required to supply services at large events as well as protect those of us who reside beyond the entrance of the Park.

It is unfortunately a fact that this will be very political in nature and that we will be considered NIMBY's. It is a fact that you must support our concerns and when they cannot be mitigated you may be crucified and we thank you for taking this responsibility. We still trust the process, you and your staff. No politics, just facts.

Respectfully

Susan and Dennis O'Sullivan  
4235 Sprowl Creek Road  
Garberville

923-2889 h  
923-2188 w

*Douglas A. Ingold*  
Attorney at Law  
780-A Redwood Drive  
P.O. Box 715  
Garberville, CA 95542  
Voice/Fax (707) 923-2455  
dai@asis.com

September 14, 2010

Michael Richardson  
Humboldt County Planning Division  
Sent via email to: mrichardson@co.humboldt.ca.us

Re: Southern Humboldt Community Park

Dear Michael:

I was present at last Thursday's scoping session outside the big barn. I didn't speak because I did not have anything original to say, but do I want to add my support for the Board's proposed plan and confirm a couple of things that were said.

I was the president of the board of directors of Southern Humboldt Working Together when it took title to the property. I later served on the park board for a number of years. While I am no longer involved with the park other than to walk the trail every week or so, I do have great respect for the work the present board has done to bring this plan to fruition.

Since I was involved at the beginning, I can confirm that the park was always proposed as a multi-use facility. A number of early donors were excited about soccer fields, tennis courts and a swimming pool, for example.

I can also confirm that beautiful natural settings rich in wildlife can accommodate regular human traffic. Though I continue to work in Garberville, I now live in Arcata. My home is within a hundred yards of the community forest and I regularly walk at the marsh. Both are excellent examples of this phenomenon.

From the beginning, Steve Dazey preached that no one would be excited about everything that happened at the park, but people should support the project if some of the things they wanted to see happen did take place there. Thus, while I personally have no interest in attending large festival events if they can be held without damaging other values, I have no reason to oppose them, or to oppose the entire project because of them.

I trust the planning process. I believe with your good efforts, and the board's continued good will, a system can be put in place that is both flexible and clear enough that the park can continue to evolve in an orderly way. Thanks for taking on this challenging project.

With regards,

Douglas A. Ingold

Michael Richardson, Senior Planner  
Humboldt County Planning Department

This letter is in response to the call for input as part of the scoping process for the Environmental Impact Report that the Community Development Services Department is preparing on the Southern Humboldt Community Park's (SHCP) application for zoning changes.

First, I believe that it's important to view this application in a historical context as well as considering what alternative uses might have occurred had the community not purchased the property. Before the current owners took possession the Tooby Flat had been used for ranching and farming purposes for over 100 years. The gravel operation had been ongoing for a couple of decades. There was not a square centimeter that could be called "wild." The land has been managed and manipulated for human purposes for more than a century. The previous owners gave little thought to protecting the seasonal wetland areas, the forests were high graded for the best fir, and the pasture area had been compacted by the hooves of generations of cattle. The very acquisition of the Park by the public benefit non-profit that became the owner in itself improved these conditions by reducing certain of the detrimental impacts of the past. Beyond that the Park took on some substantial habitat improvement projects including the forestry project on the land surrounding the flat. The Park board has been consistently mindful of its responsibility towards protecting and enhancing habitat for the array of species that exist on the parkland, even as this property is not a wild area. To bemoan the potential loss of native forest or grassland through the execution of the current proposal, though clearly having a certain emotional appeal, is simply not supported by fact.

Additionally, the alternative to the present and projected use of the land currently in park ownership was, arguably, one to five acre ranchettes. Now, it might be *argued* that this was not inevitable given that the zoning would have had to be changed to accommodate that kind of development. But given the temper of the time, the expansive real estate boom of the early part of the decade, it is unlikely that the Commission would have turned down a well-crafted proposal of just that sort.

Let's imagine for a moment the impact of the one to five acre ranchette development model. For the sake of argument let's say that 300 acres would be given over to this activity (assuming some protection for wetlands and riparian zones). Let's say half of that would be one acre, half five. That translates into 180 potential home sites. Imagine the daily impact of that on the neighborhood, particularly the road use.

This, then, was the highly likely alternative to present use. When evaluating the environmental impacts of the present application the Department and Commission need to keep in mind that present ownership has protected environmental values far more extensively than any potential alternative owner likely would have. The park board has demonstrated this commitment to protect and enhance the physical environment. Prime

examples are the dedication to organic agriculture and the forest improvement activities that have taken place.

Another contextual element regarding this application is the fiscal reality of owning and managing a public park. The Southern Humboldt Community Park is a private, public benefit non-profit organization. As a private entity it receives no regular stream of public funds to support the activities and development of the facility. There are considerable fixed costs to this enterprise, not to mention the expense involved in developing or rehabilitating the property. If the park is to maintain itself as a public benefit institution, if it is to continue to provide the services – agricultural, social, recreational – that it currently offers, if it is to expand its potential recreational uses or if it is to restore more of its holding, the park will require a reliable means to fund such pursuits. The present application for zoning change seeks to establish the legal basis for such income-generating activities. As such, some land will be more intensely developed. Other portions of the land will see more recreational activities, others more social events. Many of these will be fee-based and thus revenue generators for the park. It is imperative that the park be given enough opportunity to host remunerative activities in order to support the basic maintenance and management costs. This is not to suggest that environmental concerns should be subordinated to commercial ones. However, if the levels of protection that the park currently affords are to be maintained and enhanced, there must be a revenue stream available to conduct activities in the furtherance of those aims.

The rezoning application poses very little in the way of new uses of the land. The park anticipates an array of uses similar to those activities conducted by the park before it was ordered to cease those that were outside of the existing permitted uses under the current ag zone. The exception in the new plan is the approximately five acres devoted to residential development. The residential development will, of course, be subjected to all the expected environmental reviews independent of this application. The zoning change is necessary to allow for family residences. This component is an important part of the park's economic plan. The park hopes to create an endowment for future management and development, and the development of housing is a source of those funds.

Use under the proposed plan (other than the residential development) differs notably in frequency and scale from those activities hosted by the park prior to the order to cease. The SHCP is requesting that they increase both the number and size of events held on the property. This and the related impacts seem to be the most troubling of the issues, particularly from the point of view of nearby residents. The challenge to the park is to mitigate the impact of expanded uses.

That said, the current application provides neither a monitoring nor mitigation plan. Both should be negotiated with the Planning Department and other appropriate agencies. Monitoring should be focused on (in the case of wildlife) critical species. Monitoring in general should not be designed so that it is so burdensome that it is impossible to accomplish either from excessive complexity or cost. For example, wildlife monitoring should include only sensitive species. Common species (e.g., quail, gray squirrels) have

an abundance of appropriate habitat in the area such that the park's impacts will have little bearing on their sustained success in the vicinity.

The Community Park is comprised of several micro-environments. The present proposal concentrates human activities in an area that comprises less than twenty-five percent of the ownership. This portion of the property is contiguous and already has experienced human uses for a century and more. Some of the activities will have impacts beyond their specific location. Large gatherings will require attention to:

- Traffic management
- Parking
- Security and crowd management
- Clear delineation of use areas
- Protection of natural values
- River protection
- Sound management
- Water supply
- Waste disposal

Generally the proposed zoning change provides an opportunity to further protect both the human and natural environment while retaining and expanding recreational, cultural and social activities. It is my firm belief that thoughtful planning, monitoring, mitigation, restoration and rehabilitation of the site can and will be accomplished by the present board and management of SHCP. I would like to see the Planning Department and Commission acting as a partner in what is proving to be a unique and exemplary occasion of private and public participation in providing an enduring legacy for the Southern Humboldt Community.

Thank you.

Douglas Fir

Sept. 9-2010

Humboldt County Planning Department,

My name is Gina Paine and I am a long standing resident of Southern Humboldt. I have many family roots here and understand the history of our area. I am writing this letter to support the Community Park of Southern Humboldt in obtaining a zoning change so that it may develop.

I see the need in our community for a gathering place that can include all kinds of events. But my foremost concern is for our kids. I have been the Southern Humboldt Youth Soccer Representative for the past 10 years, I sit on the Southern Humboldt Schools Foundation Board and South Fork High School Boosters Club. Through my direct involvement I understand that our children do not have a large enough space to accommodate all of the sports programs.

For instance youth sports share a very small space at the Redway Elementary which all of the programs have out grown. During the current season youth soccer has 160 kids from the ages of 4 to 14. Youth football is also in this space and often has three teams practicing, with cheerleading squads, which can sometimes include another 75 kids.

A zone change in one area to recreational use would serve the youth of our area immensely. Any child that wants to participate in sports should never be turned away because of lack of space to play. And what is a community park without an area for the kids? We are having an increase enrollment in our schools and this means that these programs will continue to grow, but there is no room. And as a community we need the ability to support our growing youth population in a positive way. Children involved in sports make better community members.

A sports complex would be a great addition to our community and the Southern Humboldt Community Park is the only place that has the space to do this for our kids. There is also a large population of adult athletes in our area that would like to expand their programs.

Please consider the youth in our area when you rezone our park -

Gina Paine  
P.O. Box 2431  
Redway, Ca. 95560  
(707)923-1971



10/21/10

Mr. Richardson,

I have been a resident and public school teacher in So. Humboldt since 1959. I am writing in regard to the Community Park and the plans that they have presented. I am very much opposed to the park. I believe it will cause great harm to the environment and to the Garberville area, especially to the homeowners in the vicinity. Their privacy will be invaded and the value of their property will certainly go down. The land and water supply will be degraded with 5,000 people plus cars, etc. at even one large event, not to mention the other events throughout the year.

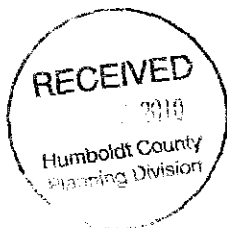
The park should be Community-based. It should benefit the health and welfare of the So Hum population, and not be the means of gaining a profit. With the thoughtful consideration of a committee made up of local residences, a plan can be developed without large venues.

Thank you.

Sincerely,

Clay R. Madsen

P.O. Bx 526, Redway, Ca. 95560



September 9, 2010

Regarding EIR for Southern Humboldt Community Park General Plan Amendment and rezone.

To the Humboldt County Planning Department  
Humboldt County Planning Commission  
Humboldt County Board of Supervisors

I am opposed to the General Plan Amendment, rezone, rewriting of the Public Recreation Land Use Designations and rewriting of the Public Facility Rezone for the Southern Humboldt Community Park.

The use of a Public Facility Zone, which is for Extensive Impacts Civic Uses for publicly owned land is inappropriate, since this Park is privately owned (in spite of being purchased with donations from the public) and Extensive Impact Uses to the environment of the park land is unacceptable.

The Plot Plan included in the Park Board GPA indicates a wet meadow. This is the same area that is proposed for:

- 1) Rezone of an unspecified size of land (but appears to be twice as big as River Crest Subdivision across the river which is 7 or 8 acres) for multi-family housing. A plan of construction must be included in this EIR so that the environmental impacts can be assessed. Geological studies must be included in the EIR, grading and foundation plans, soils assessment, traffic studies, cultural resource reports, biological reports, how the agricultural land will be replaced, studies of hydrology and water quality, loss of recreation land and aesthetics. The engineering of the housing, construction plans must be included. Affects on wildlife must be addressed in the EIR. Furthermore, as soon as the General Plan Update is completed, the whole area around the park for miles is to be "Urban Study Area". This is defined as areas where services are available or feasible and densities greater than one unit per acre are appropriate to consider. Multi-family zoning can be up to 15 units per acre, according to Michael Richardson in a KMUD news report regarding housing. For this reason, the Park must not have housing.
- 2) Recreational Facilities Sports Fields are proposed. (The map in the GPA says see detail, but there is no detail in the GPA, although a conceptual sketch was thrown in). This conceptual sketch includes 27,000 square foot pool, but no plans of excavation or construction, which must be included in order to assess the impacts to the environment. A 42,000 square foot field house, which must include excavation, grading, engineering and construction plans plus all soil and geological studies required for the EIR in order that the extensiveness of the impacts to the environment may be assessed. This appears to require massive grading and scraping of the hillside that is an historical hazardous slide area. There are also, in this conceptual sketch, two parking areas for a total of 260 cars, this on the historical Woods Family Orchard, and is prime agricultural soils. How will the loss of agricultural land be addressed? The ballfields are shown as almost 6 acres on this conceptual sketch. All environmental impacts of these ballfields must be addressed, including the effects of night lighting, noise and crowds on the nocturnal wildlife that live in the Park, water, and loss of agricultural land.
- 3) Garberville Sanitary District has said that these proposed uses, housing development and sports fields/recreation facility would be considered new hook-ups and there is an ordinance (per LAFco) prohibiting new hook-ups. Sewer or septic must be addressed for the sports fields/recreation facility and housing development.

- 4) This same area as the Recreational Facilities Sports Fields is also proposed for organic hayfields and a Parking Lot for proposed concerts, festivals and events. This may or may not be on the Wet Meadow, it is hard to tell from the Plot Plan, but it is clearly in the historical orchard sight and is prime agricultural soil, since it is directly below an historical hazardous slide area. Much more appropriate for orchards.

Regarding the Extensive Impacts to the environment of a commercial and non-profit concert venue/festival facility:

There appear to be at least 4, possibly 6 streams in the area proposed for the event facility and camping areas. The impacts of large crowds and camping on these streams must be addressed in the EIR. Studies should be required to determine the extent of damage on the wildlife of loud noise, bright lights and massive crowds, since these are known to be damaging to wildlife, particularly nocturnal creatures.

The effects of noise, lights, crowds and traffic on the surrounding neighborhoods of Kimtu Road, Rivercrest Subdivision, Sprowel Creek Road, Leino Lane, Sunnybank Lane, Connick Creek and Old Briceland Road must be addressed and studied. I have lived on Sprowel Creek Road for more than 20 years, and every year at Reggae Time, trespassers camp on my family property without permission. This is during an event that is at least 9 miles away! Since the Reggae Events and the Summer Arts and Music Events are currently near the State Parks, there is the necessity, according to state park staff, of hiring extra rangers to deal with trespassers and vagrant camping during these events. Our family does not have at our disposal extra rangers to deal with the increased trespassers and vagrant campers associated with events with-in less than a mile of my home. There is also no way to keep trespassers from accessing my family's property from the river, which is about one hundred yards from Park Property (on the other side of the river). The Traffic and Road issue could require volumes to address. The Park Board's proposal to route traffic down Kimtu in a "holding Pattern" is crazy. How will the residents get in and out? How dare the Park Board say that residents of the area will not be allowed to walk on our own road? And to suggest Old Briceland Road as an alternative is absurd and dangerous, since it is a very long, narrow, winding road, unpaved in areas and one lane in parts, with many blind curves. Then are they supposed to careen back to the freeway down Briceland Road?

Regarding: Parking on the Riverbed for big events: NO. This is the worst imaginable use of the riverbed, as bad as surface mining: destructive to fish, wildlife and wildlife habitat. Will the attendees be permitted to stay in their cars there on the riverbed overnight or have to leave every night, creating late night noise, dust and traffic?

Cars leak oil, coolant, asbestos, brake fluid. Cars driving on the riverbed flattens and widens the riverbed making the river wider and expediting evaporation. Wildlife habitat is destroyed. How will this effect the fish? Sunscreen and insect repellent are toxic to fish and amphibians. Parking is not permitted anywhere else on Wild and Scenic River. It must not be permitted here. There is no way to "mitigate" these egregious damages to the South Fork Eel River, already listed as impaired. On page 8 of the Park Board's GPA narrative, they say that their MHQ zoned land is on a separate parcel not included in the GPA, yet they are asking for an additional land use designation of parking on the MHQ property.

How many acres of Specialty Camping? It looks like a lot on the maps in the GPA. Will this be a full time camping facility? If not, how often will there be camping there? Where will the campers park? How many people will these camping areas accommodate? How will camping in stream areas effect them? What will be used for water for campsights? Restroom facilities? Septic? Will there be lighting? A wet-bar? How will camping effect the wildlife of the parkland?

The GPA states regarding large events: "The year 2010 was the most financially successful year to date with attendance rising to 4000 per day. In addition, there are approximately 1000 workers and vendors at the event... We are looking for a stepped approach to this event, beginning at current attendance levels, working with the Mateel Community Center to relocate the event to the Community Park and get the Event firmly established and then evaluate for future growth potential" Does this mean, since this application, in addition to everything else includes a special permit and conditional use permit, that it will be up to the Park Board, not the county, to decide the attendance levels of events? This is not acceptable. I emailed Michael Richardson to ask what a special permit is, but he did not respond as of this writing, so it is not possible to know what they are getting a special permit for.

Has the California Clean Air Act been addressed in this GPA? Holding events to bring thousands of people to our area will increase pollution.

The "expediting" of this GPA and bundling of so many aspects; rezones, changes of land use designations, EIR, housing and rewriting of land use designations and zones, special permit and conditional permit has made this process almost impossible for citizens to fathom. I am opposed to rewriting Public Recreation, which is for publicly owned land, to include non-profits. This non-profit in particular is the most private of land-owners, despite the fact that the property was purchased using donations from the public. There is NO Public Oversight. For this reason it is imperative that Public Recreation and Public Facility can not be used by the Southern Humboldt Community Park. Non-profits are not public anything.

Since this GPA application is the sketchiest imaginable, I request that at least another public scoping session is held by the county in the Southern Humboldt area, after the DEIR is complete. I request that the entire town of Garberville be added to the noticing, since the town will be effected by the park boards plans if they are approved. The next scoping should be held in an indoor facility that is accessible to everyone (as the Park Barn is not), for example, the veterans hall in Garberville, or the Civic Club.

There will probably be more to say about this, whenever some real information, studies and documentation are available. Thank you for your consideration.

Sincerely,

*Sandy Feretto*

Sandy Feretto  
Garberville

Michael Richardsen  
Senior Planner  
Humboldt County  
Dept of Community Development Services  
3015 H St  
Eureka, CA 95501

Sept 21, 2010

Dear Mr. Richardsen,

I am in receipt of notice of 'Scoping Meeting' that was held on Sept 9<sup>th</sup>. Unfortunately, neither my mother, Sara McLeod, or myself acting on her behalf, were able to attend. My mother owns 40 acres of land near the area proposed to allow open recreation to the public.

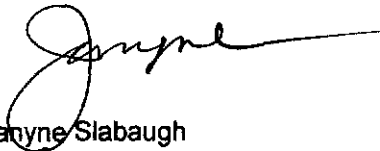
As an absentee landlord, I wonder if you could address some questions?

What was the community response at the meeting on the 9<sup>th</sup>?  
Foremost concern is how will the proposed plan impact the 40 acres my mother owns?  
Will it be a benefit to access her acreage as it is currently 'land locked'?  
Could you please verify where her property is in relation to the project site?

Overall, I imagine the project will be an improvement to the community and look forward to learning more about it's status at this time.

Thank you for your attention to these questions,

Sincerely



Janyne Slabaugh  
Successor Trustee for  
Sara Virginia McLeod Trust

Parcel No. 222-231-001-000

7548 Maxwellton Rd  
Clinton, WA 98236  
Phone - 360-579-1749  
Cell phone - 206-484-2535



Subject: Southern Humboldt Community Park

To: Michael Richardson

From: Justin Crellin (resident of Miranda, CA)

To the Humboldt County Planning Dept,

I would like to express my support in writing for the operation plan submitted to you by the Southern Humboldt Community Park. This park represents a great opportunity for the Southern Humboldt community and I applaud the vision of the park's board of directors to make it a multi-use area that can serve current needs while also being broad enough to allow for the changing needs of a growing community for long into the future.

While I support the park's plan in its entirety as an average community member, I am also employed as the Event & Talent Coordinator with the Mateel Community Center and, as such, would like to weigh in specifically about events at the park. I know you've heard a lot of negative feedback from a handful of concerned citizens about events at the park, especially larger-scale events, yet I feel it has been clear in public meetings that community support for these kinds of events far outweighs those who would not like to see the park used for this purpose.

Specifically, I have heard complaints about noise impact, traffic/ parking congestion, and pedestrian safety as reasons why the county should not allow larger-scale events at the park. While these are certainly legitimate concerns, I feel all could be successfully mitigated in a way that would allow these events to take place safely and with minimal impact to the surrounding neighborhood. The Mateel Community Center has a great track record of doing this work, and in more densely populated communities, like Benbow, where we have successfully staged annual events like the Summer Arts and Music Festival and Reggae On The River and maintained good working relationship with our neighbors.

Though we have received very few noise complaints from Benbow neighbors for any of our events, which should suggest that sound levels have been quite tolerable, there are also a number of things that can be done to minimize sound impact. Clearly a professional sound study would need to be conducted to identify areas of concern and to determine the best placement for stages, speakers, etc. Also, with the modern sound systems we are now using for our festivals, we have the ability to set the trajectory of the speakers to throw sound a specified distance before essentially dissolving it into the air.

In regards to parking/ traffic concerns, Benbow actually has less available parking than the community park's plan allows for, so this move would be improving the current situation for the Summer Arts & Music Festival. Our experienced parking and traffic control crew, headed up by Jerry Von Dohlen for more than a decade, has been extremely effective at allowing a smooth traffic flow for residents of Benbow and both freeway back-ups and illegal parking are virtually non-existent. Though delays are occasionally encountered at the festival gate at Benbow, the community park's traffic plan also has a much longer processing area which will prove invaluable in keeping traffic moving on Sprowel Creek Rd.

Festival shuttles have also been an important way we've been able to minimize traffic congestion and parking issues in Benbow and though this has been promoted as the primary way for Redway and Garberville residents to commute to the festival, the parking capacities of these two towns has been more than adequate at current attendance levels and we've never received a single complaint from a local businesses or neighbor about the way the shuttle parking impacts the community. Additionally, we would also be able to maintain use of the parking lot next to the Benbow golf course for auxiliary parking and as a shuttle stop for attendees coming up from the south. These shuttles will also be the best way to ensure pedestrian safety as foot traffic would not be allowed on Sprowel Creek Rd. during the event and all pedestrians would be required to access the event via the free festival shuttles.

I should also note that the Mateel Community Center has a great track record of working with our local and state agencies and we would welcome the opportunity to sit down and work together to mitigate any of the above concerns or other areas I have not specifically touched on in this letter. Thank you for taking the time to read this and I encourage you to reach out to me directly if you are interested to speak further about these matters. I also strongly urge you approve the park's operation plan as it stands as this park will surely enhance the quality of life for all Southern Humboldt residents and will also be an economic boon to an area sorely in need of new income opportunities.

Sincerely,

Justin Crellin

Mateel Community Center

923-3368 x25 / [justin@mateel.org](mailto:justin@mateel.org)

John LaBoyteaux  
Camp Grant Ranch  
3345 Dyerville Loop Rd.  
Redcrest, CA. 95569

Michael Richardson  
Humboldt County Planning Division  
3015 "H" St.  
Eureka, CA. 95501

ADDITION TO SCOPING COMMENTS -- Southern Humboldt Community Park -- 9/26/2010

Dear Michael,

Attached is an e-mail which contains the text of the November 2009 Redwood Times article which I referenced as an attachment (item 4) in the letter I sent you last week.

There seems to be some confusion as to whether SHCP actually completed the "grassland management plan" and incorporated it in a contract with NRCS. The neighbors think not. My conversation with NRCS led me to believe there was a contract. NRCS takes the position that these contracts are not public information, so sort of hard to know. I know SHCP had an EQUIP contract in connection with the forest fuel load and stand improvement work.

A "grassland management plan" and contract would be a very significant impact from the agriculture perspective, IF IN FACT THAT HAS OCCURRED. I am concerned that SHCP could preempt local land use planning through this USDA contract. Could I suggest that you might ask County Counsel to contact NRCS to determine the general nature of any contracts with SHCP, and if there is a contract can it be amended in the public interest?

THE FOLLOWING FIVE PARAGRAPHS ADDRESS THE CONTINGENCY THAT SHCP HAS ENTERED A "GRASSLAND MANAGEMENT PLAN" AND CONTRACT WITH NRCS AS DESCRIBED IN THE NOVEMBER 2009 REDWOOD TIMES ARTICLE.

Referencing this article, it seems to me unlikely that SHCP will ever find a cattle owner willing to lease into this situation unless it is purely a hobby or someone with much larger adjacent acreage. Generally 160 acres is considered a minimum practical grazing unit in dry areas of the County. (We sometimes see smaller units around the Bay where grasses grow nearly year round.) With the habitat constraints and other existing or proposed SHCP uses, the actual annual acreage available for grazing would be less than half of 160 acres. Further, fencing has been removed or is in poor condition and there is no water source on the south end of the property. These would be added expenses presumably to be borne by a grazing tenant.

In contrast during the later years of Tooby ownership, the ranch manager would rotationally graze about 30-40 head of cattle (including cows with calves) on the three major pastures on the NORTH end of the property, the south end being little used. This is because grasses continue to grow much longer on the Ferndale, Hookton and Honeydew soils at the north end. This corresponds to the most agriculturally productive areas of the ranch, centered on the ranch headquarters, to which I referred in my comments on AGRICULTURAL RESOURCES. After two or three rotations in late Spring the cattle would be moved to the upland part of the ranch.

I suppose local conditions can vary but reference to Sibley's Guide indicates that the Western Meadowlark is a common grassland species. The Grasshopper Sparrow is listed as a species of



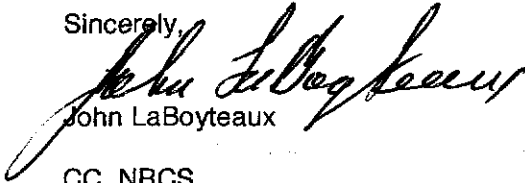


concern by the State of California, not threatened or endangered. The Grasshopper Sparrow is a migratory species which will inhabit different available grassland locations as appears to have happened when SHCP changed management of the subject property. My understanding after contacting California Department of Fish & Game is that the Grasshopper Sparrow is not a regulated species and no special measures are required of landowners for its protection.

It seems to me that a grassland management plan/contract raises issues of cumulative impact both on the subject property and within the region. There are many thousands of acres of range and grasslands in the South Fork Eel watershed. There is very little prime agricultural soil. I am surprised that NRCS would enter a contract of this type on prime farmland since it severely limits agricultural use and in this case there may be no agricultural use at all.

Of course no one can be required to farm or graze their property. It appears to me that a contract along these lines might also serve to prohibit more intensive agricultural or recreational uses and thus preserve view shed for Steve Dazey's planned residential development along the south boundary of the SHCP property. (See 8/26/08 letter from Steve Dazey to Tom Hoffweber.) I believe the southwest area of the subject property may be a much better location for a ball field, if there is a public need for that use, because little excavation would be required and those soils are better drained.

Sincerely,



John LaBoyteaux

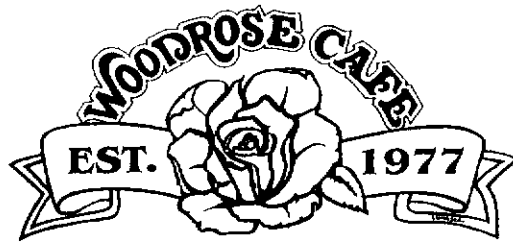
CC NRCS

P.S. Michael, I wanted to double check my memory about some of these things and so walked the property this morning. There are a couple of new developments which I would add to my list under item 3, existing conflicting uses of prime farmland, within my comments on AGRICULTURAL RESOURCES. Please add to that list:

f. The "labyrinth", which I had thought was located in the Tooby Memorial Park is actually on farmland south of the barn. This approximately 60' diameter circle is paved with gravel and bricks and like the skateboard facility impacts about 1/2 acre of prime agricultural soils.

g. There is a new rocked road extending a couple of hundred yards north of the Kimtu entrance to a structure located in the escarpment forest. The road impacts about 1 acre of prime agricultural soils. The structure is in an area which is forested and which I would consider non-productive. Although unoccupied, the structure appears to be a residence composed of several small sheds tied together.

One irony of this situation is that the location of the structure might have been a good place for the "labyrinth" and there are other non-productive locations within the escarpment forest that might serve similar uses.



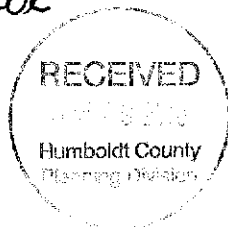
Sept. 27, 2010

Michael Richardson

My name is Pam Hanson. I have owned the Woodrose Cafe for almost 34 years. I have lived in Garberville for 37 years. I am a past member of Soproptomists Int. of the Redwoods and served as president for 3 years. I have also served on the KMUB Board of Directors, the Garberville Redway Chamber of Commerce and was a founding member of the Humane Society of the Redwoods.

I live on Zeino Lane, which is off Sprowel Creek Rd. on the way to the community park. I support the park, however, I am strongly opposed to having large events held there as the proposed Summer Arts Festival. I attended a Community Park meeting, where I had the opportunity to state my objection to large events held at the park. Zeino Lane is off to the right of Sprowel Creek as you just come down the hill. I told the Board members how "ludicrous" it was to even think of having such a large event held at the park. The road is too narrow and dangerous, and will block access for emergency vehicles. I'm glad the CHP agrees. There are sump holes 3-4 inches in diameter, and over a foot deep where Zeino Lane meets Sprowel Creek Rd. There is also a small slide on Sprowel Creek above Zeino Lane. This portion of Sprowel Creek Rd. was supposed to be repaired this year sometime because the county is well aware of the existing problems.

I asked the board members what was wrong with having the Summer Arts Festival at Benbow State Park, where it has been held successfully for over 30 years, but could not get a good answer.



I have lived on Leino Lane for 24 years, and I can assure you, 80-90% of the property owners who live out here feel very strongly about this and agree with me, they also do not want amplified music. None of us are against a park or music. We just don't want amplified music there. We moved here for peace and quiet, not for amplified events.

Thank you for considering the property owners.

Pam Hanson

-----Original Message-----

From: [jkr49@asis.com](mailto:jkr49@asis.com) [mailto:jkr49@asis.com]

Sent: Friday, September 17, 2010 9:43 PM

To: Richardson, Michael

Subject: So Hum Community Park

Hi Michael,

Some comments for the EIR:

It's important to remember that all environmental impacts are not necessarily negative. In some important ways, the Park's purchase and subsequent minimal development have already had positive mitigating effects on the immediate (trashed) environment, and on any possible future down-sides to the Board's plans.

For perhaps eighty years prior to the change of ownership, the predominant use of the entire parcel was for cattle grazing -- clearly a long-term questionable impact. The current populations of grasshopper sparrows and meadowlarks are the direct result of the Park's careful management since then. They would not be on site but for this change in use! And the current policy of not hay-mowing their nesting areas is testimony to the Board's pro-active sensitivity in ecological stewardship.

Another area that qualifies as a "pre-mitigation" is the extensive work already done (and continuing) in restoring the huge ravines that existed at the interface between slopes and meadows. This heavy erosion is the result of prior logging uphill, and continued over-grazing. It's obvious, viewed from the perimeter trail, that positive results have already been obtained in restoring the deeper washouts and streambeds. Again, this project was done by crews brought in by the Park long before anyone thought it might be required as EIR mitigation.

I already spoke at the scoping meeting about the parcel's use as literal "Ag land": productive truck gardening and Farmers' Marketing have expanded every year for the last seven, and amount to far more true agricultural use of this land than was ever managed before the Park's ownership. (My own personal positive effect has been my membership in the Farm's Community Supported Agriculture (CSA), which afforded me wonderful boxes of fresh organic produce the last two seasons.)

Please make sure the EIR reflects this notion: that the Park's vision and policies have already GREATLY improved the physical

environment of this neglected and stressed parcel, even before taking into account the many benefits to our local social and cultural environment that will proceed from the Board's long-term planning.

I was an original large donor to the purchase, and it was made manifestly clear to all of us from the get-go that the founders' intent was the creation of a multiple-use community gathering space, and not primarily a nature reserve. That it is becoming enhanced in both these realms is fruit of careful tending in this first decade of the "100-year vision".

Thanks for your work on this!

--Jared Rossman

Box 786 Redway 95560

I have been co-leader of the once a month Redwood Region Audubon Society bird walk in the park for about 5 years. I've been a resident of Southern Humboldt since 1965 when I taught at the high school.

I'm give my input on most of the 13 factors you want addressed starting with Aesthetics.

Aesthetics. I am completely opposed to the commercial development of this property with apartments and proposed recreational buildings, playing fields with lights and the attendant roads, noise and general degradation of this wonderful natural resource which so many of us enjoy. Additionally I do not trust the judgment of the board in any of these matters. This is a proposed project of the local counter-culture and this "group's" record for building functional, beautiful buildings is dismal. The Mattel Center is a good

example of a poorly planned, ugly structure build by some of the same folks who want to develop the park.

Widening the county road for parking and grading the riverbed for parking will be not to my aesthetic standards as well! Presumably (according to the park board) there will be a riparian trail adjacent to the road. Widening the road will leave little of the riparian habitat in several beautiful areas.

Biological Resources. The park is the home to many animals and plants and habitats that the proposed development would affect in a negative way. A better plan would be to restore the land which has been overgrazed. Native plants could replace the many non-native plants which have been introduced. A prime example is the big field which supports a population of Grasshopper Sparrows(a bird designated as " a bird of concern" in the State of California and many other states). The Harding grass in the field is non-native and because of the height which it grows the Grasshopper Sparrows will abandon the site. This colony, I'm told, is the largest (up to 60) in N. California. The field also has a marsh (used by Mallards for nesting) which, like the rest of the field, has been drained. I see no mention of this marsh or the other marsh (near the barn) which supports a population of Wilson's Snipe. The large meadow is also used by W. Meadowlark (breeding) and by White Tailed Kite (breed uphill from the meadow) and Bald

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Eagle for hunting. We believe the B. Eagle has returned to this area and is now breeding. Breeding Bald Eagles have never been recorded in S. Humboldt since I moved there in 1965.

Widening the road for parking will reduce habitat for the Yellow Warbler and Yellow Breasted Chat which breed in that area. Grading the riverbed (proposed for the non park side of the river bridge) will negatively affect the Green Herons that nest adjacent to this site. The pollution from the cars and the muddy run off from this area are not acceptable.

Amplified sound and lights and BIG crowds and camping at events will all have a negative effect on the animals and humans in the area.

(The appeal of events, especially big ones, as a good revenue source has diminished. The Harley Run and Reggae Rising are prime examples of events that don't pay.)

We have a small population and have many existing resources for events. Benbow Park has parking, restrooms, excellent freeway access. The Mattel and Beginnings buildings can accommodate our population's needs. The same holds true for playing fields. The South Fork High School campus is under utilized and the gym is being refurbished. It's a small school and cannot field a football team. There's lots of room for soccer...I've been to many soccer games there. Parking, lights, restroom, food stand all exist.

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Mineral Resources. Gravel is the only such resource I know of on the property. I believe the gravel company's river mining operation is regulated and legal and is meeting a community need. I'm not crazy about the destruction of the hillside upriver from the river bridge and the noise produced by this new venture.

Agricultural Resources. The non irrigated land that is , for the most part, currently being used for vegetable production which is clearly a benefit to the community. The planting of wheat on this land and the proposed planting of wheat in the big field is a terrible idea and is totally misguided!

Hydrology/Water Quality. I'm aware of 2 wells in the river that appear to be intended for irrigation. There are large pipes plumbed up to the big meadow. I'm opposed to these wells and doubt that they were constructed with proper permits although they may be permitted now. The Eel is already a dying river and shouldn't have more water extracted. The water quality of the river will be negatively affected by field parking, new roads and river parking because of increased sedimentation. Cars will pollute and compact the ground. The proposed buildings (one in consideration would be 3 times the size of the Mattel), playing fields and events will require a septic or waste disposal system of a grand scale. I don't believe the resources are available to build such a system that won't pollute the ground water. The Garberville Sanitary District (of which I was once a board member) is spending millions to accommodate state law

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regarding the water it discharges into the Eel. In passing, I might add that Doug Wallace (at the time a SHCP board member) told me the board was considering a deal in which the park would take the Garberville Sanitary District's final discharge water for use in the park. He wasn't sure what they would do with all of that water! I shutter to think about the impact on the land such a huge infusion of "free" (and questionably pure)water would have. Maybe lawns and a bigger bamboo farm will need the water!

There is much soil erosion on the land. Tim Metz started a project to stop erosion in one large run off area. The water is still muddy when it rains. The horses that are presently overgrazing some of the former pasture will cause more muddy run off. I sent Tim pictures of the heavy sediment running off the park land last winter. Hopefully the park board will try to control erosion and run off which will clearly raise the water table. The big fields were ditched by Tooby to increase run off.

Noise

Traffic noise and the use of generators for big events will degrade my life and that of the other park neighbors. The animals who live in the park will assuredly be disturbed negatively from additions day and night noise. Big events sometimes close down after midnight.

Recreation. It's a perfect place for walking, horse back riding, cycling and other low impact forms of recreation like wedding

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and memorial gathering.

Land Use. If the county grants this new zoning it will set a precedent for other owners of agricultural land to demand the same zoning. That would be a nightmare for the county as you must be surely aware.

Population/Housing. I'm opposed to housing on the site. Housing will bring more people, cars and pets (24/7 at that) to land that needs preservation and restoration. New housing in Garberville will be possible with the new sewage treatment plant since new hook ups will be allowed. I'm told a private party (partner of Bob McKee) has been granted 3 hook-ups adjacent to the park for residential housing due to a rather suspicious land swap.

Transportation/Traffic. The road down to the park is dangerous and totally unsuitable for heavy traffic . It'll be additionally hazardous when events serve alcohol. Furthermore, the route is a bottleneck and no amount of good planning for traffic control for events will made it safe and not noisome to the neighbors and community. Kimtu Circle

(where, as a general contractor, I once built a lovely home) will be inundated with unwanted cars and maybe even campers. Sprowel Creek Road towards the airport will be a complete traffic jam if cars are "diverted" there. Parking in Garberville is already scarce.

Jay Sooter

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Resident of 272 Sprowel Creek Rd., former Garberville Rotary member, Past President (2005-6) Rotary Club of Southwest Eureka, board member of the Redwood Region Audubon Society.  
9-23-2010

**Attention: Michael Richardson, Senior Planner**

**Subject: Environmental Factors Potentially Affected by changes in Southern Humboldt Community Park if rezoned as the board proposes.**

Michael,

I write primarily as a neighbor of the park. I've lived at 272 Sprowel Creek Road since 12/30/1979.  
3750 Broadway Eureka, California 95503 • Voice: 707.444.8001  
800.824.1555 (in CA) • Fax: 707.444.3777 • Email: [pwspas@tidepool.com](mailto:pwspas@tidepool.com)

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**From:** Jerry Latsko [mailto:latsko.jerry@gmail.com]  
**Sent:** Monday, September 20, 2010 12:42 PM  
**To:** Richardson, Michael  
**Subject:** Southern Humboldt Community Park Rezone Proposal

I am Jerry Latsko and I have been a resident of Garberville at 215 Leino Lane for the last 27 years. I would like to address several potential environmental impacts that I know will result if the rezoning proposal submitted by Southern Humboldt Community Park is permitted. I know that you have requested as much documentation as possible but, not having scientific credentials that are generally accepted, I can only pledge to truthfully tell you what my eyes have seen and what my ears can hear. So please bear with me in that regard, and I am sure that there will be many others with scientific backgrounds who will support what I have to offer.

**MULTI FAMILY HOUSING:** This would be detrimental to traffic, water quality, sewage, biological resources, and aesthetics. Kimtu Road and Sprowl Creek Road are narrow and barely safe as is. The Garberville Sanitary District has sewage overload problems already. The river is so nearly dead now that dogs must be kept away at risk of certain death for at least a quarter of the year due to toxic algae growth. There is little "flow". In the 80s, dozens of great blue herons and egrets dotted the riverside and perched in the trees. Currently they are infrequently seen. People do not swim in the water or do so at risk of illness. 95 per cent of the trees are gone, perhaps forever, along with the shade that they provided. This real estate project would deteriorate and languish almost immediately. Wildlife that has flourished for decades would be adversely affected. Frogs and toads that were seen and heard regularly a few short years ago are already in severe decline.

**PUBLIC RECREATION:** The special events proposed would exacerbate already existing problems for the river and the surrounding land. Precious, valuable grasslands and nesting sites would be wantonly trampled. Owls, foxes, and all other wildlife that function at night would face severe reduction of space. Only if all motor vehicles and sound amplification devices were banned would these events be acceptable and, even then, a gathering of 500 people would not be "small". A gathering of 4-5,000 people would be preposterous. The CHP and Humboldt Sheriff would be derelict to their assigned duties to approve such a mess. And the anticipated revenue would never justify all of that and is, at the same time, not quantified by the proponents in any reasonable manner. Many of us would very much rather pay a reasonable yearly fee to use the park. From experience, I can tell you that, even if restrictions are mitigated on this proposal, it is extremely doubtful that they will be adhered to, and neighbors will be reduced to complaining after the fact.

**CAMPING:** This would be a disastrous permanent degradation to the lives of all humans and other creatures living in the area. Permitting this will lead to lighting, paving, and other ecological degradations. Who will police it? Currently, the private park board is not even able to enforce the leashing of dogs in the park and is unresponsive to complaints. Roadside litter is abundant already. Every property owner will suffer loss of value and the danger to public safety in an area already cumbersome to emergency vehicles will increase dramatically.

**PLAYING FIELDS:** This is a community that already has plenty of space for this. Despite the efforts of valiant volunteers to maintain existing fields, keeping them open and viable has been a struggle. Adding a new site will not improve that situation. This rezoning would be a permanent, huge mistake. 98 per cent of our forests, 99 per cent of our grasslands are already gone. We cannot continue to exchange them for money. Thank you.

**Subject:** Comments to the So. Hum. Community Park EIR

I oppose the proposed zoning change to the Southern Humboldt Community Park on the following grounds:

- 1) The community does not need another venue for amplified music. Benbow Lake Recreation Area is available and well suited to host all of the proposed amplified music events now planned for the Community Park.
- 2) I strongly agree with the CHP's objections to the proposed use of the site for an event with up to 5,000 attendees. The parking, traffic and safety concerns the CHP raises will require major changes to roads in the area if the project goes forward. These changes, as well as the increase in traffic, will negatively effect and disrupt normal life in Garberville.
- 3) The noise concerns of nearby neighbors deserve serious consideration. Noise can negatively affect life in many ways that are still not very well understood. Neighbors who live in well-established neighborhoods nearby deserve the peace and quiet they paid for and expect.
- 4) Noise mitigation measures will likely employ large, unsightly structures that will negatively impact aesthetics and wildlife.
- 5) Sound propagation varies with humidity, which rises in the evening, when most amplified events take place. Sound levels at music events are rarely carefully controlled, and mitigation measures will not stop long-range propagation of low frequency sound waves. These deep bass and sub-sonic waves negatively effect wildlife and will undoubtedly disturb nearby neighbors. Noise mitigation measures, though unsightly and expensive will ultimately fail to mitigate noise sufficiently to make the Community Park a good neighbor.
- 6) Plans to park cars on the river bar will have significant impact to the river. Anyone who's looked at a parking lot knows that cars and trucks leak. Motor oil, diesel fuel and other vehicle fluids are extremely toxic to wildlife and will pollute the river. Windblown litter from vehicles will end up in the river in short order as well.
- 7) Parking on agricultural land will negatively affect the productivity of precious farmland. In addition to the aforementioned vehicle related pollution issues, soil compacted by heavy vehicles will be less productive as a result.
- 8) While this area has more than its share of amplified music venues, we have precious little land on which to grow food. The agricultural land should be preserved, in its entirety, for agriculture, in the best possible condition.
- 9) Local amplified music promoters rarely provide adequate restroom facilities resulting in pollution and sanitation problems.
- 10) The main reason the Community Park Board wants to have amplified music at the Community Park, rather than Benbow Lake is to benefit the illegal marijuana industry. Park Rangers and Sheriff's Deputies at Benbow Lake greatly inhibit marijuana sales. At the Community Park, they hope to create a more "marijuana friendly" environment for large events by holding them on private land, where law enforcement's presence can be minimized. This has been stated publicly, and published in local papers. This industry has a history of contempt for the law and dishonesty. They wrongly assume that everyone in Humboldt County benefits

from the illegal marijuana industry. Nothing could be further from the truth. This is a prime example of rich drug dealers steamrolling over the needs of the community for the benefit of themselves.

As a craft artist, I very much oppose plans to move Summer Arts and Music Festival to the Community Park because those plans also involve changing the only good craft show in Southern Humboldt into a marijuana and music festival paid for by craft artists. We need a more diverse economy here in Southern Humboldt. The proposed changes to Summer Arts and Music Festival will only make it harder to make a living as an artist here.

While the illegal marijuana industry is clearly the loudest voice in Southern Humboldt, it is by no means the only voice here. Don't let a greedy industry that doesn't play by the rules, and is in decline, ruin the long-term sustainability and economic diversity of this community.

Sincerely, John Hardin  
P.O. Box 2301, Redway, CA 95560

John LaBoytøaux  
Camp Grant Ranch  
3345 Dyerville Loop Rd.  
Redcrest, CA. 95569

Michael Richardson  
Humboldt County Planning Division  
3015 "H" St.  
Eureka, CA. 95501



Dear Michael,

Enclosed are three (3) sets of attachments. Included are:

- 1) My scoping comments for the Southern Humboldt Community Park EIR.
- 2) My letter of November 3, 2009 to the Board of Supervisors regarding claimed agricultural uses at the Community Park.
- 3) A letter of 8/26/08 from Steve Dazey to Tom Hoffweber in which Mr. Dazey describes his development plans for his adjoining property.
4. Reference to a November 2009 article in the Redwood Times in which SHCP board member Carol Van Sant refers to a contractual agreement with NRCS regarding the "grasslands" on the subject property. (Michael if you would please try to get this article from the Redwood Times, I will do so also.)

Also attached is a copy of my letter of November 3, 2009 to the Board of Supervisors regarding claimed agricultural uses at the Community Park. Agriculturally speaking, little has changed since this letter. The CSA was discontinued and the market garden reduced to about 5 acres. Dan Primerano planted 7-8 acres of wheat in the same area used previously by the market garden, thus no net increase in agricultural use. Although the hay was harvested more timely this year, and I'm sure the market gardeners have tried, SHCP is still struggling with the management and sale of 100 plus/minus tons of annual grass hay. It is still my view that for the most part SHCP has discontinued agricultural use of the property.

It seems that the new soil survey covering the southern part of Humboldt County will be published sometime during the deliberations about this project. I have reviewed the new soils information for the project area which is still in draft form. It is not appreciably different from the Soils of Western Humboldt County. With the exception of the Hookton (Hk-3) soil, which corresponds approximately with the (159)--Grannycreek-Parkland complex in the new survey, all the lands on the flat are prime agricultural soils. Although the Hookton soils does not rate as prime in the soil surveys, it is a prime agricultural soils based on its productive capability pursuant to PRC 51201 (c) 1-5. I note in SHCP's recently released financial accounting they show hay sales every year however I stand on the statements I made in my November 3, 2009 letter to the Board of Supervisors. Haying has occurred in 2002, 2003, 2009 and again this year. Each year that haying has been attempted the volume and tonnage produced on this soil have well exceeded the standard. SHCP's ability to generate income from the harvested hay is a management issue. The productivity is there.

It is incomprehensible to me that anyone who purports, at least verbally, to want to continue agricultural use of the property, would propose to convert the ranch headquarters, in the middle of the most productive areas of the property, to still another (second, albeit smaller) event venue and visitor center. I address this more fully in my scoping comments.

It seems to me that the missing link in all SHCP planning to date has been an inventory based on broad agricultural experience and a continuing effort to place recreational uses on non-productive areas of the property. Please see the final paragraph under AGRICULTURAL RESOURCES in my scoping comments.

Sincerely,

A handwritten signature in cursive script that reads "John LaBoytøaux".

①

John LaBoyteaux  
Camp Grant Ranch  
3345 Dyerville Loop Rd.  
Redcrest, CA. 95569

## SCOPING COMMENTS -- Southern Humboldt Community Park

### I. AESTHETICS

The applicant proposes a large land form change. The gently sloping field above the ranch house, also known as the "old orchard field" would be excavated and leveled for athletic fields and parking. This would involve a cut bank along Tooby Ranch Road (Upper Park Rd.) and an embankment along the downhill side near the current entrance and ranch buildings. The applicant also proposes structures (a "field house", indoor olympic size swimming pool and a "pavilion") with a combined footprint approaching two acres. Widening the existing tree lined ranch driveway to a two lane events access road is also proposed.

This land form change, excavation, embankment, structures and new roadway would be visible from multiple locations on the property, from the freeway overlook (a historic postcard vista), from portions of Sprowel Creek Road, Kimtu Road, the Sprowel Creek Bridge and properties west of the river. This will have an adverse effect on an existing scenic vista and degrade the existing visual character of the site.

Housing on the subject property may induce development of adjacent properties which would substantially change the visual character of the site. (See HOUSING AND POPULATION)

Light towers would be a new source of light which would effect nighttime views in the area. The playing fields and parking lots would be brightly lighted casting other areas into shadow.

### II. AGRICULTURAL RESOURCES

The County GIS soils layer contains an omission regarding prime agricultural soils within the project area. All of the open grasslands on the flat and some of the forest land are prime agricultural soils pursuant to PRC 51201(c) 1-5. In evaluating the agricultural resource only the open lands should be considered since no one proposes to clear forested lands for agricultural use.

Although the property is over 400 acres in size, it includes river bar, County road easements, ranch structures and curtilage, the Tooby Memorial Park which is mostly forested, and a large area of steep hillside. There are about 160 acres of mapped agricultural soils on the flat of which about 60 acres are forested, leaving about 100 acres of open fields. The applicant's estimates of the agricultural resource are confusing, sometimes including forested or other non-resource lands. The County, or with assistance from NRCS, should provide a GIS estimate of the acreage of agricultural lands so that everyone is talking from the same numbers.

Although the CEQA checklist uses terminology from the State of California, Important Farmland Mapping program, Humboldt County has never been included in that program. Humboldt County uses the Public Resource Code, PRC 51201(c) 1-5 to identify prime agricultural soils. Conversions or severe limitations by the proposed project, to agricultural use of these soils falls into four categories and the impacts of each is further explained below. The EIR needs to consider the cumulative impact of all the proposed uses in 1-4 below on the subject property. It also needs to consider the cumulative impact of this project within the context of other agricultural resource lands in the region. The 100 acres of open fields on this property are believed to be the largest remaining area of contiguous prime agricultural soils within the South Fork Eel watershed.

① Construction of facilities and conflicting uses of lands associated with the large event site, parking, athletic complex, new access road and housing development.

Based on proportional estimate from photos in the application about 30 acres of prime agricultural lands would be impacted by just this portion of the proposed project. Impacts include both complete conversion or severe limitation of agricultural use. Applicant cites or implies various time worn specious arguments to "mitigate" these impacts. See list following this section.

② Use of the ranch headquarters area and structures for parking and conflicting uses of lands associated with the smaller "community events" site and proposed conversion of the ranch house to a visitor center.

Historic agricultural uses located the ranch dwellings and outbuildings at the center of the most agriculturally

productive areas of the ranch. The early farmers and ranchers lived and built outbuildings near the fields where they did most of their work. Use of this area for a visitor center and community events will impact the continued agricultural use of the property. The handling and storage of agricultural products and equipment, the use of farm structures and the organization of farm work will be restricted in order to accommodate numerous visitors and events. Lands which would otherwise be devoted to agricultural production will be reserved for parking and assembly. The current general visitation use of this area is having an impact which would be far more evident if the surrounding prime agricultural soils were being utilized approaching their capability.

Applicant continues to cite the Hospice Benefit in support of the community events venue. Hospice has held their benefit successfully at the Benbow Rodeo Grounds for the last two years.

There has never been any member of the SHCP board who had agricultural experience nor any member with park planning experience. Visitor facilities and parking are best located remote or at the edge of resource lands, not in the middle of them.

The applicant appears to be requesting an unlimited number of "community events" at this location. No plan of operation is provided. No map of parking, traffic control or areas reserved for assembly or plan of containment is provided.

There is no explanation of what interpretive function would be served by converting the ranch house to a visitor center or which user groups would be served. The current information kiosks have no information in them.

3 Existing conflicting use of lands on which SHCP has sited recreation development without regard to the agricultural impacts.

a. The Kimtu entrance and parking lot which began as a cattle gate has been rocked and other visitor facilities have been placed nearby converting about 1 acre of prime agricultural soil.

b. The skateboard facility was placed on very fertile prime agricultural soil south of the barn. This impacts about 1/2 acre.

c. Sections of the perimeter trail were rocked creating an unusable area and a "hazard zone" for agricultural operations in the adjacent fields. This may impact 1-2 acres.

d. A frisbee golf goal was placed in the middle of the old orchard field with the intention of maintaining a mowed circle of 75 yards radius so golfers would not loose their frisbees in the tall grass. This severely limits or converts over 2 acres of prime agricultural land.

e. The use of the barn area for "community events" creates a zone of influence around the barn including the campfire area. This currently impacts 1/2-1 acre.

All of these uses could have been located in non-productive areas of the property. Together they have a cumulative significant impact on prime agricultural lands.

4 The permanent dedication of a portion of the land to habitat, even in rotation, significantly impacts the Agricultural Resource and productivity of the property. (For example if 50% of the area is annually reserved as habitat, even if the reserved area and cropped areas are rotated, the result is a 50% reduction in the productive capability these prime agricultural soils.)

SHCP board member Carol Van Sant wrote in the Independent of a contract with NRCS regarding habitat protection and rotational grazing of the grasslands. Inquiry with NRCS confirmed that SHCP has entered a contract with NRCS but the terms of the contract are not public information. Permanent or long term restrictions of agricultural use, by easement, deed restriction, contract or other instrument may severely limit or convert prime agricultural lands. The contract may apply to the entire grassland area of the property, about 75 acres excluding the lower field, effectively the great majority of all the prime agricultural land on the property. Note that birding advocates claim that 75 to 250 acres are necessary to maintain a breeding population of Grasshopper Sparrows.

It would appear that limiting the use of the "grasslands" to rotational grazing and habitat would preclude other agricultural uses such as orchards, vineyards or row crop or field crops for which these prime agricultural soils are capable. Secondly, other than two draft horses, no grazing is occurring and is not likely to occur because of other property constraints and limitations placed by SHCP. While no one can be forced to use their property for agriculture a legally binding restriction of this use is a land use and public policy issue and may constitute a severe limitation or conversion of most of the prime agricultural land on the property.

The applicant cites various specious arguments as "mitigation" of agricultural impacts. These arguments are addressed below.

a. The applicant argues or implies that portions of the property will be farmed more intensively or in a more diverse manner. This argument fails because the whole could have been farmed more intensively so a portion is a net loss regardless.

b. The applicant claims they will continue to cut annual hay on portions of the property which will also be used for parking and assembly. This approach severely limits agricultural use since other crops such as orchards, vineyards, row crops, field crops or even grazing would be excluded by parking and recreational use during the majority of the growing season. Parking may result in damage to the productive capability of soils prone to soil compaction.

c. The applicant claims there will be continued hay production on the ball fields and parking areas however athletic events in Spring, Summer and Fall conflict exactly with the time when crops are grown and harvested. Additionally turf grasses used on athletic fields are not generally suitable for hay or silage production.

d. The applicant cites the Tooby Memorial Park as a precedent for the use of Agriculture Exclusive zoned land for recreation. However the Tooby Memorial Park is primarily a Redwood grove and beach front, not productive farm land.

e. The applicant argues that resident gardens associated with the housing development are a continuation of agricultural use. Agriculture is the commercial production of food and fiber.

f. A legally binding restriction of lands which have been historically used for farming or ranching, to create wildlife habitat, is an agricultural conversion. The open fields and some forested lands on the property are prime agricultural soils.

III. AIR QUALITY

No mention is made of air quality during events. From observation of previous non-permitted events, native grass and vegetation was heavily trampled leaving a loose dust surface.

IV. BIOLOGICAL RESOURCES

It is unlikely that Arthur Tooby would ever have used the term "permaculture". However his management was consistent with that concept. He planted perennial clovers and grasses in his fields and even on some up-slope ranch lands. Animals were an important part of his management system. It was a largely self sustaining system.

The applicant's assertion that the land was in a previously degraded biological and/or scenic condition is not supported. However some erosion was occurring due to previous management.

SHCP changed the management of the property and it is likely that some species were displaced while others established themselves. The discovery of the Western Meadowlark and the Grasshopper Sparrow on the property in 2002 coincides with the biological survey and thus provides no information about their previous presence or absence. However, it is thought that grazing is incompatible with the ground nesting habit of these species, raising the question of where in the thousands of acres of grasslands in Southern Humboldt did the Grasshopper Sparrow originate to migrate onto the property when the grasses grew tall?

The applicant provides no information about the impact of recreational activities, land form conversions, parking, large groups of people, camping, noise or bright lights on species of concern or any other wildlife which may live on the property.

Lastly the applicant themselves have made some management decisions which have resulted in biological degradation of portions of the property.

a. Dumping of waste from the Randal Sand and Gravel plant under the pretense of a "soil amendment" has resulted in the introduction of Star Thistle and reduced productivity of some locations in the lower field.

b. Poor agricultural practices by an early tenant have created a thistle problem in the lower field which has not been corrected.

- c. Early over grazing by this same tenant has resulted in the spread of Harding Grass, a weed unfriendly to cattle and birds alike.
- d. River run gravel placed on sections of the perimeter trail damaged the soils and made the trail unattractive to horse back riders. Wood chips or sand might have worked as well, been biodegradable and compatible with agriculture.
- e. The unmanaged grasslands have become rank and weedy.

The applicant proposes no remedy for these degradations which are significant and cumulative biological impacts.

V. CULTURAL RESOURCES

It is wise that the location of cultural resources on the property is not publicized. The location of Nellie Woods grave is somewhat known. Susie Van Kirk pointed to another pile of rocks toward the south end of the property as a possible burial. Viewed from agricultural experience this looks like rocks removed from the adjacent field when a system of checks and flood irrigation was developed there. This question needs to be resolved because this general area might be a better location for some recreational activities if there is no actual burial in that location.

VI. GEOLOGY & SOILS

Referencing the geology study, the entire flat (below Tooby Ranch/Upper Park Rd. and above the flood plain) was formed by a landslide. These soils are now in stable repose. However excavation for the ball fields and parking may create new land form features which may be unstable. There is an unstable area of hillside on the Goldeen property above the proposed excavation. It seems to me that the study also revealed an earthquake fault in the general area of the NE corner of the project property.

In addition to the geologic history of this area, the Hookton (Hk 3) soil which dominates the NE 1/2 of the property remains wet for significant periods of time due to local springs and artesian water. It remains saturated all Winter and into the Spring. This condition which can make this soil difficult to work and prone to compaction, also contributes to vigorous plant growth later than other soils on the flat. It is possible that this wet condition would inhibit Spring use of athletic fields if constructed on that soil.

Water can be seen sheeting off these soils and collecting in various seasonal watercourses during the Winter and Spring. The entire NE 1/2 of the property drains through the Tooby Memorial Park and into the South Fork Eel just immediately upstream of the Garberville Sanitary District fresh water intake. Garberville SD has expressed concern (at LAFCO) about additional leach fields in this area. The applicant proposes new leach fields for the multi-unit housing project and two new public bathrooms serving public assembly, one at Tooby Memorial Park and the other in the vicinity of the ranch buildings.

These issues relate directly to questions on the environmental checklist and are potentially significant impacts.

VII. HAZARDS AND HAZARDOUS MATERIALS

Please see the 9/8/2010 letter from Lt. Jager of the CHP regarding traffic impacts of proposed events on this property.

The risk of fire is increased both by public assembly and casual recreational use, particularly with large expanses of unmanaged dry grasslands. There have already been a couple of accidental fires.

The location of a skateboard facility at the park has created an attractive nuisance and hazard. Young people are attracted to ride their skateboards down Sprowel Creek Road to reach this facility.

The barn being used for community meetings and events does not begin to meet earthquake standards and is not fire protected. Although the barn is not generally available for agricultural use, occasional hay storage increases elevated weight within the structure and fire hazard during public gatherings.

The public assembly aspects of the project have the potential to impair emergency response to neighborhoods and the airport which are also served by Sprowel Creek Road. The alternative access to the airport, for example, takes nearly an hour through Briceland and over mountainous and narrow Old Briceland Road.

These issues appear to be potentially significant impacts under item (b) skateboard facility, (g) impair emergency access during events and (h) earthquake and fire hazard to barn and unmanaged grasslands.



VIII. HYDROLOGY AND WATER QUALITY

The entire north half of the flat drains into the Eel River through Tooby Memorial Park just immediately upstream of the GSD fresh water intake. Even if Garberville's fresh water source were in a different location the soils in this area are unlikely to support additional leachfields. GSD has already expressed concern about new leach fields. These soils become saturated during Winter and remain wet well into the Spring due to runoff, springs and artesian water. The applicant proposes new leach fields for the multi-unit housing project and two new public bathrooms serving public assembly, one at Tooby Memorial Park and the other in the vicinity of the ranch buildings. The purpose of the "field house" in the proposed athletic complex is not explained however at nearly an acre footprint it is far larger than needed for a basketball court. Indoor public assembly, for athletic events or other venue, would likely require another large leach field. There would have to be bathrooms and showers associated with the swimming pool. The use and wastewater requirements of the "pavilion" are also not explained.

As mentioned in the Geology and Soils section, the flat was created by a major landslide and soils are now in stable repose. However new cut banks or embankments could be unstable during wet conditions and result in slides or mud flow.

Although SHCP's efforts to halt soil erosion are all to the good, the effect of this action on groundwater levels and drainage in the meadow is unsupported and speculative.

This may be the appropriate place to address water quantity issues since the South Fork Eel River is considered to be fully allocated and additional water withdrawal could effect water quality in the river. Early on SHCP obtained a permit from Fish & Game claiming they needed 40-50 gallon per minute "for agricultural purposes". Well managed use of that quantity water with a variety of irrigation techniques could support orchards, vineyards, row crops and some field crops on much greater acreage than is currently utilized for agriculture. However SHCP installed a high capacity in stream collection system estimated to be capable of several hundred gallons per minute. The purpose of all this additional capacity has never been fully explained. This use would be cumulative with GSD, Redway and other water withdrawals in this section of the river. Steve Dazey installed a separate in stream collection system on the subject property and plumbed that water to his property prior to the lot line adjustment.

It has been suggested that filter backwash water from the new GSD water treatment plant might be used for irrigation of ball fields or crops. However water taken from the river by GSD has less turbidity during summer months requiring less cleaning of the filters. Mark Bryant of GSD estimates that during the summer filter cleaning would produce about 700 gallons of water every 2-3 weeks. This is a negligible amount of water for irrigating ball fields or crops. Thus most of the irrigation water will still come from the river. Reference to pages 7-8 of the Soils of Western Humboldt County provides information about the amount of water needed for irrigation during the dry season in Humboldt County. In southern Humboldt approximately 13 inches of supplemental irrigation (rainfall equivalent) is required. The amount of water needed to irrigate ball fields, field crops or pasture can thus be calculated. The backwash water from GSD is insignificant for this use.

The project may substantially degrade water quality at the GSD intake through increased leach fields. It may substantially degrade water quality in the river if SHCP operates its water intake at installed capacity.

IX. LAND USE AND PLANNING

The project property contains about 100 acres of prime agricultural land not including prime soils which are forested. The property has been in continuous agricultural use since 1865. There is a history of diverse agricultural production including, in addition to sheep and cattle ranching, orchards, row crops and field crops. In addition to some soils which support dry farming, the property is irrigated from a well which SHCP installed for agricultural purposes. There is an irrigation mainline and aluminum sprinkler pipe. The location of these prime agricultural lands in proximity to an urbanized area increases their food production value, in the model of European agriculture, and similar to Blue Lake in relation to Arcata.

These prime agricultural soils are correctly zoned Agriculture Exclusive and should never have been planned for even low density residential development (Garberville-Redway Community Plan) and such subdivision has never occurred. Garberville's sphere of influence and properties appropriate for growth will be discussed in public meetings in coming months. The applicant seems to misinterpret the purpose of a community plan, citing a specific justification for residential development on the subject and surrounding properties, rather than a framework for planning community growth.

It light of 4-5 existing public assembly venues in the Garberville area, it is difficult to understand the need for still another event site and prime agricultural land should not be converted for this use. It is unfortunate that

the southern Humboldt community is so factionally divided that every group wants to have their own event site. Most of the 4-5 sites are used for only a single event each year.

There is a public need for athletic fields. Currently the only ball fields are at Redway School (short outfield) and South Fork High School. There are two full size ball fields on private property in Phillipsville but the current owner will not allow their use. Other possible locations include multi-use of the river field at Dimmick Ranch, the fill area near "Toph's House" adjacent the Benbow golf course, Steve Dazey's property north of Dean Creek, and the large field between the disposal site and the Eel River Conservation Camp. This last would be an excellent site on state land if cooperative use could be arranged. Additionally there seems to be no reason why all athletic facilities need to be clustered together on the project property. A public swimming pool or gym might be well sited in the industrial park.

An agricultural conversion will inevitably occur if athletic fields are located at the Community Park ..... all the open land is prime agricultural soil. However a different location toward the south end of the property would not require excavation, and is better drained. SHCP has not been open to this suggestion perhaps because the "ball fields" provide a rationalization and opportunity for additional parking near the proposed large event site.

Within the 400 acres there are lands which are not suited for agricultural use like the Tooby Memorial Park. It would be desirable to identify and plan recreational development for individuals, families and small groups within these non-productive areas in order to integrate recreation with the continued agricultural use of the approximately 100 acres of prime agricultural soils. This planning concept is not evident in the proposed project. No one on the SHCP board has agricultural experience and their approach seems more opportunistic, like turning the ranch compound into an events site and visitor center. Likewise a foremost concept in modern park planning is to place visitor facilities and especially parking away from resource lands. Again the Tooby Memorial Park demonstrates this concept while new proposed developments impact core resource lands. Perhaps one of the alternatives considered through this EIR might be based upon an inventory and planning, with input from the agricultural community, of lands NOT suited for agriculture.

X. MINERAL RESOURCES

XI. NOISE

There appear to be multiple reasons to not permit large scale public assembly on this property. However if a CUP is seriously considered a third party sound study is needed. That study should not be performed by the same firm that did the motocross sound study which was seriously flawed. The sound distribution circles were mapped at only about half their true size.

XII. POPULATION AND HOUSING

Applicant believes up to 38 units of housing might be possible on the property under the current Community Plan. Adjacent landowners (Steve Dazey and Sanford Goldeen) have also indicated they want to develop housing. While none of these properties currently have sewer or water, development of housing on the subject property might well induce development on the adjacent properties. In light of the LAFCO decision to not allow new hook-ups to the Kimtu water line, how could the Community Park be allowed to connect without also allowing the adjacent properties? This is a potentially significant impact. The total number of units is unknown. In fact, a semi-circle of development with the Community Park as its centerpiece and playground may be what these developers always had in mind.

Again the applicant seems to misinterpret the purpose of a community plan, citing a specific justification for residential development on the subject and surrounding properties rather than a framework for planning community growth. Garberville's sphere of influence and area best suited from growth are to be discussed in community meetings in coming months.

The ranch historically had 3-4 housing units and the current water service is sized for than number.

XIII. PUBLIC SERVICES

Applicant provides no information what so ever regarding demand for public services, police, fire, medical or public water which logically will be needed in connection with public assembly and general public use of the property.

XIV. RECREATION

Any large or moderate scale public assembly during summer months may result in large numbers of people trying to utilize the Tooby Memorial Park beach and swimming hole. The Memorial Park beach has been a popular site used by local families for decades. The subject property has additional river frontage but none of it as attractive or accessible as the deep pool and beach at the Tooby Memorial Park. Large numbers of people in the river at this location will raise the same water quality questions as Reggae on the River. The GSD fresh water intake is just immediately downstream of this location.

Where will people stay during overnight events? Camping on site will certainly have physical and environmental impacts on the subject property including on biological and agricultural resources. If camping is off site the impacts on local state parks would be similar to other assembly events currently held in the Garberville area. Additionally there would be traffic issues, certainly on Sprowel Creek Road and in town Garberville as people travel from local parks to the event site and return.

As described in other sections construction of the athletic complex, parking lots, public restrooms, large scale event site and conversion of the ranch compound to a visitor center and secondary event site, will have an adverse physical impact on land form and scenic vistas, soils, hydrology and water quality, public safety, noise, biological resources and agriculture.

XV. TRANSPORTATION AND TRAFFIC

In addition to the two potentially significant impacts identified in the draft check list, questions (e) and (f) are also potentially significant impacts.

Emergency access to neighborhoods and the airport beyond the project site is completely dependent on Sprowel Creek Road. There is no other realistic or practical access for emergency response to these neighborhoods. Sprowel Creek Road will be heavily trafficked and congested for ingress, egress and during assembly events slowing emergency response. A higher probability of accidents, or just gridlock at intersections, can reasonably be foreseen. This would completely block emergency access to areas beyond the project site. (Or even just down to Leno Lane.)

California Department of Transportation has made it clear they will not allow freeway access at the location where Tooby Ranch Road passes under the freeway through a livestock tunnel. Cal Trans has placed concrete barriers at this location to prevent cars entering or leaving the freeway from the illegal subdivisions on the former Tooby ranch.

Because the project site is within walking distance of Garberville, some attendees can be expected to park in town resulting in reduction of already limited parking in town. This is likely to occur even if remote parking and shuttles are available. There is very limited space for on-site parking except by converting prime agricultural lands.

XVI. UTILITIES AND SERVICE SYSTEMS

(b) The construction of new leach fields to serve housing development and/or public restrooms may impact water quality in the South Fork Eel River. (See HYDROLOGY AND WATER QUALITY) It can be reasonably foreseen that there will be surges of wastewater from the public restrooms during assembly events in addition to generally increased leaching from housing and daily recreational use. Without consideration of the soils, hydrology and proximity of the river, will the septic tanks and leach fields of the public restrooms be engineered for peak assembly use?

(d) Potable water service to the property is currently limited to 3-4 residences through a 3/4 inch pipe. (Verbal information from Mark Bryant of GSD.) There is no additional capacity to provide potable water for public assembly. The SHCP's "abundant" additional water sources are untreated water from the river or upland springs.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE.

While SHCP has made some environmental improvements in erosion control and limited forest fuel load reduction the environment of the property has also been degraded. (See BIOLOGICAL RESOURCES and LAND USE AND PLANNING) Some of the forest fuel load reduction was done on property which was later transferred to Steve Dazey through lot line adjustment.

The opportunistic development of recreational uses by this 501(c)(3) organization over the last ten years has resulted in cumulative negative impacts to AGRICULTURAL RESOURCES and prime agricultural soils. In most cases these impacts might have been avoided through a more thoughtful and informed planning process which integrated recreational uses for individuals, families and small groups on non-productive areas of the property. For

the most part SHCP has discontinued agricultural use of the property.

The proposed project has potentially significant impacts in the following categories.

(1) AESTHETICS -- a large land form change and structures, new roadway, light sources, housing, and inducement of development on adjoining properties which will degrade the existing visual character of the site and an existing scenic vista.

(2) AGRICULTURAL RESOURCES -- direct conversions and severe limitations to prime agricultural soil farmlands and existing agricultural infrastructure through:

1. Construction of facilities and conflicting uses of lands associated with the large event site, parking, athletic complex, new access road and housing development.
2. Use of the ranch headquarters area and structures for conflicting uses associated with the "community events" site and conversion of the ranch house to a visitor center.
3. Existing conflicting use of lands on which SHCP has sited recreational development without regard to the agricultural impacts.
4. Legally binding restriction of lands which have been historically used for farming or ranching to create wildlife habitat.

(3) AIR QUALITY -- (see text)

(4) BIOLOGICAL RESOURCES -- no information is provided about the impacts of recreational activities, land form conversions, parking, large groups of people, camping, noise or bright lights on species of concern or any other wildlife. Applicant proposes no remedy for biological degradations which have occurred since SHCP took over management of the property.

(5) CULTURAL RESOURCES -- (see text)

(6) GEOLOGY AND SOILS -- the land form change may cause instability or mud flow. Soils (Hk-3) may be unsuitable for intended uses. Saturated soils with springs and artesian water may not support leach fields leading to possible contamination of a public water source.

(7) HAZARDS AND HAZARDOUS MATERIALS -- in addition to traffic hazards as outlined by the CHP, there is an increased risk of fire from unmanaged grasslands and public assembly/increased visitation. The barn is not a safe structure for community meetings or events. Locating the skateboard facility on this property creates an attractive nuisance and hazard. Traffic associated with public assembly at this location may delay or prevent emergency services from reaching neighborhoods or the airport located further out Sprowel Creek Road.

(8) HYDROLOGY AND WATER QUALITY -- the project may degrade water quality at the GSD fresh water intake through increased leach fields. Land form changes may result in mud flows of saturated soils. Water quality in this fully allocated section of the South Fork Eel may be degraded if SHCP operates their in stream collector system at design capacity.

(9) LAND USE AND PLANNING -- the conversion or impairment of prime agricultural soils directly conflicts with the agricultural lands protection policies of the framework plan. The individual and cumulative impacts of public assembly, including agricultural lands conversion, cannot be mitigated on this property. There are at least four existing public assembly sites in the Garberville area. The applicant continues to pursue public assembly events as a primary goal of this project. Additionally the applicant has not followed an informed or systematic planning process which would minimize conversion of prime farmlands by placing other recreational development on non-productive soils.

(10) MINERAL RESOURCES

(11) NOISE -- (see text)

(12) POPULATION AND HOUSING -- Development of up to 38 units of housing on the subject property may induce additional development of adjacent properties. See expanded discussion in text.

(13) PUBLIC SERVICES -- applicant provides no information what so ever regarding demand for public

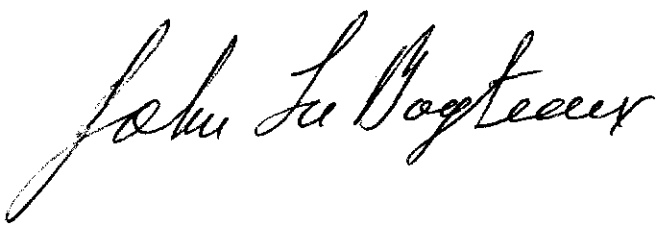
services, police, fire, medical and public water which logically will be needed in connection with public assembly and general public use of the property.

(14) RECREATION -- public assembly will displace local use of the Tooby Memorial Park beach. Multi day events will impact local camp grounds similar to other assembly events held in the Garberville area with the addition "commuter" traffic to and from the site.

(15) TRANSPORTATION AND TRAFFIC -- emergency access to neighborhoods and the airport beyond the subject property will be impaired and/or blocked by a traffic jam or accident. Parking in town Garberville will be negatively impacted.

(16) UTILITIES AND SERVICE SYSTEMS -- potable water service to the property is insufficient to support public assembly. On site water is not treated. It can be reasonably foreseen that there will be surges of wastewater from the public restrooms during assembly events in addition to generally increased leaching from housing and daily recreational use. This may impact a public water source, see HYDROLOGY AND WATER QUALITY.

These impacts are all individually and cumulatively significant.



Camp Grant Ranch  
3345 Dyerville Loop Rd.  
Redcrest, CA. 95569  
November 3, 2009

Humboldt County Board of Supervisors  
825th St.  
Eureka, CA. 95501

RE: GPP-08-02, Southern Humboldt Community Park

Dear Supervisors:

This letter addresses a list (attached) of claimed agricultural uses which the Community Park submitted to the GPP file last summer. I intend to hold my comments, written and verbal, on the amendment petition and proposed zoning until the staff report is available and there is time to study it.

Although the Community Park is approximately 400 acres in size, the property includes river bar, County road easements, ranch structures and curtilage, the Tooby Memorial Park and a large area of steep hillside. There are about 150 acres of mapped agricultural soils on the flat, of which about 60 acres are forested, leaving about 90 acres of open fields. Most of these lands are prime agricultural soils.

With the exception of the 10-15 acre CSA and market garden in the lower field along Kimtu Road, the Park has for the most part discontinued agricultural use of the property. The fields have become overgrown and weedy. As a result of the changed grassland habitat, new species have moved onto the property while others have moved away. Your Board needs to seek independent biological opinion from the Department of Fish & Game or the local chapter of the Audubon Society regarding these changes and the Grasshopper Sparrow in particular. Star-thistle has been introduced into the lower field through the dumping of waste from the Randal Sand and Gravel Plant.

Attached are my item by item notes regarding the Park's claimed agricultural uses. Please review them carefully. There has never been a member of the Community Park Board who had agricultural experience. The Park's assumptions, expressed in file documents and web site, notably that they are creating a greater diversity of agricultural use and productivity than would be possible under unified management is highly unrealistic and historically untrue on this property.

Lastly, an undated document submitted to the file this summer states, "nor is it likely that the park can operate with income from farming operations alone." This may be true but without financial accounting of annual/monthly income and expense it is impossible to know. The Park is believed to have continuing royalties from the sand and gravel operation. However I estimate that the Park has turned its back on at least \$10,000 annually by failing to do a competent job of the haying. Most years there has been no haying at all. Further, several individuals in this County make a good portion of their income on an annual Pumpkin Patch. There are no Pumpkin Patches in southern Humboldt and the Park would be an excellent place for one, but it doesn't seem to be able to happen ..... no serious commercial motivation.

Sincerely,

John LaBoyteaux

Notes: Agricultural Uses Community Park

1. Organic Crop Farming

The 10-15 acre CSA and market garden in the lower field is certified organic by CCOF. The farmers have not received the support they need in terms of additional lands to rotate their crops or a functioning irrigation system. They (John Finley and Lisa Solaris) have done a good job but are in a difficult political position because of year to year tenancy.

2. California Certified Organic Farm (CCOF) certification on 50 acres.

This refers to lands along the upper portion of the flat which were certified and hayed in 2009. Actual acreage where haying was attempted in 2009 was 40.7 acres. (See notes on hay production.) There was some controversy regarding parking of cars in these upper fields and the compatibility with the organic certification. My understanding is that CCOF will not continue the certification if these fields are used for parking. There has been some consideration of dropping this organic certification because it may not be necessary for sale of the hay.

3. Significant results with dry farming.

Certain bottomland soils in Humboldt County will hold sufficient winter moisture to raise commercial crops through summer without irrigation. Some areas of the lower field along Kimtu Rd. demonstrate this capability, while other areas or different crops require irrigation. This is within the 10-15 acre CSA and market garden area.

4. Community Supported Agriculture program.

The CSA has about 60 clients and is the same as referenced in #1 & #3 above.

5. College of the Redwoods agriculture projects.

This needs clarification. Keith Winegar, now retired, was the diesel mechanics instructor at College of the Redwoods and I believe this refers to tractor driving instruction for CR students.

6. Grazing of Cattle on lease for three years.

This was also Mr. Winegar. Too many animals were placed on the 15-25 acres allotted to this lease and the pastures were overgrazed until nearly all mud. The cattle were not removed in a timely manner and they were not rotated to other pastures as had been the Tooby practice. When they were finally removed the damaged pasture was not replanted and has been largely overtaken by Harding Grass (a weed).

7. Hay Production and sales on 80 acres.

Hay production was attempted in 2002, 2003 and then again in 2009. The acreage hayed has never approached 80 acres in any single year although the cumulative acreage for all three years may be 80 acres or a bit more. In 2009, 40.7 acres were mowed for hay according to USDA scaling of 2009 air photos.

The Community Park and/or Steve Dazey personally has had a continuing relationship with Keith Winegar of Fortuna. Each year that haying has been attempted the outcome has been less than professional. Hay mowed late has been left for weeks in the swath and bales have been left in the field

most of the summer. While sales figures are not available it has often fallen to the Park caretaker or the CSA farmers to pick up and dispose this lesser quality hay. With a good effort, John Finley seems to have sold most of the hay this year but some has gone for traffic barriers, straw bale construction, Cal-Trans erosion control and compost.

8. Commercial bamboo operation on 2 acres.

The bamboo plantings are composed of eight 10x20 foot beds and one 10x30 foot bed. This is 1900 square feet or .087 acre. It is unclear how the bamboo is harvested or sold since no harvested product or packing materials were present during my visit.

9. Alfalfa production on 16 acres.

There has never been any alfalfa production. In 2002 Mr. Winegar tilled under an existing healthy stand of clover and rye in an apparent attempt to plant oats with alfalfa. Both were unsuccessful. In August 2002 I wrote the Park Board, "I could not understand tilling under a healthy stand of clover and rye, a perennial higher value hay or pasture crop, in favor of oats, an annual lower value crop. This endeavor looked to me like showmanship ...." In fact it was reported with photographs in the local papers under the title, "Farming in the Park".

Again in 2002, "If the intent was to establish alfalfa, I couldn't understand the practices employed." The alfalfa was not planted correctly, came up extremely sparse, and never produced any crop. ".....the use of the road grader may have been counterproductive because it exposed subsoils and buried topsoil."

And in a June 14, 2003 letter, "The common failing I see with the alfalfa, with the hay operation and with the garden project is the apparent lack of serious commercial motivation."

10. Small plot agricultural lease projects.

This needs clarification but I believe there may be a couple of small gardeners in the same general area as the CSA market garden.

11. Beekeeping - 2 years.

12. Draft horse plowing class.

13. Farm animals including chickens, goats and horses.

There are about a dozen chickens and a few goats. Horses are not an agricultural use because no food or fibre is produced.



From: Dana and Kyle [mailto:owlsperch@asis.com]  
Sent: Monday, September 13, 2010 10:28 PM  
To: Richardson, Michael  
Subject: Southern Humboldt Community Park /EIR

Dear Michael,

I wanted to send you some thoughts as a concerned citizen regarding the EIR report and the possible proposed Community Park zoning issues. I am in support of some of the changes being implemented to the current park status but have serious concerns regarding the proposed once a year 5,000 person event that may take place on park grounds. My concerns are the inevitable compaction of soils due to the large number of people and vehicles that will be allowed on the site if this proposal goes forward. Soil compaction may seem like a petty concern upon first thought of the possible impacts of such an event but the compaction will undoubtedly diminish the lands ability to infiltrate water into the water table, have a direct negative effect on the soil biology, thus favoring non-native invasive species, and will result in increased run-off and erosion. The health of the soil dictates the diversity and health of the surrounding landscape and the parks unique grasslands , wetlands and woodlands may be seriously compromised by such a high impact event.

Please consider this in your EIR evaluations.

Thank you,

Kyle Keegan (Wildlife Biologist,  
restorationist, teacher and park user)

Kyle Keegan  
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Miranda, CA 95553  
707-943-9786  
e-mail: [jvchristianson@asis.com](mailto:jvchristianson@asis.com)

October 11<sup>th</sup>, 2010

Michael Richardson  
County of Humboldt Community Development Services  
Planning Division  
3015 H Street  
Eureka, CA 95501

Dear Michael:

After studying a copy of the Southern Humboldt Community Park General Plan Amendment, I would like to see some additions in the Draft EIR.

First of all, the park's General Plan Amendment application states on page 11 of the Environmental Checklist c) "There are no federally protected wetlands as defines by Section 404 of the Clean Water Act within this project"

I have observed Northern Harriers, previously called Marsh Hawks, foraging in an area slightly South of the park's barn. Henry David Thoreau wanted to re-name this bird Frog Hawk, because frogs were their favorite prey. Mallards have been seen entering and leaving this marshland area and have been documented as breeding there in 2003 and 2004 by our local Audubon Society Group of which I am a member. The marshes are also used by Marsh Wrens and Wilson's snipes. This area is not currently recognized in the Park's application or its maps.

Clearly a certified wetlands consultant needs to be hired, so that this wetlands area can be fully evaluated in the draft EIR.

Another area that has not been addressed in this application is the impacts on birds and other wildlife by lighting and sound volumes from the proposed athletic fields and swimming pool, not to mention the added vehicle traffic that comes with them.

Three species of birds that immediately come to mind that would be adversely affected are the White-tailed Kites, Western Meadowlarks, and Grasshopper Sparrows. Lighting up the park with amplified PA systems for athletic activities will leave these and many other birds and other wildlife, with no alternative but to move on, but to where when wildlife habitat is being encroached upon virtually everywhere?

The proposed large amplified music events would bring even more adverse impact upon the wildlife of the park as well as the human neighbors of the park. Why can't we just co-exist with the wildlife of the park instead of insisting upon the right to ignore and overlook all the other creatures and neighbors of the park and destroy the beautiful, natural, open space ambience that the park presently provides?

Respectfully yours,

John Christianson

-----Original Message-----

**From:** Margaret Lewis [mailto:emell@wavecable.com]

**Sent:** Sunday, September 12, 2010 5:40 PM

**To:** Richardson, Michael

**Subject:** Southern Humboldt Community Park

Greetings

I attended the scoping meeting at the Southern Humboldt Community Park Friday afternoon. Thank you for coming down to Garberville and listening to the concerns of residents and inviting additional comments from others.

I did not speak at the meeting. Often, others speak to my concerns and are more articulate, so I defer. Some of my concerns were touched on at the meeting, but the main problem, as I see it, was not.

I am a resident of the Kimtu neighborhood, and generally see the park as a wonderful addition to the entire region. I have long enjoyed the playground and made use of it in many different ways, from spending time there with my children and grandchildren to meeting there with friends, picnicking, accessing the river, and more. I have enjoyed various non-profit events at the barn and attended other events such as weddings and memorials. I was a member of the CSA (Consumer Supported Agriculture) the first year it was available.

I was not disturbed by the amplified music event that triggered most of the controversy about the use of the park. The sound apparently was directed more to the north due to the geography of the park. But the objections raised by those who were disturbed by it caused me to look at the history of the organization and become more involved in the ongoing interface between the community and the park's board.

My main concern is the park's apparent desire to host large events (such as the Summer Arts Festival mentioned on Friday) of up to 5,000 people and the traffic that would be generated by such an event.

The upper part of Sprowel Cr. Rd. (closest to Garberville) is extremely fragile. The hill across from Leino Ln. (470 Sprowel Cr. Rd.) has slid onto the road several times since I've lived here (4 yrs.) and many times before that. Since the property changed hands last year and some new ditches put in, the situation has worsened, not improved. Apparently, the ditching was not done properly - this information derived from a conversation with Marty Messenger, the CalTrans project manager for our area. As late as the end of June, water was still issuing from the hill and flowing across the road and down to the lower part of the hill. A few years ago the portion of the hill below the road slid out and caused a gap several feet deep and about 20 feet long that took a long time to repair. The road is not even sufficient for the existing traffic, especially the concrete mixers and gravel trucks, which travel up and down the road every day, and other large commercial vehicles, let alone the increased traffic a large event would generate. I'm thinking of trucks, campers, trailers, shuttle buses and other large vehicles, not just passenger cars. Additionally, the road is not safe for pedestrians or cyclists. There is no shoulder for them to walk or ride on and there are several blind curves along that section of the road. I've noticed that, with the opening of the park, the foot traffic has increased. I think that's a good thing, but would like to see a safer route for them.

There is also the proposed traffic diversion along Kimtu road, around the loop and back as people wait for parking. I don't know if you have looked at that section of road, but it bears careful examination. There are two sections that are one lane. There is another fragile hill that has water issuing most of the year and a low point that has been impassable during the flooding of winter storms. My main concern, though, is one of safety. With traffic backed up along Kimtu Rd. I'm having difficulty imagining how emergency vehicles would enter in the case of fire, accident or medical emergencies. This is my most serious concern.

Thank you for inviting these comments and considering the many facets of this project.

Sincerely,

Margaret Lewis

Note: I sent you a composite photo of the several areas mentioned under separate cover

From: Susan Gardner [mailto:sgardner@redwoodtimes.com]  
Sent: Tuesday, September 07, 2010 4:18 PM  
To: Richardson, Michael  
Subject: SHCP

Good Afternoon Mr. Richardson,

My husband and I would like to comment on the rezoning of the Southern Humboldt Community Park in Garberville. We live on Kimtu Road right next door to Steve Dazey's 70+ acres. We are extremely concerned about increased traffic down the already treacherous Sprowel Creek Road and Kimtu Road, which is also very narrow with very few turnouts. The park has expressed possible plans to reroute excessive traffic down to the Kimtu subdivision cul-de-sac at the end of the road, which is a dead end. This is totally unacceptable. If both lanes are blocked, residents of Kimtu would be blocked in and unable to get out or have emergency vehicles/personnel reach us. Neither of these roads are equipped to handle this amount of increased traffic for these kinds of events and should not be allowed.

Also, addressing the noise issue. The location of the park is in a natural bowl. The sound travels for miles around the Garberville area up to four miles in all directions. People in Benbow, way out Sprowel Creek and Old Briceland Roads, up the hill to the east in the town of Garberville, and even further east in the Meadows Subdivision way above Garberville can hear every foul word coming out of large speakers used for these events. Even if curfews are instituted, the park board has proven they are unable to control the crowds and/or the promoters of these events and should not make promises they cannot keep. And, then there is the problem of 1,000 campers at the park, who will undoubtedly run generators late into the nights/early mornings at these events.

The thought of 1,000+ vehicles parked down on the river bar is disgusting. This is where many people get their water and the thought of the river bar being graded and cars leaking fluids onto the ground and into the river is unfathomable and should not be allowed. This is a Wild and Scenic River and should not be desecrated in this fashion.

We are looking forward to the scoping meeting on Thurs., Sept. 9. It is unfortunate it is being held at the park instead of a more neutral location.

Thank you,

Mike and Susan Gardner  
890 Kimtu Road  
P.O. Box 545  
Garberville, CA 95542

October 27, 2010

Attn: Michael Richardson, Senior Planner  
Humboldt County Community Development Services  
3015 H St. Eureka, CA. 95501  
707.268.3723  
[mrichardson@co.humboldt.ca.us](mailto:mrichardson@co.humboldt.ca.us)

Re: Southern Humboldt Community Park General Plan Amendment Application  
SCH # 2010092037 CEQA EIR Notice of Preparation Public Comment

To: Humboldt County Board of Supervisors, Planning Commissioners, Community Development Services & Senior Planner Michael Richardson:

We the Voice Family, neighboring home and property owners since 1966 do not approve of this General Plan Amendment in any form. We oppose the staff report, application and all three proposed project(s) completely.

This CEQA NOP EIR Initial Study Checklist (IS) is not only incomplete and insufficient in all supporting referenced studies and reports that the public requested and could not obtain from the Park Board or lead agency, but are non-related to this project and used from a Lot Line Adjustment on the Park property (CEQA MND LLA-04-02M SCH # 2006022098).

It fails to address any aspect of direct, indirect and cumulative effects to the environment below significant levels, including, mitigation from professional studies or any alternatives what so ever.

The Voice Family feels that without sufficient documentation contained within the IS, it would make better sense to make our public comments to a real Draft EIR. That detailed public comments would only help the Planning Department further its own fishing expedition, gathering information for the Draft EIR via public comments, instead of from the Park Boards consultant.

We feel this CEQA process is completely bass-ackwards, when the NOP was filed with the State Clearinghouse and sent to agencies, a Draft EIR should have been written and submitted at that time, including updated information and amendments to appendix "G" effective March 18, 2010, which are not included in this IS. We also strongly urge you to hold another EIR Scoping Session in Southern Humboldt (public facility) before the Draft EIR is released for public comment.

To make matters worse, in the last 6 weeks since the Scoping Session on September 9, 2010, the Park Board has made 4 different attempts in the local newspapers to change wording and information within their current NOP IS. In other words they keep changing the NOP. We would rather wait until we can read and study a document that doesn't keep moving about.

Our final comment would be to support the comments submitted by the local CHP office for this proposed project(s) and events. Now given the fact that the CHP does *not* and will *not* support this project (even after a meeting with the Park Board on 10/18/10), we do not know how this project can continue on its present course and direction as submitted by the Park Board.

Thank you very much for your time, consideration and service to this County,

Ed Voice & Voice Family, Mrs. PJ Voice & Mr. MJ Voice  
33 River Crest Drive  
PO Box 580  
Garberville, Ca. 95542  
707.349.1069 [evoice@mchsi.com](mailto:evoice@mchsi.com)

Virginia Graziani  
PO Box 2213  
Redway, CA 95560  
(707) 923-1205  
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RE: Application for General Plan Amendment  
Southern Humboldt Community Park  
APN 222-091-06 et seq.  
Comments on CEQA environmental checklist

October 5, 2010

## OVERVIEW

Before addressing individual items on the checklist, I would like to make some general comments.

One of the speakers at the 9/8/10 scoping session undoubtedly expressed the feelings of many when he said, "We want a park run by the people, not by the government." Unfortunately, since the Southern Humboldt Community Park is a non-membership non-profit corporation with a self-appointed board governed by self-written by-laws, the only legally effective input community members have is through the county planning process and the state CEQA process. While the SHCP board holds public meetings from time to time, it is in no way required to consider seriously, let alone act upon, the input it receives unless that input is also part of a state or county government process. In short, this park is not "run by the people"; however flawed, government provides the only resource for persons wishing to participate meaningfully in shaping the park's future. SHCP is in exactly the same category as any other private development group, except that it does not pay taxes on its land.

The outstanding flaw in SHCP's application for a General Plan Amendment is that it provides a "Plan of Operation" only for events and not for the multiplicity of other activities proposed. Likewise, it offers no discussion of how the various uses might overlap or impact each other. In other words, there is no overall Plan of Operation. Without a comprehensive Plan of Operations, assessing the impacts becomes an exercise in speculation. There are, however, impacts that seem likely when one applies common sense and a knowledge of the area to the draft environmental checklist.

The most controversial of the proposed uses are events and housing; obviously these are the most likely to have multiple impacts on the neighboring community and the environment. Next most controversial is the scope of the planned athletic complex. The fact that the southern Humboldt area needs housing and recreational facilities, and that many people enjoy large events that may also be economically beneficial, does not mean that this site is the best place to put them, or even a good site for them.

Regarding multi-family housing, SHCP admits they don't have a plan and don't even know how many units they will build. At a meeting with park neighbors last November board member Peter Ryce cautioned the public that the board is not sure the housing will be "affordable," although the application cites the need for affordable housing as a reason for allowing the zone change. Other SHCP directors, as well as the executive director, have frequently said that SHCP sees the housing project as a way of creating an "endowment" to keep the park financially viable in perpetuity; it is unlikely that "affordable" housing can provide an "endowment"; to generate adequate revenue, SHCP may well have to raise rents/unit prices beyond the "affordable" level. Furthermore, land for housing is already available and unused in the Redway-Garberville area (most notably approximately 200 acres along Redwood Drive that was annexed to Redway CSD in 1997 but never developed). The problem with affordable housing in this area is how to create it and keep it affordable in a depressed legal economy, not lack of sites.

Regarding events, SHCP fails to consider the fact that several other event sites are available nearby -- including Benbow State Recreation Area, French's Camp, and the Dimmick Ranch, where large, multi-day events have been held successfully for years. Squabbling among local organizations is the main reason these sites are not used more often; if community groups worked together more cooperatively, there would be no need for an additional large event site.

Regarding athletic facilities, there is a real need for adequate facilities for youth and adult sports teams. Local school fields are too small and too few to provide enough opportunities for everyone who wants to play baseball, soccer, and basketball. Unfortunately, since the entire portion of the park that is flat enough to make ball fields feasible is also prime agricultural soil (see discussion under II., Agricultural Resources), any sizeable sports area would result in a conversion of agricultural land. Some facilities, such as the swimming pool would in be better sited in other locations, where infrastructure is already available.

Several people at the scoping meeting urged the community to think of Central Park in New York, Stanley Park in

Vancouver BC, Golden Gate Park in San Francisco, etc. as they envision SHCP's future. In the first place, all those parks are owned and managed by municipalities with municipal resources, and whose elected officials are responsible to the people. But more importantly, we should remember that Southern Humboldt is not New York, Vancouver, or San Francisco, where people live in crowded urban conditions and look to their city park as a haven of greenery, "nature," and a rare opportunity for outdoor recreation close to their neighborhood. Our community park needs to be in scale with our population and the character of our community, not an imitation of a big city park.

I am including a copy of my letter to the Planning Department dated February 27, 2001, in response to a preliminary application by the Mateel Community Center for a CUP to permit the Summer Arts Fair on this property, which had recently been acquired by Southern Humboldt Working Together on behalf of an as-yet unformed non-profit corporation that would own and manage the community park. Although some of the information is outdated, overall the comments made nearly 10 years ago still apply. Please note that while SHCP has finally applied for a General Plan Amendment, as recommended in my 2001 letter, it has not yet presented a detailed plan for the park as a whole that describes how the various uses will be integrated with each other, nor has it addressed the integrated cumulative impacts and mitigations thereof of all proposed uses.

Finally, creating an entirely new land use designation ("Public Recreation") as part of an application by a private party for a General Plan Amendment is clearly backwards, putting the cart before the horse, allowing the tail to wag the dog. My comments under Section IX, Land Use and Planning, elaborate on this.

## COMMENTS ON ENVIRONMENTAL CHECKLIST

### I. AESTHETICS

a), b), c) The applicant proposes to change the character of most of the north side of the property, with potential impacts to views from the parts of Garberville closest to the park and those homes sited on the hillside north of town. The athletic complex and housing project will require excavation and leveling of land, as well as adding buildings and parking to an area currently open. This is potentially significant without mitigation.

d) Night lighting for sports events, music events and festivals on a temporary basis, and security lighting for housing and its associated parking areas, which would be permanent, will have significant impacts unless mitigated.

The applicant makes assertions such as, "it is determined that it would not have a significant impact" without citing back-up studies or methods used to make this determination.

### II. AGRICULTURAL RESOURCES

Other commenters with more agricultural knowledge than I are addressing this extremely critical issue in detail. I concur with them that the impact to agricultural resources is one of the most significant impacts this project has under both CEQA law and county land use policies. Loss of productive agricultural lands, especially in flat riparian areas where fruit, vegetables, grains, and high-quality animal feed can be grown is particularly significant in southern Humboldt. Much lip service is paid to the idea of local food self-sufficiency without reaching the logical conclusion that other worthy land uses, such as housing and recreation, should be placed elsewhere in order to protect the food-growing soil resource.

a) Reference to maps under the California Farmland Mapping and Monitoring Program is not relevant because Humboldt County is not included in that program. Instead, Humboldt County uses Public Resource Code PRC 51201c 1-5 to identify prime ag soils. Under these standards approximately 150-160 acres of this property would qualify as prime ag soil.

Much of that area would be converted to use for the athletic complex, parking, and smaller events; and much of the remainder of that seems to be proposed as dedicated habitat for the Grasshopper Sparrow, which is neither an endangered or threatened species (see comments on Section IV, Biological Resources), effectively limiting agricultural production to the the approximately 18 acres bordering Kimtu Road that now comprise the Community Farm. Approximately 13 acres of that area were used this year, 2010, including the community garden and a wheat project. Incidentally, this is the most acreage ever used for farming so far. While the farm appears to have been successful, other agriculture use has consisted of only some desultory cattle grazing several years ago and one cutting of hay per year on less than 40 acres, far below the capability of 80 acres of prime soil.

Citing the previous "conversion" of the Tooby Memorial Park area as a precedent dodges the issue. The site of the Memorial Park is dominated by a redwood grove and a gravel bar. Furthermore, county land use policy includes minor areas of non-agricultural land within agricultural land use designations when a significant majority of the area is productive ag land.

The applicant states that its goal is to "maximize the agricultural production of the properties [sic], while at the same time allowing public access for recreation," but does not state a plan for how this will be done. Even the "soft" recreational uses already established have had some impacts, largely because of SHCP's desire to "improve" the property in various ways; for example, rocking the trail instead of using biodegradable material, placing a frisbee golf goal square in the middle of a productive field, dumping debris from the gravel operation on a portion of the community farm fields, and effectively converting the barn, where equipment and hay could be stored, into an event and meeting center.

While many of these changes seem minor for now, they indicate a lack of knowledge of agricultural management on the applicant's part and a lack of imagination or will to find ways to achieve even modest recreational goals without damaging agricultural resources.

Add to this the proposed plans for numerous events, the athletic complex, and a multi-family housing development, all of which will have impacts on the land far beyond their nominal footprints, and the potential for significant impact is unavoidable and must be addressed with extensive, well-planned mitigation, or these uses will not be in compliance with CEQA requirements.

c) Comments under "a" suffice for now. A detailed mitigation plan is required. Please note that the applicant has fielded a number of "mitigations" in public discussion that are close to nonsense. Allowing one cutting of hay and then using a potentially highly productive field as a parking lot for the rest of the growing season is a travesty. Gardens in the housing area do not qualify as "agriculture" (defined as "the commercial production of food and fiber") and do not mitigate for loss of productive soil on other portions of the property. Intensity of production in one area does not mitigate loss of production in another. Allowing grazing, even of cattle, sheep, or goats, is a very weak mitigation for loss of production on soil that could produce food crops or higher-quality animal feed. Grazing horses is not agriculture because it does not produce either food or fiber; arguably, the grazing of draft horses would be mitigation if those horses made a significant contribution to food production, but this seems more like a hobby than a serious alternative to much more efficient and cost-effective motorized equipment. Finally, while creation of wildlife habitat is desirable in many ways, it is still a conversion where agriculture has been the historic use of the land and must be mitigated.

### III. AIR QUALITY

b) (and possibly others) The applicant does not address dust during events. Environmental impact reviews for other large events in the area, such as Reggae Rising on the Dimmick Ranch, required mitigation for dust control when large numbers of vehicles and persons were using the site. The applicant must address this issue.

### IV. BIOLOGICAL RESOURCES

a) The Grasshopper Sparrow and Western Meadowlark are neither endangered nor threatened species, although the Grasshopper Sparrow is considered a California Species of Special Concern. I do not wish to treat any species lightly, but as far as I know this status cannot be used to restrict agricultural activity, as SHCP has frequently stated.

If these two species appeared on the property only after it was acquired by SHCP and left ungrazed and unmowed, where did these birds come from? Without a survey of the entire area, it is impossible to determine what other habitat exists in the area and how likely such alternative habitats would be to support a viable population. It may well be that plenty of habitat currently exists on large privately-held ranches in the area, so that if these birds were unable to nest at SHCP, they could still maintain robust populations.

On the other hand, while justifying restriction of agriculture by citing protection of the nesting grounds, SHCP has never addressed the question of the impact of increased and more varied use of the park, particularly of events, on the birds' habitat. The potential impact of recreational use and events must be addressed in detail in order to reach "less than significant impact with mitigation" status.

Increased recreational use and events in particular lead to increased water use and sanitary waste disposal. Incorporating housing adds to further need for water and wastewater treatment. (See comments in Sections VIII, Hydrology and Water Quality.) This in turn poses potentially serious impacts to endangered salmonid species in the South Fork Eel River. No mention is made of these species in the applicant's comments. Impacts to these species must be addressed in the EIR.

### V. CULTURAL RESOURCES

a) I am uncertain as to whether the existing houses, barn, and other structures on the property are considered historical resources. They certainly seem like good candidates. Use of the barn has already changed as it has become an informal event/meeting center, and SHCP proposes turning the old farmhouse into a visitor center. More information is needed to determine if this creates "a substantial adverse change in the significance of a historic resource..." and if so, what would constitute appropriate mitigation.



b) and c) Regarding Native cultural resources, a speaker at the 9/8 scoping meeting pointed out that traditional basketmaking and ceremonial materials have been found on site and are still being used for those purposes. This requires a consultation with local Wailaki groups to determine impacts and proper mitigation. Unlike human remains or artifacts like tools, biological cultural resources are likely to be overlooked during construction and further human activities, and then be inadvertently damaged or destroyed unless measures are taken ahead of time to identify and protect them.

## VI. GEOLOGY AND SOILS

I don't have the expertise to comment on this subject, although I understand there is an earthquake fault on the property. In general, it is well known that this part of the county is extremely unstable geologically.

## VII. HAZARDS AND HAZARDOUS MATERIALS

h) Increased activity and use of the park increases the risk of fire. This is particularly true at events where participants, even though told not to do so, may smoke, build campfires, drive vehicles across tall grass, or set off fireworks. The larger the crowd, the more likely a careless act could start a fire, the less likely that event managers will be able to detect a potential problem before it occurs, the more likely that serious injuries and property damage would occur.

This is particularly significant under this CEQA category because the park is specifically "adjacent to urbanized areas" (Garberville) "or where residences are intermixed with wildlands" (the Kimtu and Rivercrest subdivisions, homes along Sprowel Creek Road and Leino Lane).

In the past the barn has been used as the center of many events, including as a "haunted house" for the annual kids' Halloween party. It is neither fire- nor earthquake-safe. It would be much less hazardous to continue the barn's historic use as an agricultural structure and hold such events somewhere else.

Furthermore, many activities and increased use in general means more people walking along Sprowel Creek Road and more cars in the area, increasing the likelihood for accidents. Additionally, Sprowel Creek Road might be seen as a long, thrilling introduction to the proposed skateboard park.

Alternative emergency access has not been well thought out and may be impossible. (See comments under Section XV, Transportation and Traffic.)

## VIII. HYDROLOGY AND WATER QUALITY

a) Simply stating that the project will not violate water quality standards or waste discharge requirements is a completely inadequate response to this question.

In fact, the project includes adding quantities of human waste without specifying how this will be handled. Currently there are small septic systems serving the two houses on the property, and the public uses two barely adequate portapotties.

Soils in this area may not support leachfields because of modern standards, and possibly even the existing septic systems would not be allowed if they were proposed today.

The project is immediately upstream of Garberville Sanitary District's water intake that serves the entire town of Garberville. GSD has indicated concerns about leach fields in areas that are likely to remain saturated from mid-winter well into spring. Please also see comments under XVI, Utilities and Service Systems for more details re GSD.

Water withdrawals from the river to serve the project can also result in decline of water quality (see b, below).

Before SHCP can state with certainty that the project will not affect water quality, they need to detail their wastewater treatment plan and it needs to be reviewed by a disinterested, competent third party. Certainly the North Coast Water Quality Control Board will be weighing in on this.

b) Again, an unsubstantiated assertion of no depletion of groundwater supplies and recharge. This brings up the question of where water to serve the property will come from. See XVI, Utilities and Service Systems, for a full discussion of water availability. If the project relies upon wells and springs, then review of the impacts of those water sources must be included.

c, d, e) I do not have enough technical understanding of drainage to address this.

f) See a, above. Without a plan from SHCP, I would rate this as "potentially significant."

## IX. LAND USE AND PLANNING

b) The applicant acknowledges that there is potentially significant impact on land use policy on the checklist and then defends it evasively and disingenuously by referring to selected statements in the GRBA Community Plan.

To begin with, the applicant requests that the county create an entirely new land use designation for the whole property, described as "Public Recreation (PR), which would allow Natural Resources uses, Resource Production uses, Recreation uses, and Education and Research uses." For an applicant to propose this and fold it into a request for a GPA is the tail wagging the dog.

First, the county must develop standards for the new designation, and those standards must be reviewed and approved by the Planning Commission and Board of Supervisors so the suitability of this or any piece of land for the new designation can be evaluated in a way that is standard-based, objective, accurate, and fair to this and any future applicant and the applicants' communities. Only when this process is complete and the designation is included in the General Plan, should SHCP or any property owner be permitted to apply for a GPA to change the designation.

In short, I believe there is no way this applicant (or any applicant) can avoid significant impact to land use policies when applying for a non-existent land use designation; therefore, in my opinion, this application fails on this point alone.

Even if the new designation is added to the General Plan, an applicant for a GPA will still need to demonstrate why the change does not constitute a conversion of agricultural land, if the property includes productive agricultural land as defined in the Public Resources Code.

Please note that contrary to SHCP's assertions the proposed housing project is sited in an area historically used as an orchard, so it is a potentially productive agricultural site. (Other categories of impacts of housing are discussed under the relevant sections of the checklist.)

The land use impact is conversion of productive agricultural land to other proposed uses. There are approximately 150-160 acres of productive and potentially productive agricultural areas, as determined by PRC 51201c 1-5, the standard used in Humboldt County; SHCP proposes to keep approximately 13-18 acres, the area used by the community farm, in agricultural production, and convert the remaining 80 acres of prime soil to athletic fields, a field house, a visitor center, sites for smaller events, "wildlife habitat" (see comments in Section IV, Biological Resources), and parking for large events. Mitigation proposed for this is one cutting of native grass hay per year in the parking, which would need to be done in any case for fire safety and a single rotational cutting of no more than 40 acres at a time on the balance of the open fields. Some of the area currently being cut once yearly will be converted to ball fields. Additionally, SHCP proposes several other token measures, such as a minimal amount of grazing and encouraging vegetable gardens in the residential area. (See Section II, Agricultural Resources, for more details.)

Applicant also refers to a statement within that the GRBA plan referring specifically to the "Tooby Flat area" that says, "Subdivision design should also consider incorporation of agriculturally related recreational amenities such as horse stables and trails in order to mitigate agricultural/residential use conflicts by making agriculturally related uses a continued part of subdivision design." This hardly justifies the scope of recreation SHCP is proposing for the entire flat. As I read this, the GRBA is recommending a kind of buffer zone comprised of "soft" outdoor recreation such as hiking and riding facilities between the residences and the agricultural area, which would reduce the impacts of farming -- noise, dust, smells, etc. -- on the residences as well as keeping residents away from the agricultural activity. SHCP's plan is an entirely different one: replacing a productive field below the residential area with an athletic complex and parking, routing the majority of the trails away from the residential area, and developing several types of recreation that are clearly not "agriculturally related" either on the perimeter of the agricultural area or directly in other productive areas.

As for the Public Facilities designation, while the GRBA plan does call for more land set aside for public facilities, Section 2761 of the current (1984) General Plan states, "The Public Facilities designation is utilized to classify land appropriate for use by a governmental agency or public agency...." Parks are listed as a compatible use within this designation, but clearly this means parks owned by a public agency such as the county or a public services district.

No such thing as a "PF" zone currently exists. In the General Plan, lands designated PF are permitted a wide range of zoning to allow for such potential uses as public housing, but again, the intention appears to be that the land and projects on the land are owned by a public entity.

As an example of land owned by a non-profit corporation and frequently used by the public, the Mateel Community Center in Redway, which is open to the public for a wide range of events including meetings, concerts, festivals, weddings, memorials, conferences, classes, a "community meal," etc., is within land use designation CS, Commercial Services. The zoning on the MCC property is CH, a commercial type of zoning.

## X. MINERAL RESOURCES

I do not have the expertise to comment on this section.

## XI. NOISE

a, b, d) Clearly, noise is of great concern to the neighbors. Residential areas of Garberville are at the top of the hill above the park. Several small residential clusters are nearby: the homes on Leino Lane, and the Rivercrest and Kimtu subdivisions. Because the site is in a "bowl" a disturbing amount of noise from past unpermitted concerts has been heard by residents on Sprowel Creek and Old Briceland Road miles from the site.

Furthermore, the impact of noise from events on wildlife needs to be assessed as well. Most wild animals are more sensitive to noise than humans are. As far as I know, this has not been addressed by the applicant or the county.

An additional factor is the number and size of noise-creating events. While one event per year might not be tolerable to humans and wildlife, frequent events, even if they are smaller, could create a serious ongoing problem. The cumulative impact of loudness, frequency, and distribution of noise-producing events needs to be assessed over the course of a year -- not simply on a one-at-a-time basis.

A thorough sound study by a third party capable of complete objectivity is necessary to determine potential noise levels.

Monitoring of sound levels to be sure they are in compliance is necessary, but it is not the only mitigation measure needed. The applicant needs to develop a pro-active plan to keep noise at tolerable levels throughout the event season.

I would rate items a and d as "potentially significant" impacts.

## XII. POPULATION AND HOUSING

While the applicant points to their proposed multi-family, senior, or workforce housing as beneficial in a community short of housing, other more problematic aspects of the impact of the project as a whole have not been addressed.

One can only speculate on the effect of a fully-built-out recreational complex with frequent events and their attendant impacts will have on the desirability of living in the Garberville area. On the one hand, the abundance of recreational opportunities may well be attractive. On the other, owners of property close to the site may find it less than desirable to live in proximity to an recreational/event complex that generates large amounts of traffic, noise and lights at night, and so on. In many ways, all impact categories influence this item.

More specifically, residential development tends to create a domino effect: rezoning one parcel of land to permit residences puts the next parcel in line for re-zoning, and so on. By gradual steps, a rural area is urbanized. This may be inevitable with a growing population, but at least in the last decades growth in Humboldt County, and particularly in southern Humboldt, has been quite slow. Problems of affordability should be addressed with infill development, incentives to developers, searching out new funding possibilities, and general economic development before more land is opened to development in the name of "affordability." As stated in my Overview, I think the problem in the Garberville-Redway area is primarily due to economic conditions, not to scarcity of land legally capable of development.

## XIII. PUBLIC SERVICES

The applicant's statement, "This project is not expected to have a negative impact on public services" is egregious nonsense.

The addition of possibly as many as 38 new households in the proposed housing complex, plus six "medium" to "large" events of 500 people or more, plus "unlimited" numbers of smaller events throughout the year, plus increased use of the park due to the development of many new facilities including an athletic complex that already has people dreaming of hosting regional tournaments, clearly will have an impact on the already greatly strained fire, police (sheriff), and medical services within the community.

SHCP frequently points to the economic benefits of attracting more visitors with concerts, conferences, and sports events in the park, but in fact motels and campgrounds in the area are nearly always full on weekends during the warm season, so if indeed the project does significantly increase numbers and stay lengths of visitors, more facilities will need to be built for them in the area, requiring more services.

Of course, all this will not happen overnight but in increments, if it happens at all. But such impacts need to be considered in the planning process, not brushed off as "no impact," especially since SHCP appears to see complete build-out of all proposed uses including the housing as necessary to provide adequate revenue ("an endowment") to maintain the park.

Garberville Sanitary District supplies water to two existing homes on the property with a 3/4" line "inherited" from the privately owned Garberville Water Company. SHCP's property is within GSD's sphere of influence, not its annexed

boundaries. GSD is planning review of its SOI with Humboldt LAFCo and has promised to schedule a series of community planning meetings this fall. GSD's current sphere of influence is extremely large relative to the size and capacity of the district, so it is quite possible that LAFCo may recommend reduction of GSD's SOI, as they have in some other jurisdictions in Humboldt County.

Furthermore, GSD staff has stated that it is approaching the limit of water availability in the South Fork Eel (see comments under Section VIII, Hydrology and Water Quality, and XVI, Utilities and Service Systems).

Ratings for fire protection, police protection, parks (by which I mean Humboldt Redwoods State Park and Benbow State Recreation Area, which will be impacted by SHCP event attendees looking for campsites during the state parks' busiest seasons) and other facilities as "potentially significant," until SHCP develops a detailed plan of operation that accounts for impacts to these local facilities, in which case these might be rated as "less than significant with mitigation."

#### XIV. RECREATION

a and b) See my comments in Section XIII, Public Services, above. There is a potential for significant impact by increasing demand for campsites within the new nearby state facilities. Opening new campgrounds within these parks would certainly have environmental impacts and would require thorough review. On the other hand, the state of California is not likely to be investing in new development of any kind in its park system until the state economy greatly improves. Potentially, eventgoers who are unable to find legal campsites might camp illegally in the parks, causing some damage. This needs to be taken into consideration.

Camping on the property creates an increase in many of the impact categories that must be accounted for if camping, even for staff and vendors only, is to be permitted. SHCP should also clarify what it means by "specialty camping," listed as one proposed use. If they are looking at holding overnight workshops or conferences and plan to have attendees camping at the park, they need to plan for a dedicated camping area and include assessment of its impacts in this study.

Not yet under consideration is the impact of one kind of use within SHCP on others, most particularly, the impact of events drawing large numbers of people on the "soft" recreational uses of the park, like walking, biking, horse riding, picnics, and the quiet, informal enjoyment of a beautiful natural area now cherished by many of the park's most frequent users. Likewise, what is the impact of large events, including sports tournaments, on the residences of the multi-family housing and vice versa? While many people enjoy such events, few people want to live next door to them. Without sound advance planning, the viability of one aspect of SHCP's plans for "endowment" may be at odds with another.

Regarding environmental impacts, a comparison between impacts resulting from everyday "soft" uses and those resulting from events, including athletic tournaments, should be analyzed in order to present a more accurate picture of the impacts of recreation.

As I stated in my 2001 comments, SHCP needs to develop an overall plan of operation that integrates all uses of the park, assumes that people walking and biking for exercise or pleasure, or kids playing outdoors, or families and friends picnicking on the property, have the right to peaceful enjoyment of those activities even though large, complex events drawing hundreds of people are going on simultaneously. The impacts of an event, especially a festival type of event, always exceed their footprint, and the rights and interests of all park users must be accommodated unless SHCP is willing to give up all pretense of a "public" park.

#### XV. TRANSPORTATION AND TRAFFIC

a and b) The applicant acknowledges potential significant impact. In the response to b), the applicant compares Sprowel Creek Road to the Briceland-Shelter Cove Road, noting that the latter has greater traffic loads, sharper curves, etc. The Briceland-Shelter Cove Road is the scene of many serious accidents every year. (Nonetheless, Briceland Road is wider than Sprowel Creek Road and clearly marked with center lines and edge lines in most places.) The slightly better condition of Sprowel Creek Road in comparison does not justify increasing traffic without serious mitigation. (Furthermore, note that "Dazey and Son Enterprises," authors of the February 2004 traffic study, is comprised of SHCP's founder, Steven Dazey and his son; a conflict of interest is apparent. I would also question their qualifications as traffic analysts.)

Off-site parking as a mitigation for increased traffic to events leads to the question of where that parking will be located.

e) There is NO adequate alternative emergency access to and from the park or to and from property other properties along Sprowel Creek and Kimtu Roads if Sprowel Creek becomes blocked or critically congested. The event Plan of Operation cites a detour via Old Briceland and the Briceland-Shelter Cove Road. On a clear day with little traffic, driving a small passenger car at prudent speeds, it took me 37 minutes to travel the 17 miles from the Sprowel Creek Bridge near the SHCP entrance to the emergency entrance of the hospital in Garberville. The approximately 7 miles of Old Briceland Road took 21 of those minutes: it is in abysmal condition, uneven, full of holes, with several unpaved stretches, many places where it is only one lane wide, and with many, many curves much sharper than the curves on the other two roads.

Residents on Kimtu Road past SHCP have no alternative way of getting out, or allowing emergency vehicles in, if Kimtu Road or the Kimtu/Sprowel Creek intersection is blocked. There is no other road, not even a bad road.

f) The parking issue needs to be studied further because of potential impacts in other categories. Off-site parking for events will be competing with ordinary parking use in Garberville, where parking is already difficult. Garberville is the service and shopping hub for the entire southern Humboldt region and is heavily used, especially Friday through Sunday, by local residents and during the warm season by tourists coming to visit the redwood parks. SHCP must have a plan for off-site parking that does not conflict with normal levels of parking in the area.

## XVI. UTILITIES AND SERVICE SYSTEMS

a b, and e) With a multi-family housing project, new public bathrooms, and the field house that probably will include bathrooms, SHCP will certainly need to expand its waste treatment capabilities.

While SHCP is within Garberville Sanitary District's sphere of influence, it is not within GSD boundaries and it is unknown if GSD will, in fact, ever annex and serve this property. (See comments under XIII, Public Services). Furthermore, although GSD is currently rebuilding its wastewater treatment plant, with completion expected in early 2011, GSD's capacity to serve new growth in the area will not be known until the new plant is up and running for at least two years, according to GSD General Manager Mark Bryant. Furthermore, connecting to GSD's wastewater treatment system will require pumping sewage uphill to the collection main near the intersection of Sprowel Creek Road and Highway 101.

Developing an on-site system at SHCP is problematic because of soil conditions and high groundwater levels, particularly in the wet season, and the proximity to GSD's drinking water intake. (See comments under VIII, Hydrology and Water Quality.)

This is quandary that cannot be resolved simply by checking the "no impact" box.

c) Common sense suggests that new buildings, particularly a housing complex, will alter drainage patterns, so this needs to be looked at more closely.

d) Exactly what are these "abundant water sources"? GSD inherited responsibility for water service to existing ranch buildings when it purchased the privately-owned Garberville Water Company and currently serves those buildings with a 3/4" pipe. It has no existing obligation to expand service on the property, and in fact is restricted by the county to using the line to serve only existing houses.

The Humboldt Local Agency Formation Commission recently approved extension of GSD water service to the Kimtu subdivision at the end of Sprowel Creek Road only because of health and safety risks to existing households, and with the provision that the new line to be laid down Sprowel Creek Road must be used to supply water only to those existing 20 homes.

Furthermore, the state considers the South Fork Eel "fully allocated." While on paper GSD has enough to spare in its allocation to serve this project, GSD General Manager Mark Bryant personally told me, "This river is done," meaning that regardless of the amount of the allocation, there is simply not enough water in the river for any more withdrawal. GSD staff and board of directors have essentially taken this position publicly and appear to be bending their efforts toward encouraging water conservation and recycling to maintain adequate water for their current customers.

River conditions preclude SHCP from relying on their riparian rights as well. Riparian rights under law cannot be exercised if the result is harm to downstream users, such as the towns of Garberville and Redway; the Department of Fish and Game also has increasing ability to curtail use of water rights when doing so is harmful to salmonids. Significant water withdrawal all by itself can be damaging to water quality (see a, above).

Water currently drawn from the riparian well would also have to be treated for human consumption, so a treatment plan would be required.

A 55,000-gallon storage tank will not be adequate to see the completed project, including the housing complex, through the dry months, particularly since water storage for fire flow will be required to protect the residences. The capacity of the upland springs and well on the property has not been stated.

e) see comments above under a and b.

f) and g) I don't have the expertise to comment.

In summary, I feel there are potentially significant impacts in items a, b, d, and e, and that more information is needed to determine the potential impact in items c, f, and g.

## XVII. MANDATORY FINDINGS OF SIGNIFICANCE

a) I have noted potentially significant impacts to wildlife in Sections IV, Biological Resources, a; XI, and Noise, a, b, d.

Impacts requiring mitigation to pre-historic and historic resources were noted by the applicant in Section V, Cultural Resources, c; and I have noted potential impacts in Section V, a, b, and c.

b) In my opinion, the project has potentially significant impacts in almost every category, although some may be reduced to less than significant with mitigation. Following is a summary of my comments:

I. Aesthetics -- a, b, c) change in visual character; requires mitigation; d) lighting, will require mitigation.

II. Agricultural Resources -- a) conversion with inadequate mitigation proposed. c) likewise; the applicant rates this as "potentially significant." Proposed mitigation is inadequate.

III. Air Quality -- b) mitigation needed for dust during events.

IV. Biological Resources -- a) potential impact of noise from events on species; need to address impact of water withdrawals/quality on endangered salmonids in South Fork Eel.

V. Cultural Resources -- a) if the existing structures are historical resources, then mitigation must be addressed; b and c), need to address impacts/mitigation for plants used as Native cultural resources.

VII. Hazards and Hazardous Materials -- h) need to address increased risk of fire and vehicular and pedestrian accidents.

VIII. Hydrology and Water Quality -- a) need full discussion of human waste disposal plan and how contamination will be kept out of the river and groundwater; b) if groundwater sources (well, springs) are significant water sources for the project, what are the actual impacts on groundwater supplies/recharge; f) potentially significant -- requires detailed human waste/wastewater disposal plan.

IX. Land Use and Planning -- creation of new land use designation should be approved by county government as a General Plan Amendment before applicant is able to apply for change to this designation; inadequately mitigated conversion of agricultural land; "Public Facilities" refers to publicly-owned facilities, and "PF" zone does not exist.

XI. Noise -- a, b, d) Inadequate mitigation of noise from events; need to address noise impacts on wildlife; need for third-party sound study.

XII. Population and Housing -- a, b, c) Needs more fact-based consideration of demographic trends and local property values.

XIII. Public Services -- a) Potential significant impact on fire, police, and medical facilities, as well as impacts on public water and wastewater systems, must be fully discussed and adequate mitigation developed.

XIV. Recreation -- a) Possible impact on camping facilities in area state parks during large events; b) need for discussion of how recreational uses of the park impact other proposed uses, including other recreational uses; need for an integrated management plan; need environmental analysis of "soft" recreation v. large events.

XV. Transportation and Traffic -- a and b) Potential significant impact of increased traffic on substandard road; "off-site parking" as mitigation must be more thoroughly detailed; e) alternative emergency access cited is unsuitable.

XVI. Utilities and Service Systems -- a, b, and e) Needs detailed and realistic human waste/wastewater disposal plan; c) Needs more detail on drainage plan for housing; d) Define water sources and plan for water service for all uses.

Thank you for your consideration,

Virginia Graziani



Humboldt County Planning Department  
Michael Richardson

Dear Michael,

Please consider these scoping comments for the EIR on the Southern Humboldt Community Park application for a Conditional Use Permit. I refer below to the July 2010 document titled "General Plan Amendment" and the document titled "Environmental Checklist", both submitted by Southern Humboldt Community Park.

The Southern Humboldt Community Park has been engaged in a vegetation management program to correct a gully that bisects the main meadow of the park and a part of the forested area also. This program is to reduce erosion and raise the water table. If this program reaches completion, it will restore two natural marshes and benefit wildlife, as well as benefit agriculture also. The County encourages this kind of program (General Plan 4.5.3 AG-P11). The Checklist at page 11 apparently errs in stating that there are no wetlands subject to the Clean Water Act. According to the definition used by both the federal EPA and the Army Corps of Engineers (51 Fed Reg 41217), these marshes qualify for Section 404 status. For example, the Audubon Society group that regularly visits the park has on numerous occasions seen Mallards entering or leaving these marshes, and they bred there in 2003 and apparently one later year. The marshes are used by migrant and wintering Wilson's Snipes, which are sometimes numerous, and another marsh migrant and winterer, the Marsh Wren, also regularly uses these marshes. These marshes are nowhere clearly shown in the Application and Checklist documents and maps. They are treated as part of the main meadow and inappropriately included in its acreage as if they have no significance.

The park board has dedicated much of the main meadow to the preservation of grassland habitat and the conservation of open space. The major concern for this grassland focuses on two Department of Fish and Game Species of Special Concern, the Grasshopper Sparrow and the Western Meadowlark, both of which nest there (Checklist at page 11). There are several other unmentioned species using the meadow that have garnered some level or other of conservation concern. These include raptors such as the White-tailed Kite (forages over the meadow and nests on its periphery), Cooper's Hawk (nests on its periphery), Northern Harrier (forages over the meadow and winters), and Peregrine Falcon (forages over the meadow); Lesser Sandhill Crane, which has foraged in the meadow; and other passerines including the Vesper Sparrow and the Yellow-breasted Chat, which regularly forages in the meadow. The meadow is exceptionally rich as wildlife habitat because it has lain fallow for a good number of years, because it has moist soils, that promote high net primary production, including abundant food for wildlife, and because it lies along an established wildlife corridor, the South Fork Eel River.

A major problem not discussed in the documents is that the park is owned and managed privately, beyond public oversight. Public and environmental values may be subject to the whims of changing management, and the public has little or no recourse. A case in point represents a present and actual controversy that is only hinted at on page 12, in the paragraph labeled "Comment", of the "General Plan Amendment" document. As noted above, the board dedicated much of the main meadow to wildlife. However, the composition of the board has since changed, and now a new board member, Dennis Huber, is actively promoting a project to transform the main meadow into a wheat farm for a friend. This proposal is not legitimate agriculture but a hobby farm basically under public subsidy to raise what is, for our area, only an amenity crop of dubious value, but it subtly underlies that paragraph. There is irony here, because the two Species of Special Concern have both declined radically nationwide exactly because of agriculture, and,



for the Grasshopper Sparrow, especially because of wheat farming. Many thousands of acres of its former habitat across the midwest is now wheat fields devoid of the species, and yet here we have what is apparently the largest remaining known colony of Grasshopper Sparrows in northern California again threatened by wheat farming. Neither of the documents shed any light on this specific problem or the generic problem of how public and environmental values enjoy a process for proper protection in a long-term private project. Requiring the dedication of enforceable conservation easements may be the best idea; alternatively, perhaps the park should become a public entity before documents may issue. But in any case, the law is clear. CEQA requires that the environmentally least damaging alternative to the project be selected (Public Resources Code 21002). But the project proponent does not yet propose to have even a full and fair discussion. This needs a remedy. It seems doubtful the park should have any lands zoned for agriculture. For example, according to documents I've read and conversations I've had, it is only permitted to have no more than one-third of an agriculturally zoned parcel fallow, and only for a short period of time. Such restrictions foreclose the maintenance of wildlife populations or habitats over time. On the other hand, agriculture remains a permitted use in many other types of zoning, and one or more of these other types may be more reasonable for the diversity and flexibility the park envisions.

So you may infer that I perceive major problems with the Checklist. For example, on Checklist page 10 (Biological Resources) a, c, and d are mis-checked in light of the foregoing discussions. Item b I believe also is mis-checked, for I find no mention of the designation pursuant to the federal Wild and Scenic Rivers Act, not to mention other legal authorities, none of which, I doubt, welcomes large numbers of cars parked on river bars, as the project proposes. Checklist at page 28 (Recreation) contains similar errors. The large scale events, such as the Summer Arts Fair, surely will cause major deterioration of the landscape, individually and cumulatively, through trampling, compaction, increased access to sensitive habitats, and uncontrollable animals, among others. To say there will be "no impact" is patently absurd. By the way, there needs to be discussion of the established and growing failure to control dogs on the property. These are significantly adverse to wildlife and there recently has been a serious dog attack on a person in the park. Finally, Checklist at page 32 (Mandatory Findings of Significance) is also seriously in error. Surely the project has the strong potential to significantly degrade the quality of the environment, and surely some of the impacts are likely to be cumulatively considerable. The contrary claims are surprisingly disingenuous, suggesting naivety.

Thank you for this opportunity to comment! I support the project even though it needs some significant modifications, and I hope these can be productively accomplished. These comments are major criticisms, and I have refrained here from addressing a host of other issues. Perhaps I will bring them forth on another occasion.

Best regards,

Robert Sutherland  
PO Box 996, Redway CA 95560  
(707) 986-1112  
8 September 2010



**APPENDIX B**  
**AGRICULTURAL REPORT**



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# CALIFORNIA AGRICULTURAL LAND EVALUATION AND SITE ASSESSMENT

## SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

PREPARED FOR:



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SUBMITTED :  
October 2011

# CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT

## SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

### EXECUTIVE SUMMARY

The purpose of this analysis was to evaluate the agricultural value of the project site for the proposed Southern Humboldt Community Park General Plan Amendment (Project). This analysis was conducted using the California Agricultural Land Evaluation and Site Assessment Model (LESA) developed by the California Department of Conservation in 1997.

The proposed Project is located within southern Humboldt County. The Southern Humboldt Community Park (Park) site comprises approximately 405.6 acres on Sprowel Creek Road, of Garberville and west of State Route 101. The Project study area is primarily agricultural and forested land. The primary activity on agricultural land within the study area is the production of hay. No portion of the Park site is subject to the Williamson Act.

The proposed Project seeks to change the zoning and land use designation of the Park. The proposal is to change the zoning and land use designation to allow for public access, recreation, and public assembly compatible with the Park's vision and goals.

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The LESA model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Weighting of Factors and Final LESA model Scoring

The LESA model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors and 50 percent from the Site Assessment factors. For the Project, the final LESA score was determined as shown in the table below. Each factor's score is multiplied by its respective factor weight to determine a weighted factor score. The weighted factor scores are then summed to yield a Total LESA Score for the Project.

The Final LESA score for Project is 45, the Land Evaluation subscore is 27.9 and the Site Assessment Subscore is 17.1. According to the California Agricultural LESA Model Threshold for Significance (Table 8), a total score of 45 shows that a conversion of agricultural land to non-agricultural use resulting from the Project is considered significant "only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points". Since the Site Assessment subscore less than 20 for the subject property, pursuant to the LESA model, the proposed conversion of the site would not be considered significant. Furthermore, the majority of the Project, approximately 300+ acres will remain as Agricultural Exclusive with a Public Recreation land use designation combined with a Qualified combining zone designation to allow for low-impact related recreational use.

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

LESA Model Total Scores for the Project

	Factor Scores	Factor Weight	Weighted Factor Scores
<u>Land Evaluation Factors</u>			
Land Capability Classification	55.83	0.50	27.9
<i>Land Evaluation Subtotal</i>		<i>0.50</i>	<i>27.9</i>
<u>Site Assessment Factors</u>			
Project Size	100	0.15	15.0
Water Resource Availability	14.1	0.15	2.1
Surrounding Agricultural Land	0	0.15	0
Protected Resource Land	0	0.05	0
<i>Site Assessment Subtotal</i>		<i>0.50</i>	<i>17.1</i>
<b>Final LESA Score</b>			<b>45</b>

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

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CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

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# CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT

## SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

### 1. INTRODUCTION

#### 1.1. PURPOSE AND NEED

The purpose of this analysis is to evaluate the agricultural value of the project site for the proposed Southern Humboldt Community Park General Plan Amendment (Project). This analysis was conducted using the California Agricultural Land Evaluation and Site Assessment Model (LESA) developed by the California Department of Conservation in 1997.

Appendix G of the 2009 California Environmental Quality Act (CEQA) Statute and Guidelines includes the provision that, *“In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.”* The LESA model is useful because it utilizes several factors to determine the relative value of agricultural land.

The formulation of a LESA model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor’s Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended “to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process” (Public Resources Code Section 21095).

#### 1.2. PROJECT SUMMARY

The proposed Project is located within southern Humboldt County. The Southern Humboldt Community Park (Park) site comprises approximately 405.7 acres on Sprowel Creek Road, off Garberville and west of State Route 101. The South Fork of the Eel River borders the site to the west. (Figure 1)

The Project study area is primarily agricultural and forested land. The primary activity on agricultural land within the study area is the production of hay. No portion of the Park site is subject to the Williamson Act.

The proposed Project seeks to change the zoning and land use designation of the Park. The current zoning designation is Agricultural Exclusive on all 405.7 acres. The current land use designation is a combination of Agricultural Lands with a 20 acre minimum on 150 acres and Agricultural Rural with a 5-20 acre minimum on 256 acres. The proposal is to change the zoning and land use designation to allow for public access, recreation, and public assembly compatible with the Park’s vision and goals. The majority of the Park, approximately 300+ acres will remain Agricultural Exclusive with a Public Recreation land use designation combined with a Qualified combining zone designations to allow for low-impact related recreational use (e.g., hiking, biking, horseback riding, picnic areas, and visitor amenities such as parking and restrooms).

**CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT**

## 2. CALIFORNIA LESA MODEL

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The LESA model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project’s size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project’s potential significance, based upon a range of established scoring thresholds.

### 2.1. LAND EVALUATION FACTORS

The California LESA model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification (LCC) Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resource Conservation Service (NRCS). The data used here was obtained from the NRCS Humboldt/Del Norte Counties Soils Survey located in Arcata, California in November 2009 and July/August 2011. According to the most recent soil map for the area around the Park there are thirteen soil types (Figure 2, Table 1).

**Table 1: Soil Types on the Southern Humboldt Community Park Site\***

<b>Soil Map Unit</b>	<b>Name</b>	<b>Slope</b>	<b>Landscape</b>
100	Riverwash-Fluvents	0-2%	River valleys
144	Garberville-Parkland	0-2%	River valleys
151	Parkland-Garberville	2-5%	River valleys
153	Conklin	0-2%	River valleys
159	Grannycreek-Parkland	2-5%	River valleys
182	Gschwend-Frenchman	0-9%	River valleys
183	TBD		
187	Pepperwood-Shivleyflat	0-2%	River valleys
410	TBD		
451	Burgsblock-Coolyork-Tannin	15-30%	Mountains
452	Burgsblock-Coolyork-Tannin	30-50%	Mountains
574	Sproulish-Canoecreek-Redwohly	30-50%	Mountains
655	Yorknorth-Witherell	15-30%	Mountains

\*USDA NRCS Humboldt County Soil Survey, 2011

# CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT

## SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

### 2.1.1. LAND CAPABILITY CLASSIFICATION (LCC) RATING

The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I, soils having the fewest limitations, to Class VIII, soils having the most limitations that preclude their use for commercial plant production. Specific subclasses are also utilized to further characterize soils. LESA LCC point ratings are summarized in Table 2. Detailed information describing classes and definitions can be found at <http://soils.usda.gov/technical/handbook/contents/part622.html>. LCC Ratings for each soil type at the Project site are summarized in Table 3. LCC scores are obtained by multiplying the areal proportion of each soil type by the weighted LCC rating.

**Table 2:** Land Capability Classification Rating Summary

LCC	LCC Point Rating
I	100
Ile	90
IIs,w	80
IIle	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

**CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT**

**Table 3:** Land Capability Classification Rating for Southern Humboldt Park (Weighted by Map Unit Composition of Major Components)

Soil Map Unit	Soil Type		Map Unit Composition		LCC	LCC Rating	Weighted LCC Rating	LCC Score
	Acreage	Proportion						
100	47.48	0.12	Riverwash	0.5	VII non-irrigated	10	21	2.49
			Fluvents	0.3	IVs irrigated	40		
144	24.71	0.06	Garberville	0.5	IIc non-irrigated	85	85	5.18
			Parkland	0.35	IIc non-irrigated	85		
151	40.98	0.10	Parkland	0.45	Ile-1 non-irrigated	90	90	9.09
			Garberville	0.4	Ile-1 non-irrigated	90		
153	28.48	0.07	Conklin	0.85	IIc non-irrigated	85	85	5.97
159	53.48	0.13	Grannycreek	0.5	IIIw non-irrigated	60	72	9.54
			Parkland	0.35	Ile non-irrigated	90		
182	34.20	0.08	Gschwend	0.5	Ile non-irrigated	90	71	6.01
			Frenchman	0.3	IVs non-irrigated	40		
183	0.35	0.001	Battery	0.9	IIIe non-irrigated	70	70	0.06
187	41.31	0.10	Pepperwood	0.6	IIc-2 non-irrigated	85	85	8.65
			Shivelyflat	0.3	IIc-2 non-irrigated	85		
410	9.61	0.02	Rockyglen	0.45	VIIe non-irrigated	10	10	0.24
			Hollowtree	0.25	VIIe non-irrigated	10		
			Rock Outcrop	0.15	None given	--		
451	33.52	0.08	Burgsblock	0.35	IVe non-irrigated	50	50	4.13
			Coolyork	0.3	IVe non-irrigated	50		
			Tannin	0.2	IVe non-irrigated	50		
452	78.40	0.19	Burgsblock	0.35	Vle non-irrigated	20	20	3.87
			Coolyork	0.3	Vle non-irrigated	20		
			Tannin	0.2	Vle non-irrigated	20		
574	4.54	0.01	Sproulish	0.5	Vle non-irrigated	20	20	0.22
			Canocreek	0.2	Vle non-irrigated	20		
			Redwohly	0.15	Vle non-irrigated	20		
655	8.64	0.02	Yorknorth	0.7	IVe non-irrigated	20	18	0.39
			Witherell	0.15	VIIe non-irrigated	10		
<b>Total</b>	<b>405.7</b>	<b>1.0</b>					<b>LCC Total Score</b>	<b>55.83</b>

# CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT

## SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

### 2.1.2. STORIE INDEX RATING

The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating: profile characteristics, texture of the surface layer, slope, and other factors (e.g. drainage, salinity).

As of the date of this report, the Storie Index rating was not available from the NRCS Humboldt Soil Survey. When the Storie Index rating is not available, the LCC rating is used and accounts for 50 percent of the overall LESA factor rating for this analysis.

### 2.2. SITE ASSESSMENT FACTORS

The California LESA model includes four Site Assessment factors that are separately rated:

1. The Project Size Rating
2. The Water Resources Availability Rating
3. The Surrounding Agricultural Land Rating
4. The Surrounding Protected Resource Land Rating

#### 2.2.1. PROJECT SIZE RATING

The inclusion of the measure of a project's size in the LESA model is the recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the LCC ratings determined above. This is done by grouping the LCC classes according to their suitability, adding the acreages of each up, and assigning a point score to the total acreage for that LCC class. The LCC class with the highest point score is used in the final project LESA model score. The results are summarized in Table 4.

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

**Table 4:** Project Size Rating for Southern Humboldt Park

Soil Map Unit	LCC Class (acres)		
	I or II Soils	III Soils	IV or Lower
100			47.48
144	24.71		
151	40.98		
153	28.48		
159		53.48	
182	34.20		
183			0.35
187	41.31		
410			9.61
451			33.52
452			78.40
574			4.54
655			8.64
Totals	169.7	53.5	182.5
Project Size Scores	100	60	60
<b>Highest Project Size Score</b>			<b>100</b>

**2.2.2. WATER RESOURCES AVAILABILITY RATING**

The Water Resources Availability Rating, used to determine agricultural viability if a site, is based upon identifying the various water sources that may supply the property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. During the development of the LESA model it was determined that conditions unique to California should be represented in the model. Three factors are incorporated into the LESA model. First, water reliability is classified based upon the effects on agricultural production rather than on the actual type of limitation. Second, the rating is tied to an interrelation between water availability and cost – a more reliable water supply can sometimes be obtained, but at a greater cost. Water restrictions are classified into two categories; physical and economic. The greater impact of physical restrictions of water on agriculture is accounted for in the LESA model. Third, the factor includes the effects of the drought cycle in California. A project site that experiences restrictions during a drought year is not scored as high as a similar project site that does not.

Historically the Project site was used mainly for grazing cattle. There were no functioning irrigation lines to the existing farm fields when the Southern Humboldt Park purchased the site. Southern Humboldt Park has since (in 2002) installed irrigation systems to Fields #1 and #2 (Figure 3). The current uses on the project site include domestic water from the Garberville Sanitary District (GSD) and water used for irrigation from two riparian sources. Due to cost, domestic water from the GSD is **not** used for irrigation. The two **riparian** sources used for irrigation are:

**CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT**

1. Water Source #1: South Fork of the Eel River

This water source is permitted (Department of Fish and Game Streambed Alteration Permit R1-2009-0238) for agricultural use, residential and fire suppression. The permit limits the rate of diversion from the infiltration gallery to 108 gallons per minute or 10% of the streamflow, whichever is less. There is no seasonal drought limit. This water source is currently used solely for irrigation purposes. This source supplies Field #1, approximately 17 acres (Figure 3). There is no charge associated with this water, other than maintenance of the irrigation system.

2. Water Source #2: Unnamed Tributary

This water source is permitted by the same permit as water Source #1. The source is a spring located on a neighboring property that serves the Project site through a legal easement. The source supplies water, via gravity flow, to a ranch house, bunk house, and irrigation for both Field #1 and Field #2. Field #2 is approximately 31 acres (Figure 3). Under the permit, the rate of diversion is 2000 gallons per day. This source is used to fill a 55,000 gallon water storage tank that between November 1 and July 1. The permit prohibits filling the tank from July 2 through October 31 each year. There is no charge associated with this water, other than maintenance of the irrigation system.

**Table 5: Water Resource Availability Rating Southern Humboldt Park**

Project Location	Water Source	Project Area		Water Availability	
		Total Acres	Proportion	Score	Weighted Score
Field #1 & #2	Riparian	48	0.118	85*	10.0
Non-Irrigation Production**	None	87	0.214	20	4.3
Forested Areas	None	270.7	0.668	0***	0
Total		405.7	1.0	<b>Total Water Resource Score</b>	<b>14.3</b>
*Potential for physical restriction (no-availability during a drought year) **Non-Irrigation production feasible in non-drought years on Fields 3 through 5 ***Assume no irrigated nor dry-land production feasible					

**2.2.3. SURROUNDING AGRICULTURAL LAND RATING**

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The LESA model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a “Zone of Influence” (ZOI) that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use.



## CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT

### SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

The Agricultural Land Rating is based upon the identification of the project's ZOI, which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The Zone of Influence around the Project site is illustrated in Figure 4. The Agricultural Land score is determined based on the *percent* of the project's ZOI in agricultural use as given in the LESA Surrounding Agricultural Land Scoring Table.

Humboldt County is not included on the California Department of Conservation's Important Farmland Maps in California. No Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing Land is identified in Humboldt County on these maps. No Agricultural Land Use was identified on the California State University, Chico California Agricultural Map ([http://www.gic.csuchico.edu/Spec\\_calag.html](http://www.gic.csuchico.edu/Spec_calag.html)). According to the Humboldt County 2025 General Update Agricultural Resources and Policies, prepared by the Humboldt County Department of Community Services, August 2003, the area around Garberville is valued for open space and grazing lands and no specific Agricultural Use was identified in the vicinity of the Project area.

Currently, the Southern Humboldt Park site is the main agricultural producer in the area and intends to remain in agricultural production. Grazing, at low densities, occurs to the south and east of the project site. Those parcels attributed to grazing activities were considered as agricultural lands for the calculations presented here; approximately 808 acres. The Agricultural Land Rating results are summarized in Table 6.

#### 2.2.4. SURROUNDING PROTECTED RESOURCE LAND RATING

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

1. Williamson Act contracted lands  
*There are no Williamson Act contracted lands within the ZOI.*
2. Publicly owned lands maintained as a park, forest, or watershed resources  
*There are no publically owned lands maintained as a park, forest or watershed resources within the ZOI.*
3. Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.  
*There is no agricultural, wildlife habitat, or open space easements that restrict the conversion of land within the ZOI.*

Since there is no protected resource land in the ZOI, the Surrounding Protected Resource Land Score is zero (Table 6).

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

**Table 6:** Surrounding Agricultural Land and Surrounding Protected Resource Land Rating for Southern Humboldt Park

Zone of Influence					Surrounding Agricultural Land Score*	Surrounding Protected Resource Land Score
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture	Percent Protected Resource Land		
3008.65	808	0	27%	0	0	0

\*based on the LESA surrounding land scoring table and percent of ZOI in agriculture

**2.3. WEIGHTING OF FACTORS AND FINAL LESA MODEL SCORING**

The LESA model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors and 50 percent from the Site Assessment factors. Individual factor weights are listed in Table 7, with a total factor sum equal to 100 percent. For the Project, the final LESA score was determined as shown in Table 7. Each factor's score is multiplied by its respective factor weight to determine a weighted factor score. The weighted factor scores are then summed to yield a Total LESA Score for the Project.

**Table 7:** LESA Model Total Scores for the Project

	Factor Scores	Factor Weight	Weighted Factor Scores
<u>Land Evaluation Factors</u>			
Land Capability Classification	55.83	0.50	27.9
<i>Land Evaluation Subtotal</i>		<i>0.50</i>	<i>27.9</i>
<u>Site Assessment Factors</u>			
Project Size	100	0.15	15.0
Water Resource Availability	14.3	0.15	2.1
Surrounding Agricultural Land	0	0.15	0
Protected Resource Land	0	0.05	0
<i>Site Assessment Subtotal</i>		<i>0.50</i>	<i>17.1</i>
<b>Final LESA Score</b>			<b>45</b>

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
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### 3. DETERMINATION OF SIGNIFICANCE UNDER CEQA

The LESA model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during CEQA review. Scoring thresholds are based upon the total LESA score as well as the individual Land Evaluation and Site Assessment subscores. This is so scoring thresholds are independent upon the attainment of a minimum score for the Land Evaluation and Site Assessment subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high Land Evaluation subscore, but a very low Site Assessment subscore, or vice versa). The LESA scoring thresholds are summarized in Table 8.

**Table 8:** California LESA Model scoring thresholds of significance

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if Land Evaluation <u>and</u> Site Assessment subscores are each <u>greater</u> than or equal to 20 points
60 to 79 Points	Considered Significant <u>unless</u> either Land Evaluation <u>or</u> Site Assessment subscores is <u>less</u> than 20 points
80 to 100 Points	Considered Significant

The Final LESA score for Project is 45, the Land Evaluation subscore is 27.9 and the Site Assessment Subscore is 17.1. According to the California Agricultural LESA Model Threshold for Significance (Table 8), a total score of 45 shows that a conversion of agricultural land to non-agricultural use resulting from the Project is considered significant “only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points”. Since the Site Assessment subscore less than 20 for the subject property, pursuant to the LESA model, the proposed conversion of the site would not be considered significant. Furthermore, the majority of the Project, approximately 300+ acres will remain as Agricultural Exclusive with a Public Recreation land use designation combined with a Qualified combining zone designation to allow for low-impact related recreational use.

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

#### 4. REFERENCES

California Department of Conservation. *California Agricultural Land Evaluation and Site Assessment Model*. 1997.

California Department of Conservation, Farmland Mapping & Monitoring Program, Important Farmland Maps in California, Accessed June 2011.

<http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>

California State University, Chico California Agricultural Map, Accessed June 2011.

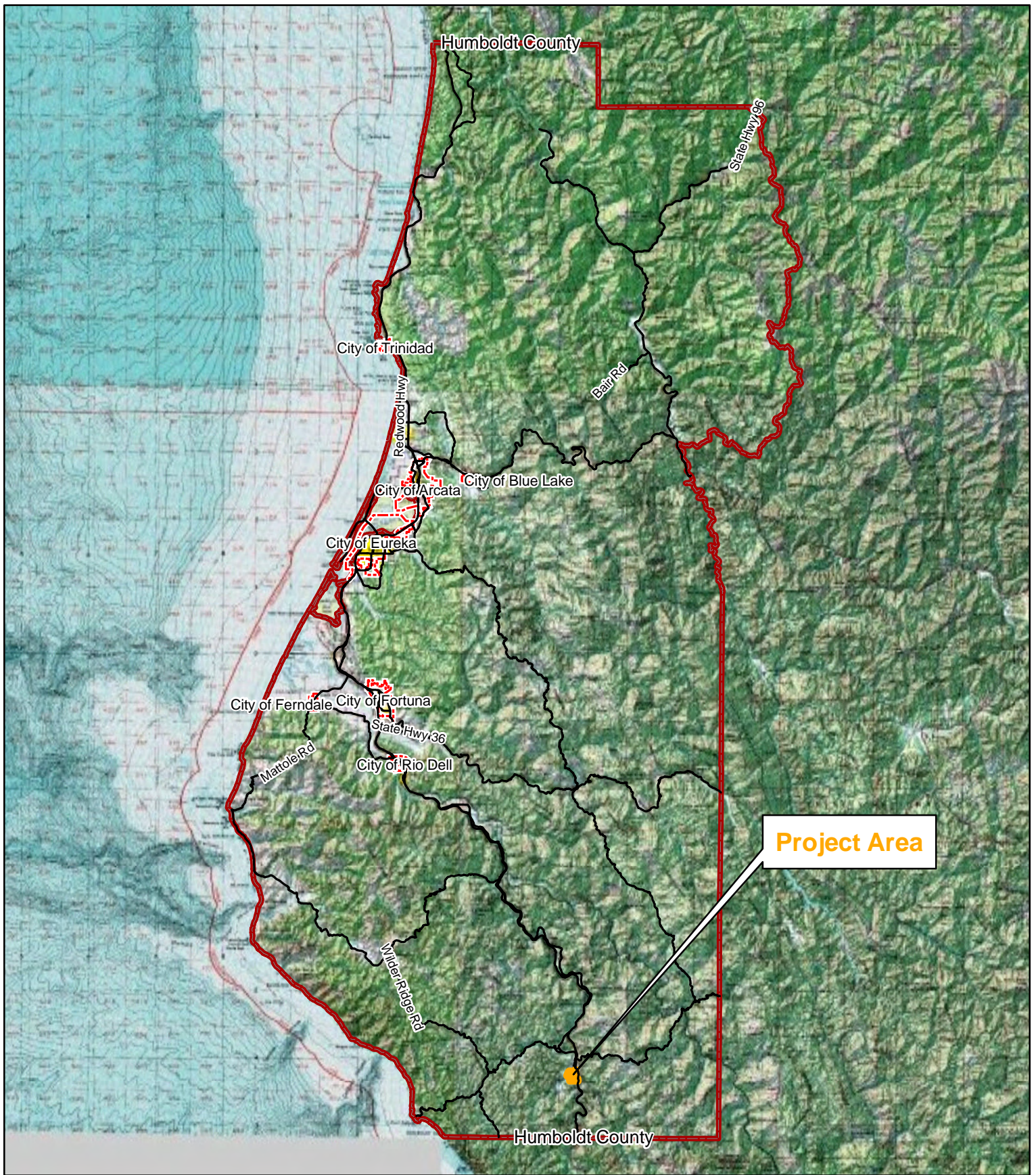
[http://www.gic.csuchico.edu/Spec\\_calag.html](http://www.gic.csuchico.edu/Spec_calag.html)

Humboldt County Department of Community Services, Humboldt County 2025 General Updated Agricultural Resources and Policies, August 2003.

U.S. Department of Agricultural, Natural Resources Conservation Service, Humboldt Counties Soil Survey, Draft Data, dated 11/02/2009 and June and July 2011.

CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

Appendix A:  
Figures







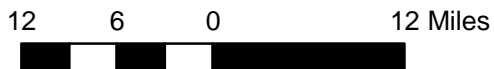
**FIGURE 1  
LOCATION MAP**

**Southern Humboldt  
Community Park**

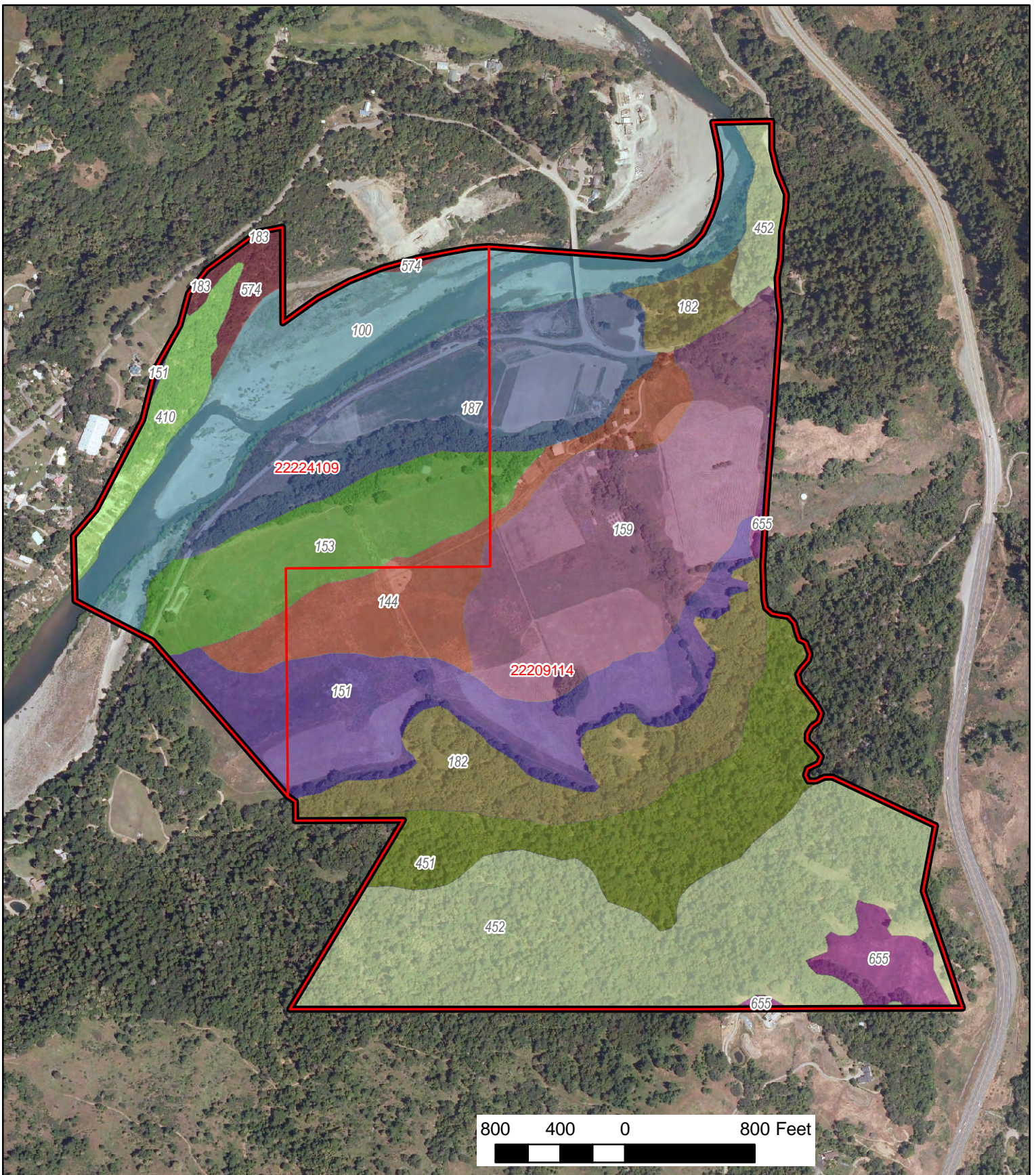
Humboldt County, CA

**Legend**

-  Major Roads
-  Project Boundary
-  County\_Boundary
-  City



August 2011


















**FIGURE 2  
SOILS MAP**

**Southern Humboldt  
Community Park**

Humboldt County, CA

**Legend**

- |  |   |   |
|--|---|---|
|  Parcels          |  153 |  451 |
|  Project Boundary |  159 |  452 |
| <b>SSURGO Soils</b>  |  182 |  574 |
|  100              |  183 |  655 |
|  144              |  187 |   |
|  151              |  410 |   |



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**FIGURE 3  
WATER SOURCE SERVICE  
AREA MAP**

**Southern Humboldt  
Community Park**

Humboldt County, CA

**Legend**

 Fields

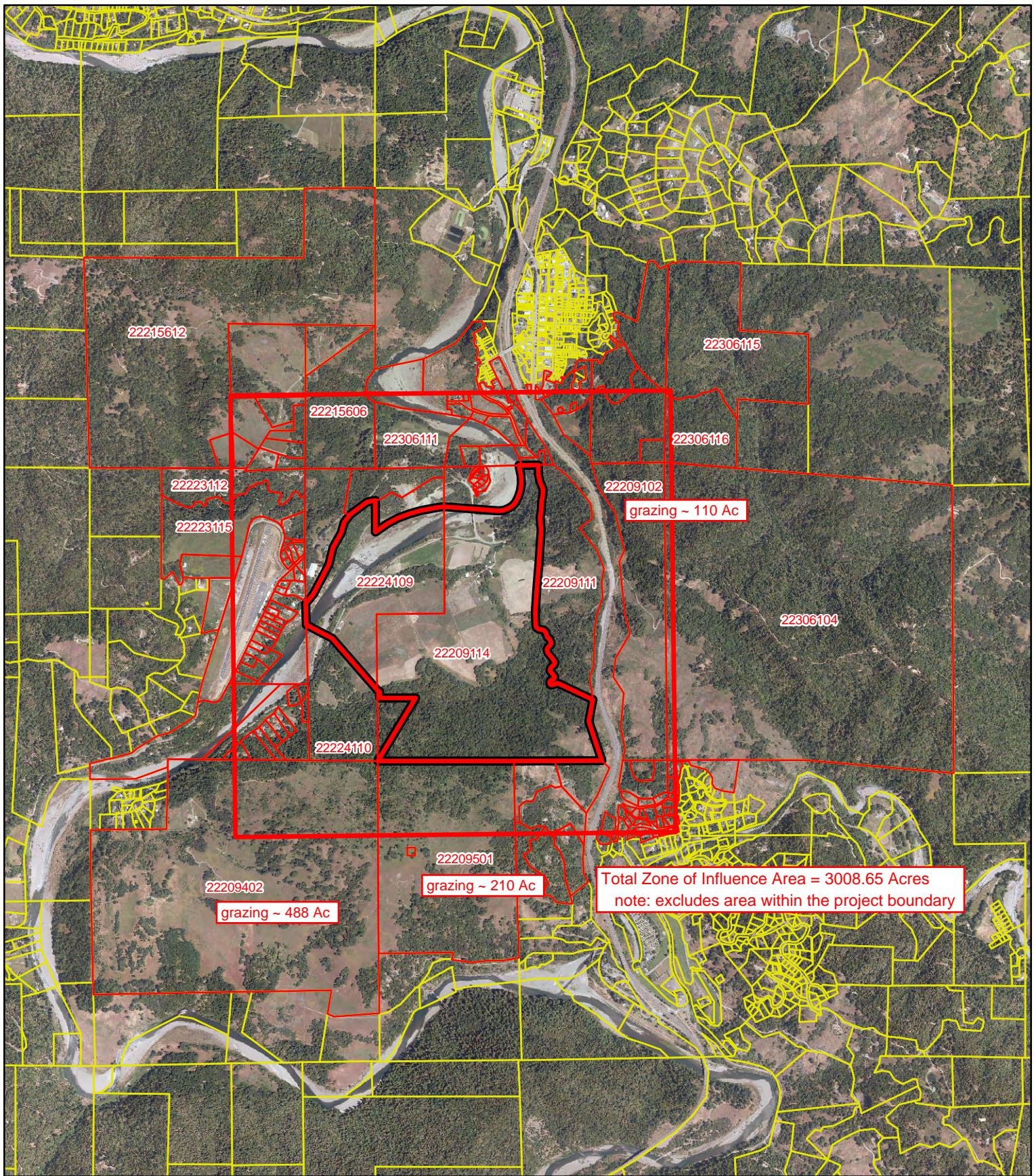


600 300 0 600 Feet



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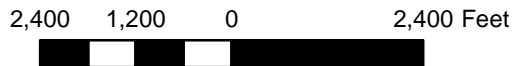
**FIGURE 4  
ZONE OF INFLUENCE MAP**

**Southern Humboldt  
Community Park**

Humboldt County, CA

**Legend**

- Zone of Influence
- Project Boundary
- Parcels



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CALIFORNIA AGRICULTURAL LAND AND SITE ASSESSMENT  
SOUTHERN HUMBOLDT COMMUNITY PARK PROJECT

Appendix B:  
NRCS Soil Map Unit Summaries

United States Department of Agriculture



Natural Resources Conservation Service  
1125 16<sup>th</sup> St. Room 219  
Arcata CA 95521

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HUMBOLDT/DEL NORTE COUNTIES SOIL SURVEY  
• PHONE 707-822-7090 • FAX 707-822-7131

November 2, 2009

Steve Dazey  
P.O. Box 168  
Garberville, CA  
95542

Jonathan W. Hooper  
NRCS-Soil Survey  
1125 16<sup>th</sup> St. Rm. 219  
Arcata, CA 95519  
707-822-7090 ex 105

Steve,

As requested, I am including copies of seven map units and a copy of the most recent soil map for the area around the Community Park. The lines are on our newest color photobase dated 2009 and the map is produced at a scale of 1:24000.

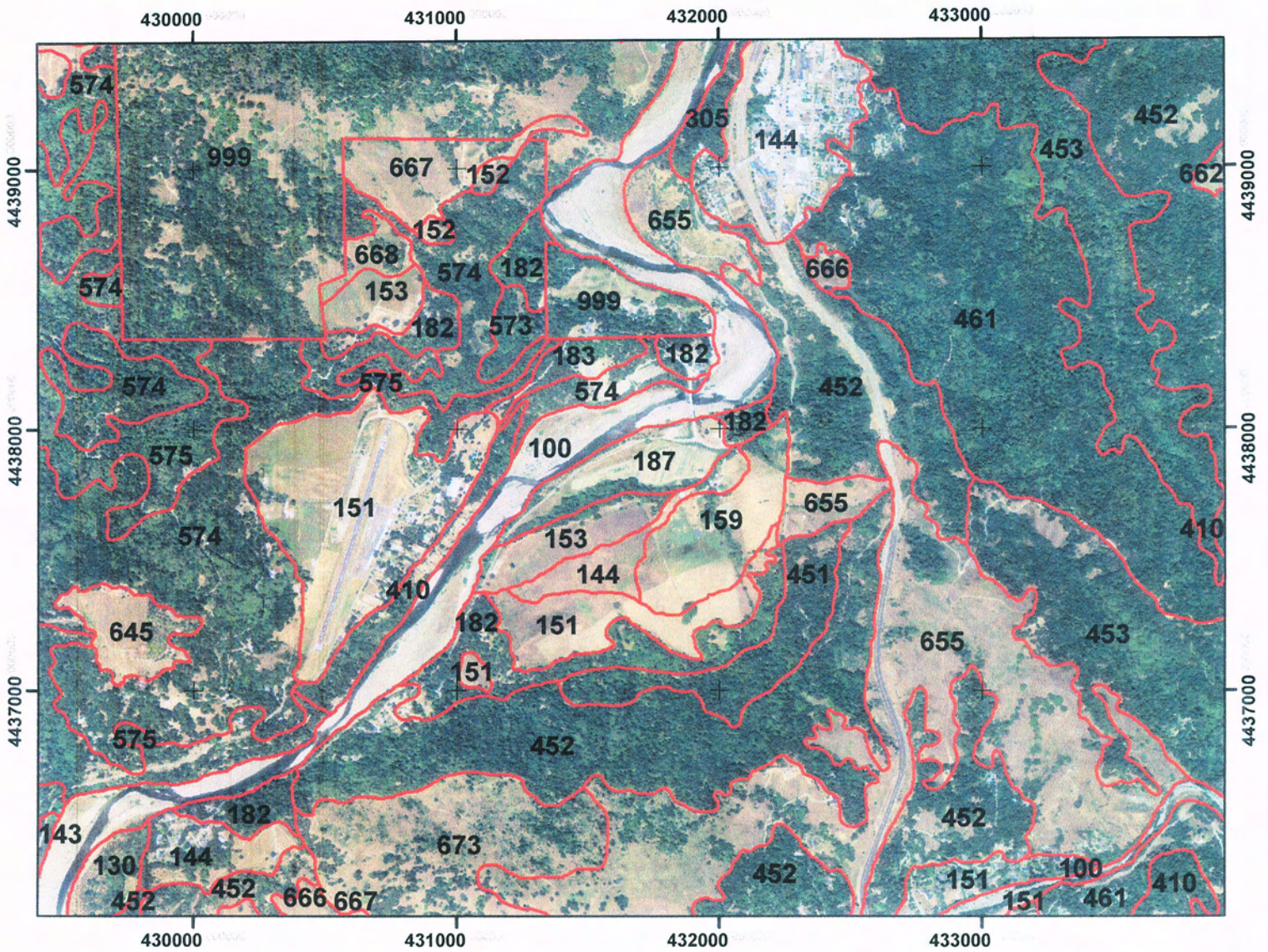
All the Best,

A handwritten signature in cursive script that reads "Jonathan W. Hooper".

Jonathan W. Hooper  
SSPL SoHum Soil Survey

# Humboldt County Soil Survey

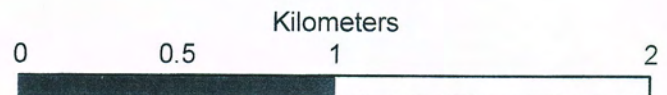
## Draft Data - Subject to Change - 11/02/2009



Humboldt County Soil Survey  
USDA-NRCS Arcata Soil Survey Office  
1125 16th St, Arcata, CA 95521  
Jonathan Hooper, Soil Survey Project Leader  
707-822-7090x105  
jonathan.hooper@ca.usda.gov



Projection: UTM  
Datum: NAD 83  
Scale: 1:24,000



\*\*\*182--Gschwend-Frenchman complex, 0 to 9 percent slopes

#### Map Unit Setting

General location: None noted.

Major uses:

MLRA: 4B - Coastal Redwood Belt

Map unit landscape: River valley

Landscape setting:

Elevation: 245 to 1695 feet (76 to 518 meters)

Mean annual precipitation: 40 to 80 inches (1016 to 2032 millimeters)

Mean annual air temperature: 43 to 64 degrees F. (6 to 18 degrees C.)

Frost-free period: 220 to 320 days

#### Map Unit Composition

\*\*Gschwend--50 percent

\*\*Frenchman--30 percent

Minor components: 20 percent

---

#### Major Component Description

\*Gschwend and similar soils

Slope: 0 to 9 percent

Aspect: North to north aspects

Landform: Stream terrace

Parent material: Alluvium derived from sandstone

Typical vegetation: None assigned

#### Selected Properties and Qualities of Gschwend

Surface area covered by coarse fragments: None noted.

Depth to restrictive feature: None noted

Slowest permeability class: Moderate

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 7.3 inches (Moderate)

#### Selected Hydrologic Properties of Gschwend

Present annual flooding: None

Present annual ponding: None

Surface runoff: Medium

Current water table: None noted.

Natural drainage class: Well drained

Hydrologic Soil Group: B

#### California Land Use Interpretive Groups

Land capability nonirrigated: 2e

Ecological site: Not Assigned

#### Typical Profile

\*\*0 to 12 in (0 to 30 cm); loam

\*\*12 to 19 in (30 to 48 cm); stratified sandy loam to loam

\*\*19 to 35 in (48 to 89 cm); stratified sandy loam to sandy clay loam

\*\*35 to 61 in (89 to 155 cm); stratified extremely gravelly loamy sand to gravelly sandy clay loam

\*Frenchman and similar soils  
Slope: 0 to 9 percent  
Aspect: North to north aspects  
Landform: Stream terrace  
Parent material: Alluvium derived from sandstone  
Typical vegetation: None assigned

#### Selected Properties and Qualities of Frenchman

Surface area covered by coarse fragments: None noted.  
Depth to restrictive feature: None noted  
Slowest permeability class: Moderate  
Slowest rate of saturated hydraulic conductivity: Moderately high  
Available water capacity to 60 inches: About 3.5 inches (Low)

#### Selected Hydrologic Properties of Frenchman

Present annual flooding: None  
Present annual ponding: None  
Surface runoff: Medium  
Current water table: None noted.  
Natural drainage class: Well drained  
Hydrologic Soil Group: B

California Land Use Interpretive Groups  
Land capability nonirrigated: 4s  
Ecological site: Not Assigned

#### Typical Profile

\*\*0 to 10 in (0 to 25 cm); very gravelly sandy loam  
\*\*10 to 30 in (25 to 76 cm); stratified very gravelly sandy loam to very gravelly sandy clay loam  
\*\*30 to 62 in (76 to 157 cm); stratified very gravelly sand to extremely cobbly sandy loam

---

#### Minor Components

\*\*\*\*Unnamed, Steeper Slopes and similar soils  
Composition: About 10 percent  
Slope: ---  
Landform: None assigned  
Ecological site: Not Assigned

\*\*\*\*Riverwash and similar soils  
Composition: About 5 percent  
Slope: ---  
Landform: Channel  
Ecological site: Not Assigned

\*\*\*\*Unnamed and similar soils  
Composition: About 5 percent  
Slope: ---

Landform: Depression  
Ecological site: Not Assigned

\*\*\*187--Pepperwood-Shivelyflat complex, 0 to 2 percent slopes

#### Map Unit Setting

General location: Flood plains along the Eel, Van Duzen, and Mattole rivers and their tributaries.

Major uses: Pasture, hay, with small areas used for orchards, vinyards, and non-irrigated truck crops.

MLRA: 4B - Coastal Redwood Belt

Map unit landscape: River valley

Landscape setting: Flood-plain steps in mountain river valleys

Elevation: 55 to 555 feet (18 to 170 meters)

Mean annual precipitation: 40 to 98 inches (1015 to 2500 millimeters)

Mean annual air temperature: 54 to 57 degrees F. (12 to 14 degrees C.)

Frost-free period: 280 to 350 days

#### Map Unit Composition

\*\*Pepperwood--60 percent

\*\*Shivelyflat--30 percent

Minor components: 6 percent

DRAFT

---

#### Major Component Description

\*Pepperwood and similar soils

Slope: 0 to 2 percent

Aspect: None noted

Landform: Flood-plain step

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: Uncultivated vegetation includes wild oat, soft chess, ripgut brome, medusahead, dogtail grass, and various forbs. These soils once supported redwood.

#### Selected Properties and Qualities of Pepperwood

Surface area covered by coarse fragments: 0 to 2 percent fine subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Moderate

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 10.3 inches (Very high)

#### Selected Hydrologic Properties of Pepperwood

Present annual flooding: Rare

Present annual ponding: Frequent

Surface runoff: High

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic Soil Group: C

DRAFT

#### California Land Use Interpretive Groups

Land capability nonirrigated: 2c-2

Ecological site: Not Assigned

#### Typical Profile



\*\*Ap--0 to 8 in (0 to 20 cm); fine sandy loam  
\*\*C1--8 to 16 in (20 to 41 cm); fine sandy loam  
\*\*C2--16 to 28 in (41 to 70 cm); very fine sandy loam  
\*\*C3--28 to 31 in (70 to 79 cm); very fine sandy loam  
\*\*Ab1--31 to 50 in (79 to 128 cm); loam  
\*\*Ab2--50 to 55 in (128 to 140 cm); silt loam  
\*\*C4--55 to 79 in (140 to 200 cm); loam

\*Shivelyflat and similar soils

Slope: 0 to 2 percent

Aspect: None noted

Landform: Flood-plain step

Parent material: Alluvium derived from mixed

Typical vegetation: Uncultivated vegetation includes wild oat, soft chess, ripgut brome, medusahead, dogtail grass, pennyroyal, and various other forbs. These soils once supported redwood.

Selected Properties and Qualities of Shivelyflat

Surface area covered by coarse fragments: 0 to 2 percent fine subrounded gravel  
Depth to restrictive feature: None noted  
Slowest permeability class: Moderate  
Slowest rate of saturated hydraulic conductivity: Moderately high  
Available water capacity to 60 inches: About 12.2 inches (Very high)

Selected Hydrologic Properties of Shivelyflat

Present annual flooding: Rare  
Present annual ponding: Frequent  
Surface runoff: Very high  
Current water table: Present  
Natural drainage class: Somewhat poorly drained  
Hydrologic Soil Group: B/D

California Land Use Interpretive Groups

Land capability nonirrigated: 2c-2

Ecological site: Not Assigned

Typical Profile

\*\*Ap--0 to 9 in (0 to 22 cm); silt loam  
\*\*A1--9 to 22 in (22 to 55 cm); silt loam  
\*\*A2--22 to 28 in (55 to 70 cm); silt loam  
\*\*C1--28 to 47 in (70 to 120 cm); very fine sandy loam  
\*\*C2--47 to 63 in (120 to 160 cm); very fine sandy loam  
\*\*C3--63 to 71 in (160 to 180 cm); silt loam

---

Minor Components

\*\*\*\*Cottoneva and similar soils

Composition: About 4 percent

Slope: 0 to 2 percent

Landform: Flood-plain step

Ecological site: Not Assigned

\*\*\*\*Xeropsamments and similar soils

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Composition: About 2 percent  
Slope: 0 to 2 percent  
Landform: Natural levee  
Ecological site: Not Assigned

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\*\*\*655--Yorknorth-Witherell complex, 15 to 30 percent slopes

#### Map Unit Setting

General location: Mountain slopes of the Northern Coast Range of California near Garberville

Major uses: Livestock grazing, watershed, and wildlife habitat.

MLRA: 5 - Siskiyou-Trinity Area

Map unit landscape: Mountains

Landscape setting: Mountain grassland slopes dominated by earthflows

Elevation: 325 to 3280 feet (100 to 1000 meters)

Mean annual precipitation: 49 to 120 inches (1250 to 3050 millimeters)

Mean annual air temperature: 55 to 59 degrees F. (13 to 15 degrees C.)

Frost-free period: 240 to 280 days

#### Map Unit Composition

\*\*Yorknorth--70 percent

\*\*Witherell--15 percent

Minor components: 15 percent

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#### Major Component Description

\*Yorknorth and similar soils

Slope: 15 to 30 percent

Aspect: None noted

Landform: Mountain slope

Parent material: Colluvium derived from sandstone and/or earthflow deposits derived from schist

Typical vegetation: oats, perennial rye, dogtail, medusa head, soft chess, ripgut brome, smooth brome

#### Selected Properties and Qualities of Yorknorth

Surface area covered by coarse fragments: 0 to 10 percent medium subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Slow

Slowest rate of saturated hydraulic conductivity: Moderately low

Available water capacity to 60 inches: About 10.3 inches (Very high)

#### Selected Hydrologic Properties of Yorknorth

Present annual flooding: None

Present annual ponding: None

Surface runoff: Very high

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic Soil Group: D

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California Land Use Interpretive Groups

Land capability nonirrigated: 4e

Ecological site: Not Assigned

#### Typical Profile

\*\*A--0 to 3 in (0 to 7 cm); silt loam  
\*\*BA--3 to 12 in (7 to 31 cm); silty clay loam  
\*\*Bt1--12 to 20 in (31 to 51 cm); silty clay  
\*\*Bt2--20 to 44 in (51 to 112 cm); silty clay loam  
\*\*C1--44 to 63 in (112 to 160 cm); clay loam  
\*\*C2--63 to 75 in (160 to 190 cm); gravelly loam

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**\*Witherell and similar soils**

Slope: 15 to 30 percent

Aspect: None noted

Landform: Mountain

Parent material: Residuum weathered from sandstone

Typical vegetation: oats, perennial rye, dogtail, medusa head, soft chess, ripgut brome, smooth brome

**Selected Properties and Qualities of Witherell**

Surface area covered by coarse fragments: 0 to 15 percent subrounded ERROR-check if shape null.

Depth to restrictive feature: None noted

Slowest permeability class: Moderately slow

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 2.4 inches (Very low)

**Selected Hydrologic Properties of Witherell**

Present annual flooding: None

Present annual ponding: None

Surface runoff: High

Current water table: None noted.

Natural drainage class: Well drained

Hydrologic Soil Group: C

**California Land Use Interpretive Groups**

Land capability nonirrigated: 7e

Ecological site: Not Assigned

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**Typical Profile**

\*\*A--0 to 3 in (0 to 8 cm); loam

\*\*Bw1--3 to 10 in (8 to 25 cm); loam

\*\*Bw2--10 to 14 in (25 to 35 cm); loam

\*\*C--14 to 79 in (35 to 200 cm); gravel

---

**Minor Components**

**\*\*\*\*Briceland and similar soils**

Composition: About 10 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Ecological site: Not Assigned

**\*\*\*\*Tankridge and similar soils**

Composition: About 3 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Ridge

Ecological site: Not Assigned

\*\*\*\*Dryfield and similar soils

Composition: About 2 percent

Slope: 15 to 30 percent

Landform: Linear positions on mountain slope

Convex positions on ridge

Ecological site: Not Assigned

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\*\*\*151--Parkland-Garberville complex, 2 to 5 percent slopes

Map Unit Setting

General location: Areas along the Eel and Mattole Rivers and their tributaries

Major uses: Pasture, hay, truck crops, and orchards

MLRA: 4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area, Siskiyou-Trinity Area, Siskiyou-Trinity Area

4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area, Siskiyou-Trinity Area, Siskiyou-Trinity Area

4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area, Siskiyou-Trinity Area, Siskiyou-Trinity Area

4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area, Siskiyou-Trinity Area, Siskiyou-Trinity Area

Map unit landscape: River valley

Landscape setting: River valleys

Elevation: 110 to 455 feet (35 to 140 meters)

Mean annual precipitation: 49 to 100 inches (1250 to 2550 millimeters)

Mean annual air temperature: 55 to 59 degrees F. (13 to 15 degrees C.)

Frost-free period: 280 to 300 days

Map Unit Composition

\*\*Parkland--45 percent

\*\*Garberville--40 percent

Minor components: 15 percent

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Major Component Description

\*Parkland and similar soils

Slope: 2 to 5 percent

Aspect: None noted

Landform: Alluvial fan  
Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses, pennyroyal, and other forbs

Selected Properties and Qualities of Parkland

Surface area covered by coarse fragments: 0 to 5 percent coarse subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Slow

Slowest rate of saturated hydraulic conductivity: Moderately low

Available water capacity to 60 inches: About 10.7 inches (Very high)

Selected Hydrologic Properties of Parkland

Present annual flooding: None

Present annual ponding: None

Surface runoff: High

Current water table: Present

Natural drainage class: Moderately well drained

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Hydrologic Soil Group: C

California Land Use Interpretive Groups  
Land capability nonirrigated: 2e-1  
Ecological site: Not Assigned

Typical Profile

\*\*Ap--0 to 4 in (0 to 10 cm); loam  
\*\*Bt1--4 to 9 in (10 to 22 cm); silt loam  
\*\*Bt2--9 to 17 in (22 to 43 cm); clay loam  
\*\*Bt3--17 to 28 in (43 to 70 cm); silty clay loam  
\*\*Bt4--28 to 46 in (70 to 117 cm); silty clay loam  
\*\*2Bt--46 to 71 in (117 to 180 cm); clay

\*Garberville and similar soils

Slope: 2 to 5 percent

Aspect: None noted

Landform: Alluvial fan

Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses and forbs.

Selected Properties and Qualities of Garberville

Surface area covered by coarse fragments: 0 to 5 percent coarse subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Moderately slow

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 9.3 inches (High)

Selected Hydrologic Properties of Garberville

Present annual flooding: None

Present annual ponding: None

Surface runoff: Low

Current water table: None noted.

Natural drainage class: Well drained

Hydrologic Soil Group: C

California Land Use Interpretive Groups

Land capability nonirrigated: 2e-1

Ecological site: Not Assigned

Typical Profile

\*\*Ap--0 to 12 in (0 to 31 cm); gravelly loam  
\*\*A--12 to 19 in (31 to 47 cm); loam  
\*\*Bt1--19 to 28 in (47 to 70 cm); gravelly clay loam  
\*\*Bt2--28 to 39 in (70 to 99 cm); gravelly clay loam  
\*\*Bt3--39 to 50 in (99 to 127 cm); gravelly sandy clay loam  
\*\*BC--50 to 59 in (127 to 149 cm); gravelly sandy loam  
\*\*C--59 to 79 in (149 to 200 cm); very gravelly sandy loam

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Minor Components

\*\*\*\*Grannycreek and similar soils

Composition: About 5 percent

Slope: 2 to 5 percent

Landform: Depressional areas on alluvial fan  
Depressional areas on terrace

Ecological site: Not Assigned

\*\*\*\*Johnnyjack and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Landform: Linear to slightly concave positions on terrace

Ecological site: Not Assigned

\*\*\*\*Conklin and similar soils

Composition: About 3 percent

Slope: 0 to 2 percent

Landform: Linear to slightly concave or convex positions on terrace

Ecological site: Not Assigned

\*\*\*\*Benbow and similar soils

Composition: About 1 percent

Slope: 0 to 5 percent

Landform: Uplifted terrace

Ecological site: Not Assigned

DRAFT

\*\*\*\*L-Sk Typic Haploxerept and similar soils

Composition: About 1 percent

Slope: 2 to 30 percent

Landform: Edges of terrace

Ecological site: Not Assigned



\*\*\*159--Grannycreek-Parkland complex, 2 to 5 percent slopes

#### Map Unit Setting

General location: Areas along the Mattole River and its tributaries

Major uses: Pasture and hay.

MLRA: 4B - Coastal Redwood Belt

Map unit landscape: River valley

Landscape setting: Alluvial fans and terraces at the base of mountain slopes with high clay soils.

Elevation: 95 to 490 feet (30 to 150 meters)

Mean annual precipitation: 49 to 100 inches (1250 to 2550 millimeters)

Mean annual air temperature: 54 to 59 degrees F. (12 to 15 degrees C.)

Frost-free period: 280 to 300 days

#### Map Unit Composition

\*\*Grannycreek--50 percent

\*\*Parkland--35 percent

Minor components: 16 percent

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#### Major Component Description

\*Grannycreek and similar soils

Slope: 2 to 5 percent

Aspect: None noted

Landform: Alluvial fan

Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses, pennyroyal and other forbs, and rushes

#### Selected Properties and Qualities of Grannycreek

Surface area covered by coarse fragments: 0 to 2 percent medium subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Slow

Slowest rate of saturated hydraulic conductivity: Moderately low

Available water capacity to 60 inches: About 9.8 inches (High)

#### Selected Hydrologic Properties of Grannycreek

Present annual flooding: None

Present annual ponding: Frequent

Surface runoff: Very high

Current water table: Present

Natural drainage class: Poorly drained

Hydrologic Soil Group: D

#### California Land Use Interpretive Groups

Land capability nonirrigated: 3w

Ecological site: Not Assigned

Typical Profile

\*\*A--0 to 4 in (0 to 10 cm); loam  
\*\*Btg1--4 to 15 in (10 to 38 cm); clay loam  
\*\*Btg2--15 to 30 in (38 to 75 cm); clay  
\*\*Btg3--30 to 43 in (75 to 110 cm); clay  
\*\*Btg4--43 to 53 in (110 to 135 cm); clay  
\*\*Btg5--53 to 67 in (135 to 170 cm); clay

\*Parkland and similar soils

Slope: 2 to 5 percent

Aspect: None noted

Landform: Alluvial fan  
Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium  
derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses, pennyroyal, and other  
forbs

Selected Properties and Qualities of Parkland

Surface area covered by coarse fragments: 0 to 5 percent medium subrounded  
gravel

Depth to restrictive feature: None noted

Slowest permeability class: Slow

Slowest rate of saturated hydraulic conductivity: Moderately low

Available water capacity to 60 inches: About 10.7 inches (Very high)

Selected Hydrologic Properties of Parkland

Present annual flooding: None

Present annual ponding: None

Surface runoff: High

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic Soil Group: C

California Land Use Interpretive Groups

Land capability nonirrigated: 2e

Ecological site: Not Assigned

Typical Profile

\*\*Ap--0 to 4 in (0 to 10 cm); loam  
\*\*Bt1--4 to 9 in (10 to 22 cm); silt loam  
\*\*Bt2--9 to 17 in (22 to 43 cm); clay loam  
\*\*Bt3--17 to 28 in (43 to 70 cm); silty clay loam  
\*\*Bt4--28 to 46 in (70 to 117 cm); silty clay loam  
\*\*2Bt--46 to 71 in (117 to 180 cm); clay

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Minor Components

\*\*\*Garberville and similar soils

Composition: About 10 percent

Slope: 2 to 5 percent

Landform: Alluvial fan  
Terrace

\*\*\*153--Conklin, 0 to 2 percent slopes

#### Map Unit Setting

General location: Areas along the Mattole and Eel Rivers and their tributaries.

Major uses: Pasture, hay, truck crops, and orchards. Minor areas are wooded.

MLRA: 4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area

4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area

Map unit landscape: River valley

Landscape setting: River valley

Elevation: 55 to 325 feet (18 to 100 meters)

Mean annual precipitation: 49 to 98 inches (1250 to 2500 millimeters)

Mean annual air temperature: 55 to 59 degrees F. (13 to 15 degrees C.)

Frost-free period: 280 to 300 days

#### Map Unit Composition

\*\*Conklin--85 percent

Minor components: 15 percent

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#### Major Component Description

\*Conklin and similar soils

Slope: 0 to 2 percent

Aspect: None noted

Landform: Linear to slightly concave or convex positions on terrace

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: Annual and perennial grasses and forbs

#### Selected Properties and Qualities of Conklin

Surface area covered by coarse fragments: 0 to 5 percent coarse subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Moderate

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 12.1 inches (Very high)

#### Selected Hydrologic Properties of Conklin

Present annual flooding: None

Present annual ponding: None

Surface runoff: Low

Current water table: None noted.

Natural drainage class: Well drained

Hydrologic Soil Group: B

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#### California Land Use Interpretive Groups

Land capability nonirrigated: 2c

Ecological site: Not Assigned

#### Typical Profile

\*\*Ap--0 to 7 in (0 to 18 cm); loam

\*\*A--7 to 20 in (18 to 52 cm); sandy clay loam

\*\*Bw1--20 to 31 in (52 to 78 cm); sandy clay loam

\*\*Bw2--31 to 49 in (78 to 125 cm); loam  
\*\*Bw3--49 to 63 in (125 to 160 cm); sandy clay loam  
\*\*2C--63 to 79 in (160 to 200 cm); extremely gravelly loamy coarse sand

---

#### Minor Components

\*\*\*\*Johnnyjack and similar soils  
Composition: About 10 percent  
Slope: 0 to 2 percent  
Landform: Linear to slightly concave positions on terrace  
Ecological site: Not Assigned

\*\*\*\*Parkland and similar soils  
Composition: About 3 percent  
Slope: 0 to 2 percent  
Landform: Concave areas on alluvial fan  
          Concave areas on terrace  
Ecological site: Not Assigned

\*\*\*\*Loamy-Skeletal Cumulic Ultic Haploxerolls and similar soils  
Composition: About 2 percent  
Slope: 2 to 50 percent  
Landform: Edges of terrace  
Ecological site: Not Assigned

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\*\*\*144--Garberville-Parkland complex, 0 to 2 percent slopes

#### Map Unit Setting

General location: Areas along the Eel River and its tributaries in the area of Garberville.

Major uses: Pasture, hay, and truck crops

MLRA: 4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area

4B,5 - Coastal Redwood Belt, Siskiyou-Trinity Area

Map unit landscape: River valley

Landscape setting: River valleys

Elevation: 110 to 455 feet (35 to 140 meters)

Mean annual precipitation: 49 to 100 inches (1250 to 2550 millimeters)

Mean annual air temperature: 55 to 59 degrees F. (13 to 15 degrees C.)

Frost-free period: 280 to 300 days

#### Map Unit Composition

\*\*Garberville--50 percent

\*\*Parkland--35 percent

Minor components: 15 percent

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#### Major Component Description

\*Garberville and similar soils

Slope: 0 to 2 percent

Aspect: None noted

Landform: Alluvial fan

Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses and forbs.

#### Selected Properties and Qualities of Garberville

Surface area covered by coarse fragments: 0 to 5 percent coarse subrounded gravel

Depth to restrictive feature: None noted

Slowest permeability class: Moderately slow

Slowest rate of saturated hydraulic conductivity: Moderately high

Available water capacity to 60 inches: About 10.0 inches (Very high)

#### Selected Hydrologic Properties of Garberville

Present annual flooding: None

Present annual ponding: None

Surface runoff: Low

Current water table: None noted.

Natural drainage class: Well drained

Hydrologic Soil Group: C

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California Land Use Interpretive Groups

Land capability nonirrigated: 2c

Ecological site: Not Assigned

ypical Profile

\*Ap--0 to 2 in (0 to 5 cm); loam  
\*Bt1--2 to 12 in (5 to 31 cm); loam  
\*Bt2--12 to 18 in (31 to 46 cm); silty clay loam  
\*Bt3--18 to 35 in (46 to 88 cm); clay loam  
\*Bt4--35 to 51 in (88 to 129 cm); sandy clay loam  
\*Bt5--51 to 71 in (129 to 180 cm); sandy clay loam

Parkland and similar soils

Slope: 0 to 2 percent

Aspect: None noted

Landform: Alluvial fan

Terrace

Parent material: Alluvium derived from sedimentary rock and/or slope alluvium  
derived from sedimentary rock

Typical vegetation: Annual and perennial pasture grasses, pennyroyal, and other  
forbs

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Selected Properties and Qualities of Parkland

Surface area covered by coarse fragments: 0 to 5 percent coarse subrounded  
gravel

Depth to restrictive feature: None noted

Slowest permeability class: Slow

Slowest rate of saturated hydraulic conductivity: Moderately low

Available water capacity to 60 inches: About 11.1 inches (Very high)

Selected Hydrologic Properties of Parkland

Present annual flooding: None

Present annual ponding: None

Surface runoff: High

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic Soil Group: C

California Land Use Interpretive Groups

Land capability nonirrigated: 2c

Ecological site: Not Assigned

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Typical Profile

\*\*Ap--0 to 8 in (0 to 20 cm); loam  
\*\*Bt1--8 to 20 in (20 to 50 cm); clay loam  
\*\*Bt2--20 to 28 in (50 to 70 cm); clay loam  
\*\*Bt3--28 to 35 in (70 to 89 cm); silty clay loam  
\*\*Bt4--35 to 44 in (89 to 113 cm); clay loam  
\*\*Bct--44 to 71 in (113 to 180 cm); clay loam

---

Minor Components

\*\*\*Grannycreek and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Landform: Depressional areas on alluvial fan

Depressional areas on terrace

Ecological site: Not Assigned

\*\*\*\*Johnnyjack and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Landform: Linear to slightly concave positions on terrace

Ecological site: Not Assigned

\*\*\*\*Conklin and similar soils

Composition: About 3 percent

Slope: 0 to 2 percent

Landform: Linear to slightly concave or convex positions on terrace

Ecological site: Not Assigned

\*\*\*\*Benbow and similar soils

Composition: About 2 percent

Slope: 0 to 5 percent

Landform: Uplifted terrace

Ecological site: Not Assigned

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100--Riverwash-Fluents complex, 0 to 2 percent slopes

#### Map Unit Setting

Landscape: River valleys  
Elevation: 0 to 660 feet  
Mean annual precipitation: 35 to 80 inches  
Mean annual air temperature: 50 to 59 degrees F  
Frost-free period: 275 to 330 days

#### Map Unit Composition

Riverwash: 50 percent  
Fluents and similar soils: 30  
Minor components: 20 percent

#### Description of Riverwash

##### Setting

Landform: Channels  
Landform position (two-dimensional): Toeslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Concave  
Across-slope shape: Linear  
Parent material: Alluvium derived from mixed sources

##### Properties and qualities

Slope: 0 to 2 percent  
Drainage class: Excessively drained  
Capacity of the most limiting layer to transmit water (Ksat): High or very high (6.000 to 59.982 in/hr)  
Depth to water table: About 0 to 39 inches  
Frequency of flooding: Frequent  
Frequency of ponding: None  
Available water capacity: Very low (about 1.1 inches)

##### Interpretive Groups

Land capability (non irrigated): 8

##### Typical Profile

C1 : 0 to 6 inches: extremely gravelly sand  
C2 : 6 to 12 inches: extremely gravelly loamy sand  
C3 : 12 to 18 inches: extremely gravelly coarse sand  
C4 : 18 to 31 inches: extremely gravelly sand  
C5 : 31 to 55 inches: extremely gravelly sand  
C6 : 55 to 63 inches: very gravelly sand

#### Description of Fluents

##### Setting

Landform: Flood-plain steps  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear



Parent material: Alluvium derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: None within 60 inches

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.599 to 5.994 in/hr)

Depth to water table: About 39 to 79 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Available water capacity: Very low (about 2.5 inches)

Interpretive Groups

Land capability classification (irrigated): 4s

Land capability (non irrigated): 4s

Typical Profile

A1 : 0 to 6 inches: very fine sandy loam

A2 : 6 to 11 inches: sandy loam

A3 : 11 to 13 inches: gravelly very fine sandy loam

C1 : 13 to 26 inches: very gravelly sandy loam

C2 : 26 to 63 inches: extremely gravelly sandy loam

Minor Components

Water

Percent of map unit: 10 percent

Fluents, occasionally flooded soils

Percent of map unit: 9 percent

Landform: Flood-plain steps

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Rock outcrop

Percent of map unit: 1 percent

451--Burgsblock-Coolyork-Tannin complex, 15 to 30 percent slopes

#### Map Unit Setting

Landscape: Mountains

Elevation: 200 to 4,000 feet

Mean annual precipitation: 49 to 90 inches

Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

#### Map Unit Composition

Burgsblock and similar soils: 35 percent

Coolyork and similar soils: 30

Tannin and similar soils: 20

Minor components: 15 percent

#### Description of Burgsblock

##### Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from sedimentary rock and/or residuum weathered from sedimentary rock

##### Properties and qualities

Slope: 15 to 30 percent

Surface area covered with stones and boulders: 0.0 percent

Depth to restrictive feature: None within 60 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.200 to 1.999 in/hr)

Depth to water table: More than 6 feet

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 7.1 inches)

##### Interpretive Groups

Land capability (non irrigated): 4e

##### Typical Profile

Oi : 0 to 2 inches: slightly decomposed plant material

A1 : 2 to 11 inches: gravelly loam

A2 : 11 to 16 inches: gravelly loam

Bt1 : 16 to 41 inches: very gravelly loam

Bt2 : 41 to 51 inches: very gravelly loam

Bt3 : 51 to 71 inches: very gravelly loam

#### Description of Coolyork

##### Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex  
Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from schist

#### Properties and qualities

Slope: 15 to 30 percent  
Surface area covered with stones and boulders: 0.0 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Moderately well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low or moderately high (0.060 to 0.599 in/hr)  
Depth to water table: About 20 to 39 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate maximum: 1 percent  
Available water capacity: Very high (about 12.2 inches)

#### Interpretive Groups

Land capability (non irrigated): 4e

#### Typical Profile

A : 0 to 4 inches: loam  
BA1 : 4 to 14 inches: clay loam  
Bt1 : 14 to 23 inches: clay loam  
Bt2 : 23 to 43 inches: clay loam  
C1 : 43 to 55 inches: loam  
C2 : 55 to 71 inches: gravelly silt loam

#### Description of Tannin

##### Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex  
Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone; colluvium derived from mudstone and/or colluvium derived from sandstone

#### Properties and qualities

Slope: 15 to 30 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.200 to 1.999 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Very high (about 13.7 inches)

## Interpretive Groups

Land capability (non irrigated): 4e

### Typical Profile

Oi : 0 to 1 inches: slightly decomposed plant material

A : 1 to 3 inches: loam

Bt1 : 3 to 14 inches: loam

Bt2 : 14 to 26 inches: loam

Bt3 : 26 to 49 inches: loam

Bt4 : 49 to 62 inches: sandy clay loam

Bct : 62 to 79 inches: sandy clay loam

### Minor Components

#### Rockyglen soils

Percent of map unit: 5 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope, shoulder

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, concave, convex

#### Wohly soils

Percent of map unit: 4 percent

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Mountaintop

Down-slope shape: Convex

Across-slope shape: Convex

#### Chalkmountain soils

Percent of map unit: 3 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, convex, concave

#### Yorknorth soils

Percent of map unit: 2 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, linear

Across-slope shape: Linear, concave

#### Rock outcrop

Percent of map unit: 1 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Convex

Across-slope shape: Concave

452--Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes

#### Map Unit Setting

Landscape: Mountains

Elevation: 200 to 3,280 feet

Mean annual precipitation: 49 to 90 inches

Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

#### Map Unit Composition

Burgsblock and similar soils: 35 percent

Coolyork and similar soils: 30

Tannin and similar soils: 20

Minor components: 15 percent

#### Description of Burgsblock

##### Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

##### Properties and qualities

Slope: 30 to 50 percent

Surface area covered with stones and boulders: 0.0 percent

Depth to restrictive feature: None within 60 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.200 to 1.999 in/hr)

Depth to water table: More than 6 feet

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 9.0 inches)

##### Interpretive Groups

Land capability (non irrigated): 6e

##### Typical Profile

Oi : 0 to 1 inches: slightly decomposed plant material

A : 1 to 4 inches: gravelly loam

Bt1 : 4 to 14 inches: very gravelly clay loam

Bt2 : 14 to 51 inches: very gravelly clay loam

Bt3 : 51 to 79 inches: very gravelly clay loam

#### Description of Coolyork

##### Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex  
Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from schist

#### Properties and qualities

Slope: 30 to 50 percent  
Surface area covered with stones and boulders: 0.0 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Moderately well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low or moderately high (0.060 to 0.599 in/hr)  
Depth to water table: About 20 to 39 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate maximum: 1 percent  
Available water capacity: High (about 10.6 inches)

#### Interpretive Groups

Land capability (non irrigated): 6e

#### Typical Profile

A1 : 0 to 8 inches: loam  
A2 : 8 to 14 inches: loam  
Bt1 : 14 to 23 inches: clay loam  
Bt2 : 23 to 41 inches: clay  
Bt3 : 41 to 57 inches: clay  
Bt4 : 57 to 63 inches: clay

#### Description of Tannin

##### Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex  
Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

#### Properties and qualities

Slope: 30 to 50 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.200 to 1.999 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Very high (about 13.3 inches)

#### Interpretive Groups

Land capability (non irrigated): 6e

#### Typical Profile

Oi : 0 to 1 inches: slightly decomposed plant material

A : 1 to 7 inches: loam

ABt : 7 to 13 inches: loam

Bt1 : 13 to 26 inches: sandy clay loam

Bt2 : 26 to 38 inches: sandy clay loam

Bt3 : 38 to 79 inches: sandy clay loam

#### Minor Components

##### Rockyglen soils

Percent of map unit: 5 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope, shoulder

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, concave, convex

##### Wohly soils

Percent of map unit: 4 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Linear, concave, convex

Across-slope shape: Concave, linear, convex

##### Chalkmountain soils

Percent of map unit: 3 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear, convex, concave

##### Yorknorth soils

Percent of map unit: 2 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, linear

Across-slope shape: Linear, concave

##### Rock outcrop

Percent of map unit: 1 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Convex

Across-slope shape: Concave

574--Sproulish-Canoecreek-Redwohly complex, 30 to 50 percent slopes, dry

#### Map Unit Setting

Landscape: Mountains

Elevation: 100 to 3,280 feet

Mean annual precipitation: 59 to 100 inches

Mean annual air temperature: 48 to 57 degrees F

Frost-free period: 240 to 300 days

#### Map Unit Composition

Sproulish and similar soils: 50 percent

Canoecreek and similar soils: 20

Redwohly and similar soils: 15

Minor components: 15 percent

#### Description of Sproulish

##### Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear

Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from mudstone and/or residuum weathered from sandstone

##### Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: None within 60 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low or high (0.060 to 1.999 in/hr)

Depth to water table: More than 6 feet

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very high (about 13.2 inches)

##### Interpretive Groups

Land capability (non irrigated): 6e

##### Typical Profile

Oi : 0 to 2 inches: slightly decomposed plant material

A : 2 to 6 inches: gravelly silt loam

Bt1 : 6 to 13 inches: paragravelly clay loam

Bt2 : 13 to 21 inches: gravelly loam

Bt3 : 21 to 47 inches: clay loam

Bt4 : 47 to 63 inches: paragravelly silty clay loam

Bt5 : 63 to 79 inches: paragravelly silty clay loam

#### Description of Canoecreek

##### Setting



Landform: Mountain slopes  
Landform position (two-dimensional): Shoulder  
Landform position (three-dimensional): Mountainflank  
Down-slope shape: Linear  
Across-slope shape: Convex  
Parent material: Colluvium and residuum derived from sandstone and mudstone

Properties and qualities

Slope: 30 to 50 percent  
Surface area covered with stones and boulders: 1.0 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.599 to 1.999 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Low (about 5.0 inches)

Interpretive Groups

Land capability (non irrigated): 6e

Typical Profile

O<sub>i</sub> : 0 to 1 inches: slightly decomposed plant material  
A : 1 to 9 inches: gravelly loam  
B<sub>w1</sub> : 9 to 15 inches: very cobbly loam  
B<sub>w2</sub> : 15 to 31 inches: extremely cobbly loam  
B<sub>w3</sub> : 31 to 49 inches: very cobbly sandy loam  
C : 49 to 71 inches: extremely stony loamy sand

Description of Redwohly

Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Shoulder, backslope  
Landform position (three-dimensional): Mountainflank  
Down-slope shape: Convex  
Across-slope shape: Convex  
Parent material: Residuum weathered from sandstone and/or residuum weathered from mudstone

Properties and qualities

Slope: 30 to 50 percent  
Depth to restrictive feature: 20 to 39 inches to strongly contrasting textural stratification  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low or moderately high (0.142 to 1.417 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Very low (about 2.9 inches)

## Interpretive Groups

Land capability (non irrigated): 6e

### Typical Profile

Oi : 0 to 1 inches: slightly decomposed plant material

A : 1 to 5 inches: paragravelly loam

Bt1 : 5 to 16 inches: very paragravelly loam

Bt2 : 16 to 33 inches: extremely paragravelly loam

C : 33 to 63 inches: paragravel

### Minor Components

#### Crazycoyote soils

Percent of map unit: 5 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear

#### Canoecreek soils

Percent of map unit: 4 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear

Across-slope shape: Convex

#### Caperidge, warm soils

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Mountaintop

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

#### Kingrange soils

Percent of map unit: 1 percent

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Mountainflank

Down-slope shape: Convex

Across-slope shape: Convex

#### Rock outcrop

Percent of map unit: 1 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, center third

Down-slope shape: Convex

Across-slope shape: Concave

#### Briceland soils

Percent of map unit: 1 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Down-slope shape: Concave, linear

Across-slope shape: Linear, concave

183--Battery, 2 to 15 percent slopes

#### Map Unit Setting

Landscape: Mountains  
Elevation: 160 to 1,380 feet  
Mean annual precipitation: 40 to 85 inches  
Mean annual air temperature: 48 to 54 degrees F  
Frost-free period: 240 to 365 days

#### Map Unit Composition

Battery and similar soils: 90 percent  
Minor components: 10 percent

#### Description of Battery

##### Setting

Landform: Strath terraces  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Alluvium derived from mixed sedimentary sources

##### Properties and qualities

Slope: 2 to 15 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.200 to 0.599 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: High (about 10.7 inches)

##### Interpretive Groups

Land capability classification (irrigated): 3e  
Land capability (non irrigated): 3e

##### Typical Profile

Oi : 0 to 0 inches: slightly decomposed plant material  
A : 0 to 13 inches: silt loam  
Bt1 : 13 to 24 inches: silty clay loam  
Bt2 : 24 to 51 inches: gravelly clay loam  
BCt : 51 to 60 inches: very paragravelly clay loam

##### Minor Components

###### Scoutcamp soils

Percent of map unit: 5 percent  
Landform: Ridges  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountaintop  
Down-slope shape: Linear  
Across-slope shape: Linear

###### Redcrest soils

Percent of map unit: 5 percent  
Landform: Ridges  
Landform position (two-dimensional): Shoulder  
Landform position (three-dimensional): Mountaintop  
Down-slope shape: Convex  
Across-slope shape: Linear

410--Rockyglen-Hollowtree-Rock outcrop complex, 50 to 100 percent slopes

Map Unit Setting

Landscape: Mountains  
Elevation: 330 to 3,280 feet  
Mean annual precipitation: 49 to 90 inches  
Mean annual air temperature: 52 to 55 degrees F  
Frost-free period: 240 to 280 days

Map Unit Composition

Rockyglen and similar soils: 45 percent  
Hollowtree and similar soils: 25  
Rock outcrop: 15  
Minor components: 15 percent

Description of Rockyglen

Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Concave, linear, convex  
Parent material: Colluvium derived from sandstone and/or residuum weathered from mudstone

Properties and qualities

Slope: 50 to 100 percent  
Surface area covered with stones and boulders: 5.0 percent  
Depth to restrictive feature: None within 60 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.599 to 1.999 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Low (about 3.5 inches)

Interpretive Groups

Land capability (non irrigated): 7e

Typical Profile

Oi : 0 to 1 inches: very gravelly slightly decomposed plant material  
A : 1 to 7 inches: extremely gravelly sandy loam  
Bw1 : 7 to 11 inches: extremely gravelly sandy loam  
Bw2 : 11 to 28 inches: extremely gravelly sandy loam  
C1 : 28 to 35 inches: extremely gravelly sandy loam  
C2 : 35 to 41 inches: extremely gravelly sandy loam  
C3 : 41 to 79 inches: extremely gravelly sandy loam

Description of Hollowtree

Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Concave, linear, convex

Properties and qualities

Slope: 50 to 75 percent  
Depth to restrictive feature: 20 to 39 inches to bedrock, lithic  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately low or moderately high (0.142 to 1.417 in/hr)  
Depth to water table: More than 6 feet  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Very low (about 2.8 inches)

Interpretive Groups

Land capability (non irrigated): 7e

Typical Profile

Oi : 0 to 1 inches: slightly decomposed plant material  
A : 1 to 4 inches: gravelly loam  
ABt : 4 to 9 inches: gravelly loam  
Bt : 9 to 19 inches: very gravelly loam  
CBt : 19 to 27 inches: extremely gravelly loam  
R : 27 to 79 inches: bedrock

## Description of Rock outcrop

### Setting

Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex  
Parent material: Residuum weathered from sandstone

### Properties and qualities

Slope: 50 to 75 percent  
Frequency of flooding: None  
Frequency of ponding: None

### Minor Components

#### Burgsblock soils

Percent of map unit: 10 percent  
Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, convex  
Across-slope shape: Linear, convex

#### Coolyork soils

Percent of map unit: 5 percent  
Landform: Mountain slopes  
Landform position (two-dimensional): Backslope  
Landform position (three-dimensional): Mountainflank, center third  
Down-slope shape: Linear, concave, convex  
Across-slope shape: Linear, concave, convex

**APPENDIX C**  
**AIR QUALITY DATA**

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## Southern Humboldt Community Park Humboldt County, Annual

### 1.0 Project Characteristics

#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	405.70	Acre	405.70	17,672,292.00	0

#### 1.2 Other Project Characteristics

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	103
<b>Climate Zone</b>	1			<b>Operational Year</b>	2016
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	370	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2016 rate.

Land Use - Acreage from project description.

Vehicle Trips - Trip rate from project traffic report.

Energy Use - No change.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	370
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	1.59	2.28
tblVehicleTrips	SU_TR	1.59	2.28
tblVehicleTrips	WD_TR	1.59	2.28

## 2.0 Emissions Summary

### 2.2 Overall Operational

#### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	89.4973	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0744	2.7133	10.3818	0.0127	0.8323	0.0314	0.8637	0.2242	0.0289	0.2531	0.0000	1,014.3057	1,014.3057	0.0588	0.0000	1,015.5407
Waste						0.0000	0.0000		0.0000	0.0000	7.0824	0.0000	7.0824	0.4186	0.0000	15.8720
Water						0.0000	0.0000		0.0000	0.0000	0.0000	283.9408	283.9408	0.0223	4.6000e-003	285.8355
<b>Total</b>	<b>90.5716</b>	<b>2.7134</b>	<b>10.3857</b>	<b>0.0127</b>	<b>0.8323</b>	<b>0.0314</b>	<b>0.8637</b>	<b>0.2242</b>	<b>0.0289</b>	<b>0.2531</b>	<b>7.0824</b>	<b>1,298.2537</b>	<b>1,305.3361</b>	<b>0.4996</b>	<b>4.6000e-003</b>	<b>1,317.2559</b>

#### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	89.4973	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0744	2.7133	10.3818	0.0127	0.8323	0.0314	0.8637	0.2242	0.0289	0.2531	0.0000	1,014.3057	1,014.3057	0.0588	0.0000	1,015.5407

Waste						0.0000	0.0000		0.0000	0.0000	7.0824	0.0000	7.0824	0.4186	0.0000	15.8720
Water						0.0000	0.0000		0.0000	0.0000	0.0000	283.9408	283.9408	0.0223	4.6000e-003	285.8355
<b>Total</b>	<b>90.5716</b>	<b>2.7134</b>	<b>10.3857</b>	<b>0.0127</b>	<b>0.8323</b>	<b>0.0314</b>	<b>0.8637</b>	<b>0.2242</b>	<b>0.0289</b>	<b>0.2531</b>	<b>7.0824</b>	<b>1,298.2537</b>	<b>1,305.3361</b>	<b>0.4996</b>	<b>4.6000e-003</b>	<b>1,317.2559</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0744	2.7133	10.3818	0.0127	0.8323	0.0314	0.8637	0.2242	0.0289	0.2531	0.0000	1,014.3057	1,014.3057	0.0588	0.0000	1,015.5407
Unmitigated	1.0744	2.7133	10.3818	0.0127	0.8323	0.0314	0.8637	0.2242	0.0289	0.2531	0.0000	1,014.3057	1,014.3057	0.0588	0.0000	1,015.5407

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	925.00	925.00	925.00	2,281,230	2,281,230
<b>Total</b>	<b>925.00</b>	<b>925.00</b>	<b>925.00</b>	<b>2,281,230</b>	<b>2,281,230</b>

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6



Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	89.4973	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003
Unmitigated	89.4973	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003

### 6.2 Area by SubCategory

#### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					

Architectural Coating	20.4778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	69.0191					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Landscaping	3.7000e-004	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003
<b>Total</b>	<b>89.4973</b>	<b>4.0000e-005</b>	<b>3.8200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>7.2500e-003</b>	<b>7.2500e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.6800e-003</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	20.4778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	69.0191					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.7000e-004	4.0000e-005	3.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2500e-003	7.2500e-003	2.0000e-005	0.0000	7.6800e-003
<b>Total</b>	<b>89.4973</b>	<b>4.0000e-005</b>	<b>3.8200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>7.2500e-003</b>	<b>7.2500e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.6800e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	283.9408	0.0223	4.6000e-003	285.8355
Unmitigated	283.9408	0.0223	4.6000e-003	285.8355

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 483.384	283.9408	0.0223	4.6000e-003	285.8355
<b>Total</b>		<b>283.9408</b>	<b>0.0223</b>	<b>4.6000e-003</b>	<b>285.8355</b>

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 483.384	283.9408	0.0223	4.6000e-003	285.8355
<b>Total</b>		<b>283.9408</b>	<b>0.0223</b>	<b>4.6000e-003</b>	<b>285.8355</b>

## 8.0 Waste Detail

---

### 8.1 Mitigation Measures Waste



Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.0824	0.4186	0.0000	15.8720
Unmitigated	7.0824	0.4186	0.0000	15.8720

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	34.89	7.0824	0.4186	0.0000	15.8720
<b>Total</b>		<b>7.0824</b>	<b>0.4186</b>	<b>0.0000</b>	<b>15.8720</b>

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

City Park	34.89	7.0824	0.4186	0.0000	15.8720
<b>Total</b>		<b>7.0824</b>	<b>0.4186</b>	<b>0.0000</b>	<b>15.8720</b>

## 9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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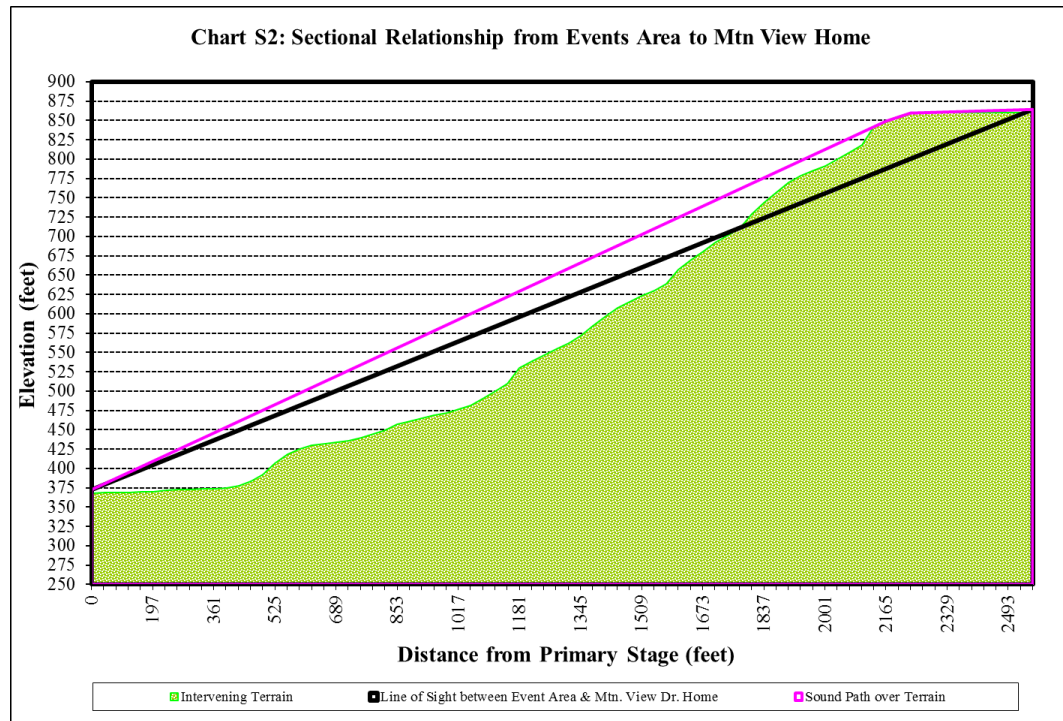
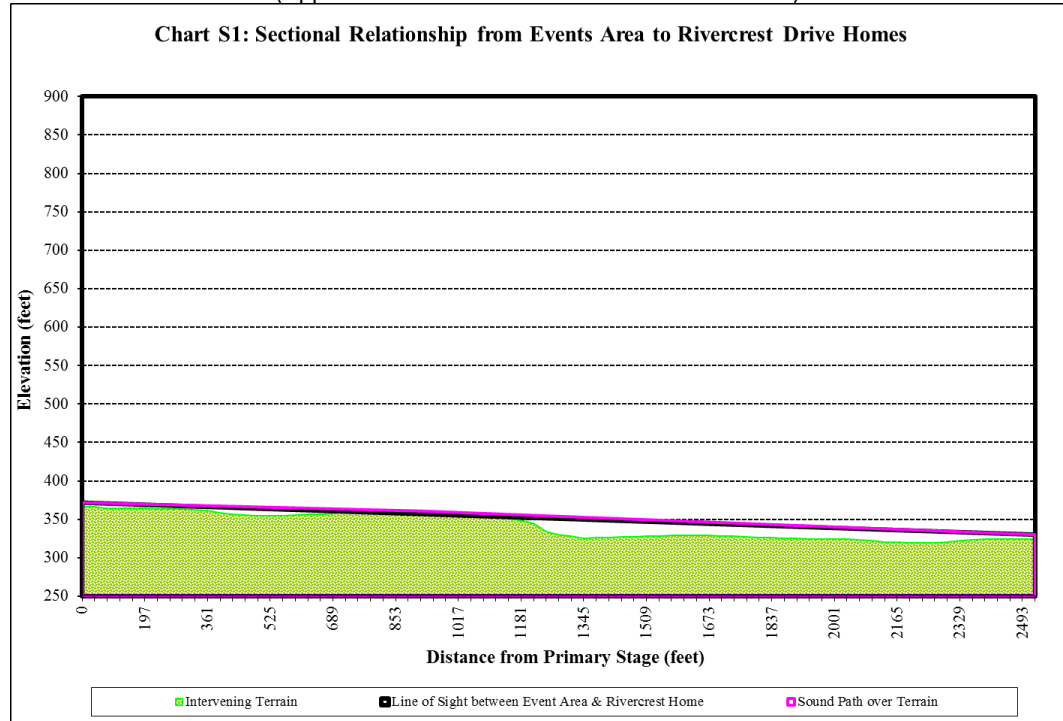
## 10.0 Vegetation

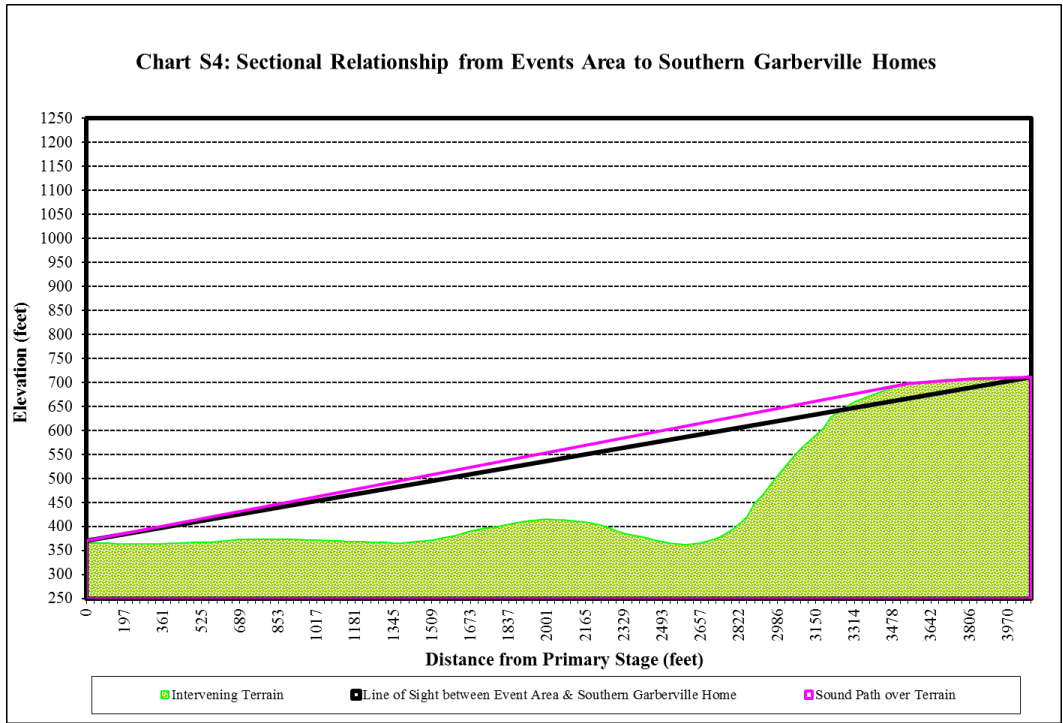
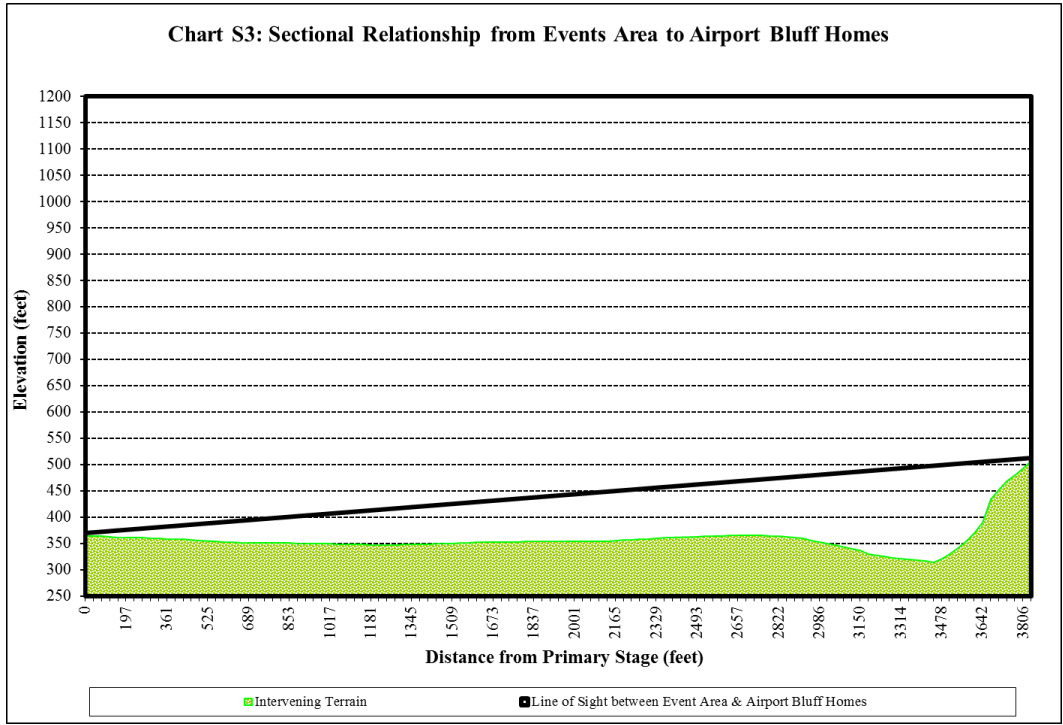
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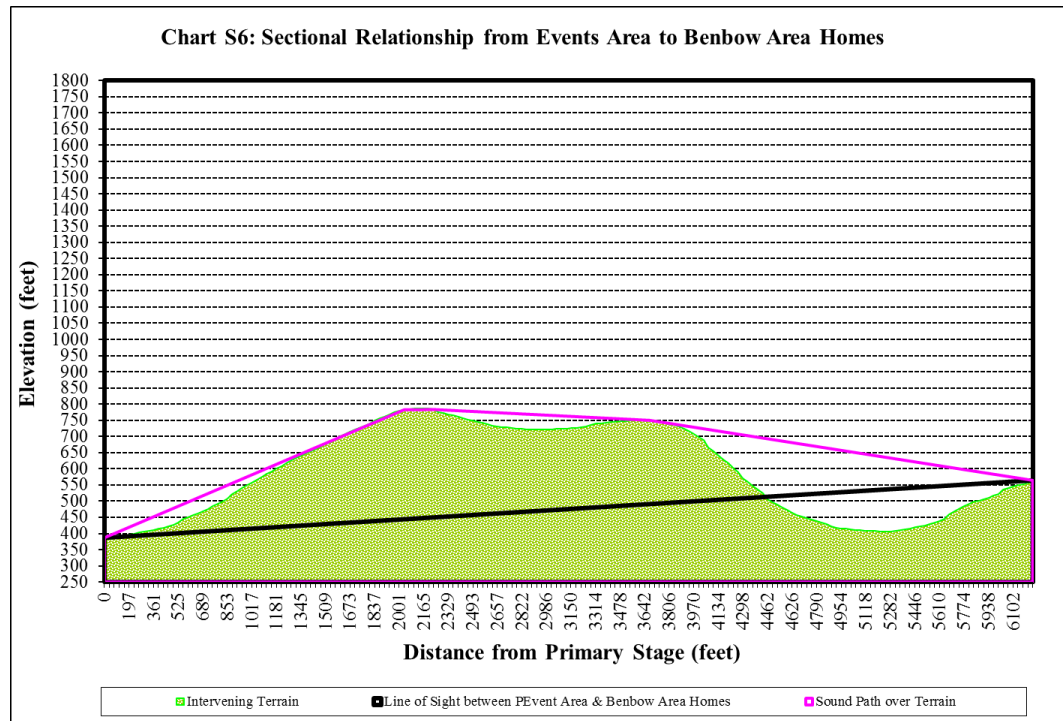
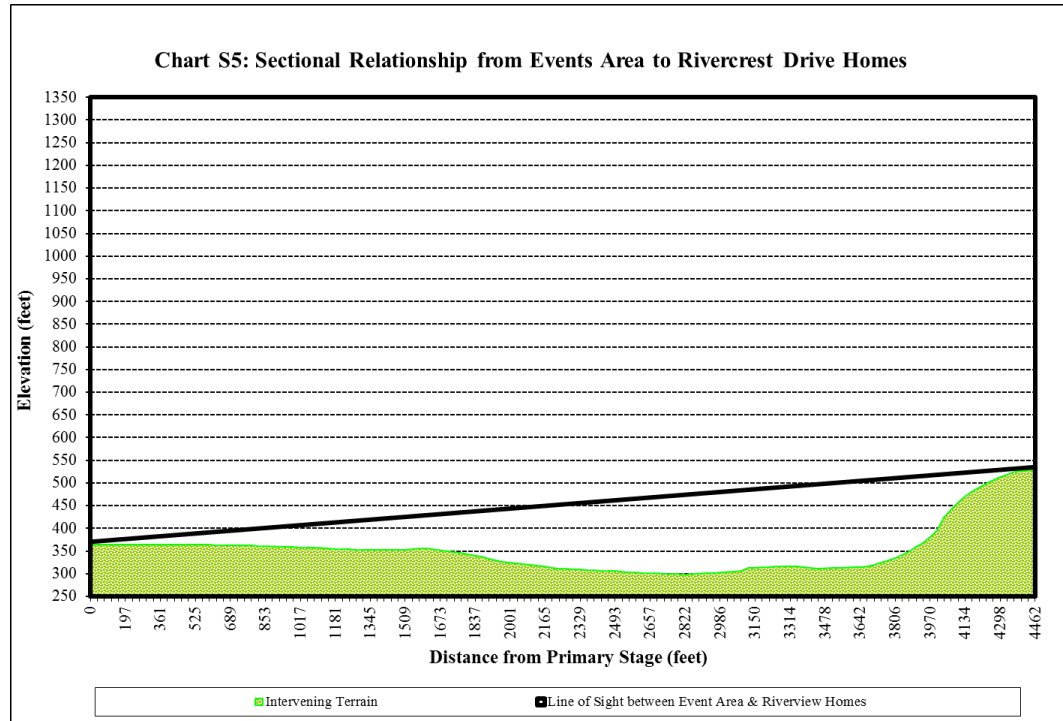
**APPENDIX D  
NOISE DATA**

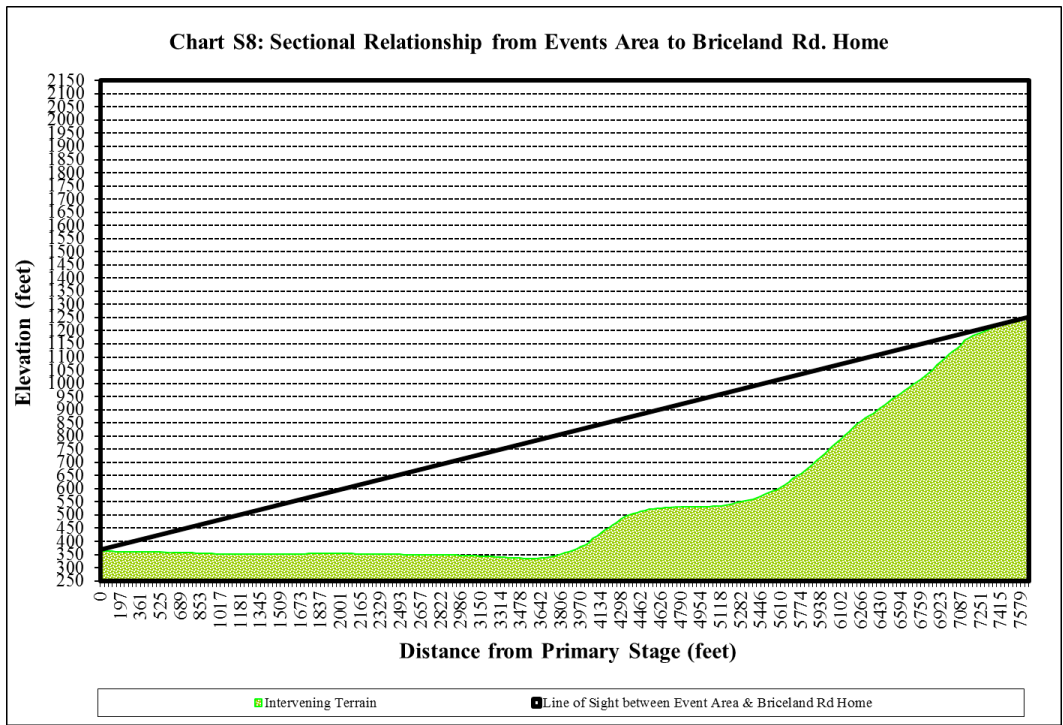
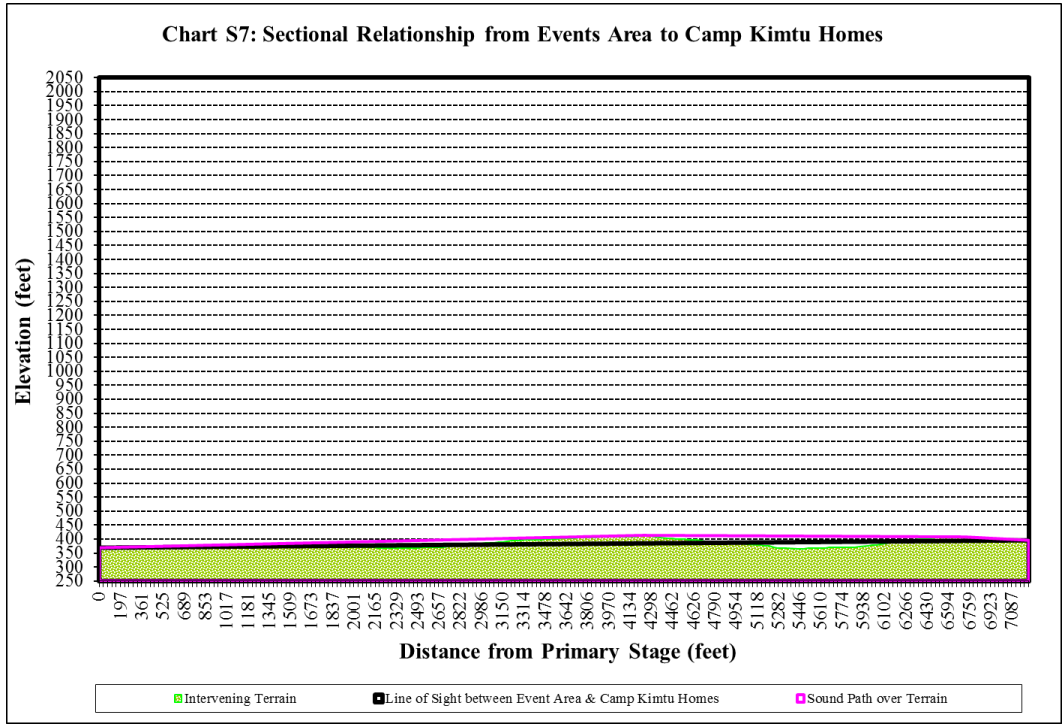


**APPENDIX D:  
CROSS SECTIONAL LINE OF SIGHT ANALYSIS**  
(Approximate Scale: 1ft. vertical = 4 ft. horizontal)











**APPENDIX E**  
**TRAFFIC ASSESSMENT MANAGEMENT CONTROL PLAN**

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# **TRAFFIC ASSESSMENT MANAGEMENT CONTROL PLAN**

## **SOUTHERN HUMBOLDT COMMUNITY PARK**

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### ***INTRODUCTION***

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This Traffic Plan was prepared in response to a number of recommendations made during the preparation of the traffic analysis as presented in the Transportation/Traffic Section of the Draft Southern Humboldt Community Park Environmental Impact Report prepared by W-Trans, a full-service traffic engineering and transportation planning company licensed by the State of California.

Consultations with the California Highway Patrol, the Department of Public Works and Caltrans and were held to identify traffic concerns. Recommendations from these agencies have been incorporated into this plan. Our intention is to provide a safe and efficient plan that will avoid and mitigate potential traffic impacts. Initially, it is proposed to postpone the Festival event until all two years of successful smaller events have occurred.

### ***GENERAL OPERATIONS***

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The Community Park serves as a facility that is accessible to all segments of the population. Community groups and individuals can access the site for a variety of purposes. Projects may be implemented at the Park through a proposal process to the Board of Directors. Project Advocates provide information about the viability and benefit of the project. All projects must be compatible with the Park's Guiding Principles.

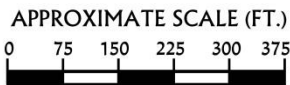
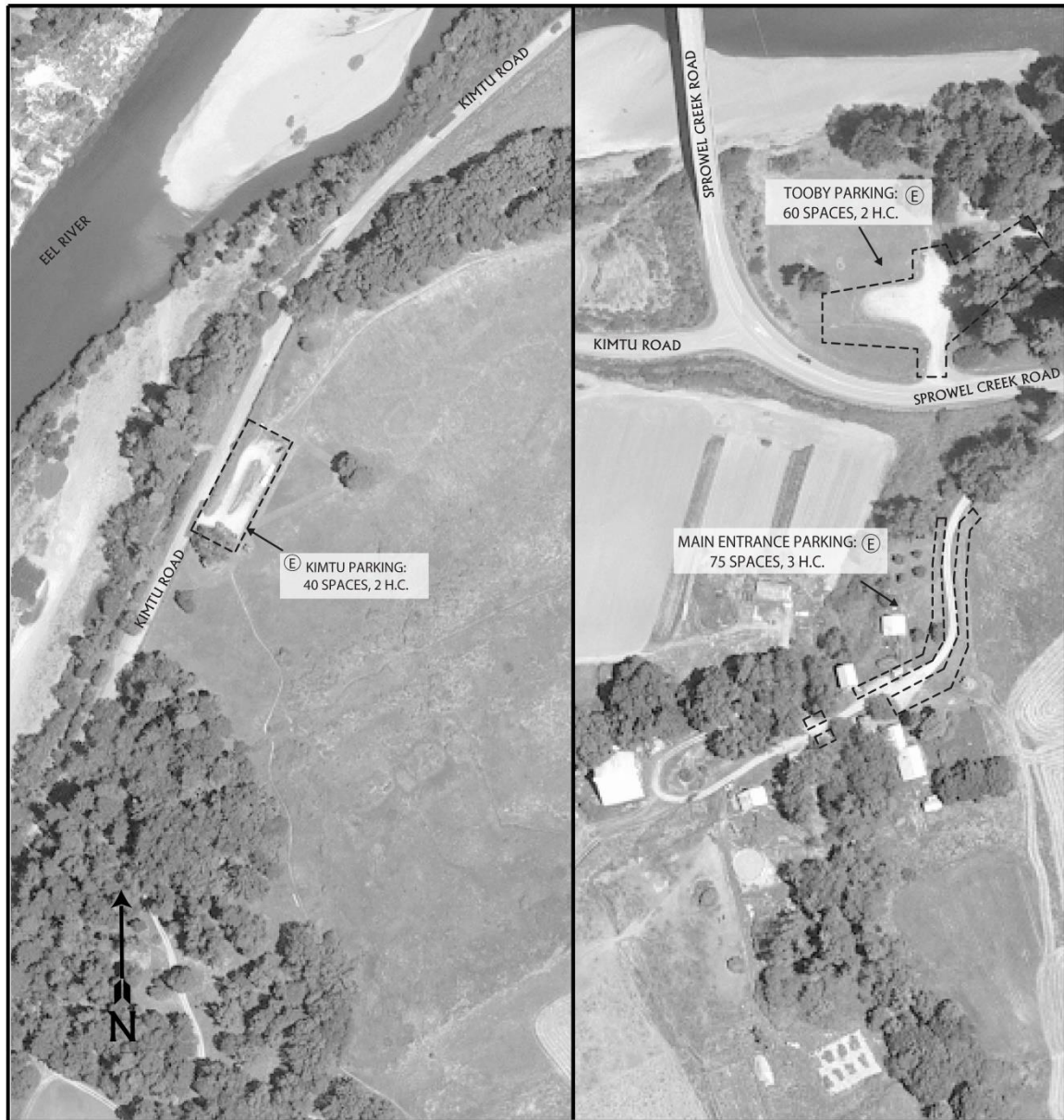
#### **Daily Uses**

The Park is and will continue to be open for a range of activities during daylight hours and by special arrangement in the evenings. These include hiking, bicycling, dog walking, nature study, small events, bird watching, Frisbee golf, horseback riding, skateboarding, swimming, picnicking and use of the playground. These activities include a variety of community-based agricultural projects, including a farm stand. When the sports fields are constructed organized sports groups will conduct activities in the Community Facilities area. This will include games, practices, jamborees, and tournaments.

#### **Access and Parking**

The Park is accessible via four entrances. Three of these locations have designated parking areas. All access roads serving parking areas from County roads shall have a durable dust free surface (either compacted gravel aggregate base or asphalt pavement), and shall be a minimum Class 3 Road (16 foot width) with two foot (2') gravel shoulders on each side. The first fifty feet (50') of any access road and the first twenty-five feet (25') of any driveway from the edge of pavement of any County road serving any parking area utilized by the event shall be surfaced with asphalt concrete. If it is necessary to improve any access road or driveway to meet this

requirement, a minimum of 0.2 foot of Class A asphalt concrete pavement shall be placed over a prepared subgrade consisting of a minimum 0.6 foot of Class 2 or Class 3 aggregate base compacted to 95% per California Test 216 specifications.



**FIGURE 1: EVERYDAY PARKING**

PARKING AREA  
BOUNDARY:  
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REVISION: -C-

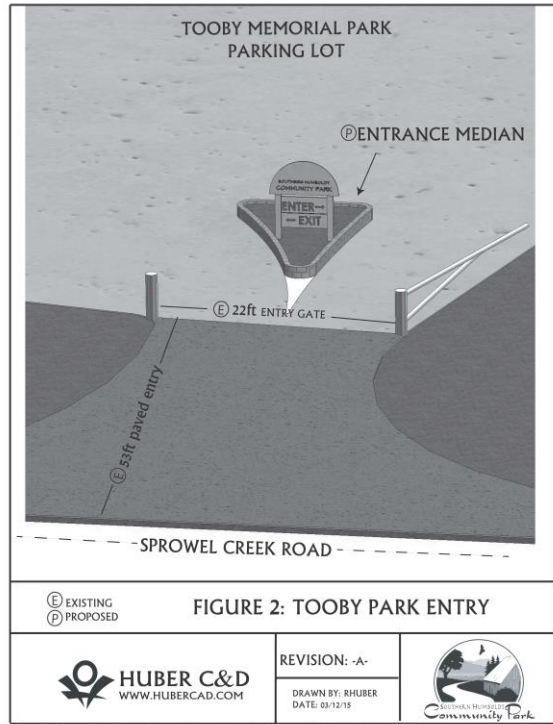
DRAWN BY: RHUBER  
DATE: 03/12/16



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1. The Main Entrance to Park Headquarters is directly off Sprowel Creek Road approximately one-mile from Garberville. There is sufficient parking for everyday activities for 75 vehicles including three handicapped spaces will be available along the entrance road and near the existing Ranch structures.

2. The entrance to Tooby Memorial Park is off Sprowel Creek Road east of the Camp Kimtu Road intersection. The entry is paved for the first 50'. A traffic median will be installed to separate incoming and outgoing vehicles. (Figure 2) Parking is available for everyday uses within the Park. Currently there is parking for 65 cars and two handicapped spaces. Additional overflow parking areas are available that can be opened when necessary.



3. The Kimtu entrance on Camp Kimtu Road is approximately half a mile from the Camp Kimtu Road intersection with Sprowel Creek Road. An encroachment permit will be obtained for this entrance. The first 50' of this entry way will be paved. This parking area contains 40 parking spaces with two handicapped spaces. This parking area will be reconfigured at the time the sports fields are constructed to provide additional parking spaces.

4. The Lower Tooby Ranch Road entrance is not accessible to the general public for everyday use. It will be used mainly for park services and maintenance. It will also be some small and medium-sized events and the festival.

## ***MEDIUM-SIZED EVENTS***

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### **Description**

Five seasonal medium-sized events are proposed each year. These types of events often feature multiple performers and performances by well-known groups or individuals. These events could cover a wide-range of musical genres, theater, dance performances, and concerts. Events in this category will be located in Area 4—Community Commons Area.

### **General Attendees**

Attendance levels for medium sized events are 800-2500.

### **Hours of Operation**

The hours of operation will be dependent on the type of event. They may take place during regular hours of park general operations and may go into the evening hours. Amplified music will end at 11:00pm when scheduled on weekdays (Sunday-Thursday) and at 12:00pm when scheduled on Friday and Saturday nights.

### **1. OFF-SITE TRAFFIC**

#### ***Highway 101***

- **Southbound traffic** exiting at the second Garberville exit will turn right directly onto Sprowel Creek Road. Vehicles will follow Sprowel Creek Road to the event entrance approximately 3/4 mile on the left.
- **Northbound traffic:** Attendees traveling northbound on Highway 101 will exit at the first Garberville exit onto Redwood Drive, turn left at the stop sign onto Sprowel Creek Road, travel ¾ mile and make a left into the event entrance.

### **2. Sprowel Creek Road**

- Cars will enter the on-site parking areas through the marked entry at Lower Tooby Ranch Road. A traffic control attendant with a radio will be stationed here.
- A secondary entrance at the main gate can be used temporarily at peak entry times if there is a need to get vehicles off Sprowel Creek Road very quickly. A traffic control attendant with an orange vest will be stationed here.

### **3. Signage**

- **Advanced Warning Signs**

Advanced warning signs shall be placed at locations as have been determined by the project engineer. Signs shall consist of retro reflective fabric signs on collapsible flag stands with a retro reflectorized cone placed adjacent to each flag stand.

The project traffic engineer has determined the following locations shall be signed as follows:

- On Sprowel Creek Road, west of US 101 (facing west bound traffic): “Special event ahead” (SC5). Signs shall be placed so as not to confuse motorists exiting US 101 south and turning right.
- On Sprowel Creek Road, at the large turnout previous to Lower Tooby Ranch Road (facing west bound traffic) “Flagger Ahead” (C9A).
- On Sprowel Creek Road, 500 feet before event entrance at Lower Tooby Ranch Road (facing west bound traffic): “Be prepared to stop” (W3-4).
- On Camp Kimtu Road (facing eastbound traffic) 500’ before junction with Sprowel Creek Road: “Special event ahead” (SC5).
- On Sprowel Creek Road, just east of the junction with Camp Kimtu Road (facing eastbound traffic) “Special event ahead” (SC5).
- On Sprowel Creek Road, 500 feet before event entrance at Lower Tooby Ranch Road (facing eastbound traffic) “Be prepared to stop” (W3-4).

Signage is not determined to be necessary, and may confuse motorists if placed along US 101 off-ramp northerly of the Sprowel Creek Road. There are no milepost markers on these rural roads.

- **Parking Restriction Signs**

Parking restriction signs will be placed along Sprowel Creek Road and Camp Kimtu Road. Event parking on all County roads west of the intersection of Sprowel Creek Road shall be prohibited and signed in accordance with California Vehicle Code Sections 22651.(m) or 22651.05.(3).

Parking is prohibited by law on freeway off-ramps. Due to the distance to the event site and the steep hill on the return, it is unlikely that attendees would park on off-ramps to walk to the event.

The applicant shall furnish and erect signage as directed by the Public Works Department that includes the telephone number of the local traffic law enforcement agency.

#### ***4. Traffic Control Personnel***

- Traffic Control and parking personnel will be properly trained and fully knowledgeable of established procedures as detailed in the Caltrans document entitled: “Flagging Instruction Handbook”.

- In addition, all personnel assigned to traffic control shall be briefed and fully understand the procedures specified under the heading “Emergency Access” below.
- Traffic control personnel assigned to public street intersections for the purpose of traffic control shall adhere to the requirements of California Vehicle Code Section 21100.(e).
- Traffic Control personnel shall display proper insignia as required by California Vehicle Code Section 21100.(g)(3).
- Traffic control personnel will wear standard safety vests, and carry a flag and a two-way radio with sufficient extra batteries to allow communications over the time assigned. They will carry a standard Stop/Slow paddle in addition to the flag and operable radio.
- Traffic personnel working on Sprowel Creek Road or Camp Kimtu Road shall wear either a white hardhat or white baseball cap to increase visibility and awareness by drivers.
- Traffic control measures and personnel in place and working beyond on-half hour before sunset shall adhere to the procedures as outlined within the procedures as outlined within the Caltrans document entitled “North Region Construction Nightwork Guide.”

##### ***5. Minimum Number of Traffic Control Personnel***

- For medium sized events, one (1) flagger shall be stationed at the intersection of Redwood Drive/Sprowel Creek Road at the conclusion of the event to direct traffic and reduce delays.
- One (1) traffic control person stationed on Sprowel Creek Road at the intersection with the Route US 101 southbound off / on ramps
- One (1) traffic control person stationed at the intersection of Sprowel Creek Road with Riverview Lane approximately four hundred (400’) west of the Sprowel Creek Road intersection with the Route US 101 southbound off / on ramps.
- For all medium-sized events one (1) traffic control person shall be stationed on Sprowel Creek Road at each incoming entrance to the event.
- Two traffic control personnel will be assigned within the parking area for each access point to the event, with one flagger directing traffic from Lower Tooby Road into the parking area and one directing each vehicle into designated parking spaces.



- One traffic control person will be assigned to facilitate vehicles exiting at the main gate.
- In addition to the minimum required number of personnel specified, sufficient additional traffic control personnel shall be furnished to relieve personnel for mandatory break periods.
- Adequate public street-side parking is available in the towns of Garberville and Redway. No off-site private parking lots are planned.

## **6. Facilities for Non-Motorized Modes**

Garberville and Redway are the business centers of Southern Humboldt County, with a greater concentration of businesses in Garberville. While Garberville is a busy business hub for the Southern Humboldt community, the population living within the town of Garberville is 193 persons based on 2010 Census data.

The most commonly cited industry standard for the acceptable walking distance is ¼ mile. Barriers to walkability include weather, time, distance, steep grade, lack of shelter, safety, or loud traffic noise. The walk to the project site from the town of Garberville is 1.23 miles and has few of the characteristics that would classify it as highly walkable. There is open exposure to the elements, loud traffic noise, and a long, steep grade. The walk from Garberville to the Community Park would be characterized as having a low-walkability ranking by these standards. The steep grade and lack of shoulders alone makes this a difficult walk that would deter even hardy walkers, particularly on the return.

Acceptable walking distances will vary depending on geography, climate conditions, age, health, time availability, quality of surroundings, safety, climate, land use, trip purpose, and many other factors.

The low-resident population of the town of Garberville and the neighboring areas within a half-mile walking range from the project site would not be expected to produce a significant number of new non-motorized trips for events at the Park.

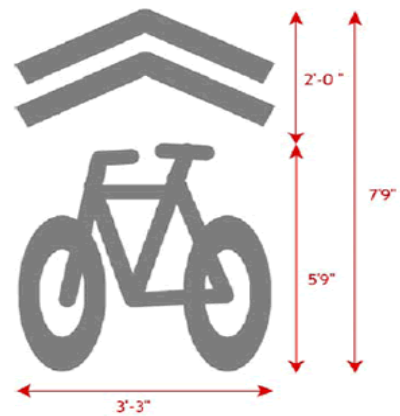
Attendees shall be encouraged through various media outlets to carpool to the event site. It is unlikely that event attendees from outlying areas would drive to Garberville and choose to walk more than a mile to the event when there is parking on-site and a free shuttle service in town. It is not projected that significant numbers of pedestrians or bicyclists will travel to the site.

It has been determined by project traffic engineer Dalene Whitlock of W-Trans that this project would not require the improvement of shoulder widths along Sprowel Creek Road for non-motorized traffic. None of the activities at their proposed levels (small, mid and festival sized events) will trigger the need for improved shoulder widths along Sprowel Creek Road.

## 7. Non-Motorized Transportation

The numbers of pedestrians and non-motorized vehicles generated by this event are expected to be low due to the low resident population of 193 persons in the town of Garberville. The distance of 1.23 miles from the center of Garberville, the steep grade, the absence of roadside shoulders and the lack of shade along of Sprowel Creek Road are among the numerous contributing factors that give this stretch of roadway poor scores for walkability. It is unlikely that Park attendees would drive to Garberville, park and walk over a mile to the Park, particularly when there are shuttle buses with bike racks and onsite parking available. Traffic personnel shall direct pedestrians to utilize the shuttle buses.

- For medium sized events a temporary marked crosswalk would be created connecting the Tooby Memorial Playground to the central Community Park area. The crossing would be temporarily marked with a sign Pedestrian Crosswalk (R9-8) and temporary marked lines indicating the walkway. The crossing should be placed to maximize sight lines, and during periods of peak usage, there will be a crossing guard or flagger available to assist pedestrians and control traffic.
- “Share the Road” signs should be placed along Sprowel Creek Road to alert motorists of the presence of bicycles. Bicycles can easily travel at the same speed as vehicular traffic downhill from Garberville to the event.
- “Sharrows” should be installed to indicate the potential presence of cyclists.



## 8. Shuttle Service

This plan utilizes an existing model of shuttle bus operations that have been in place for decades in the Southern Humboldt community. These events include the Summer Arts and Music Festival (now in its 40<sup>th</sup> year) and Reggae on the River (now in its 32<sup>nd</sup> year). The community is well-accustomed to this shuttle system and these shuttle locations for events larger than the proposed project. Several of these temporary shuttle stops may be located within the County right-of-way and have operated successfully and few (if any) problems have been reported in the past.

- Shuttle service will be utilized for all events anticipating 2000 or more attendees to reduce the total number of vehicles leaving the site to a maximum of 700 outbound vehicles in a single hour.
- Medium-sized events having more than 1,800 attendees arriving during a single hour or 1,200 leaving during a single hour will utilize shuttle buses.

- Shuttle buses heading to the event will pick up passengers in Redway along Redwood Drive approximately 150' east of the junction with Rusk Lane (near the Majestic Center). The bus will continue east on Redwood Drive and pick up passengers at the corner of Redwood Drive and Sprowel Creek Road at the Chevron Station. The bus will turn left on Sprowel Creek road and proceed to the event site and turn-around on site.
- For passenger return from the site, the shuttle bus will travel west on Sprowel Creek toward Garberville. The bus will turn right at the intersection of Sprowel Creek Road and Redwood Drive. The bus will proceed to the circle at the south of Redwood Drive in Garberville and turn left at the stop sign heading north on Redwood Drive.
- The shuttle bus will drop off passengers along in Garberville on Redwood Drive across from the intersection with Sprowel Creek Road at the long curbside in front of Getti-up Coffee. The shuttle bus will continue north along Redwood Drive to drop off passengers in Redway along Redwood Drive approximately 500' east of the junction with Rusk Lane (near the Majestic Center). (Figure 4)
- Temporary shelter and shade for attendees will be provided in proximity to the shuttle stops and on Park property and outside of the County right-of-way. Shade canopies will not obstruct the traveled way for both vehicular and non-motorized traffic.
- Shuttle buses will be outfitted with bicycle racks

## 9. *Parking Requirements On-Site*

Parking requirements for three examples of medium-sized events: the minimum medium sized event, the average medium-sized event and the maximum medium-sized events are included.

**Minimum Medium-Sized Event:** The minimum medium-sized event with 800 in attendance would require 280 parking spaces which would be provided onsite.

**Average Medium-Sized Event:** An average medium-sized event with 1650 people onsite would require a total of 673 parking spaces: 630 parking spaces for 1575 attendees (1 car per 2.5 persons), 40 staff (require 20 spaces, 2 staff per car), 20 vendors (require 10 spaces, 1 per vendor, 2 persons per car) and 15 performers require 5 spaces. Events of this size occur over a several hour period with vehicles arriving and departing hourly. The demand for parking at peak attendance would be lower than the maximum number of spaces needed for the total daily numbers of persons in attendance. Assuming peak demand during an event this size would have 75% of attendee's onsite at one time, with a total parking demand of 472 spaces. Staff would also utilize everyday parking spaces. There would be adequate parking onsite for an event this size. These exceed standards

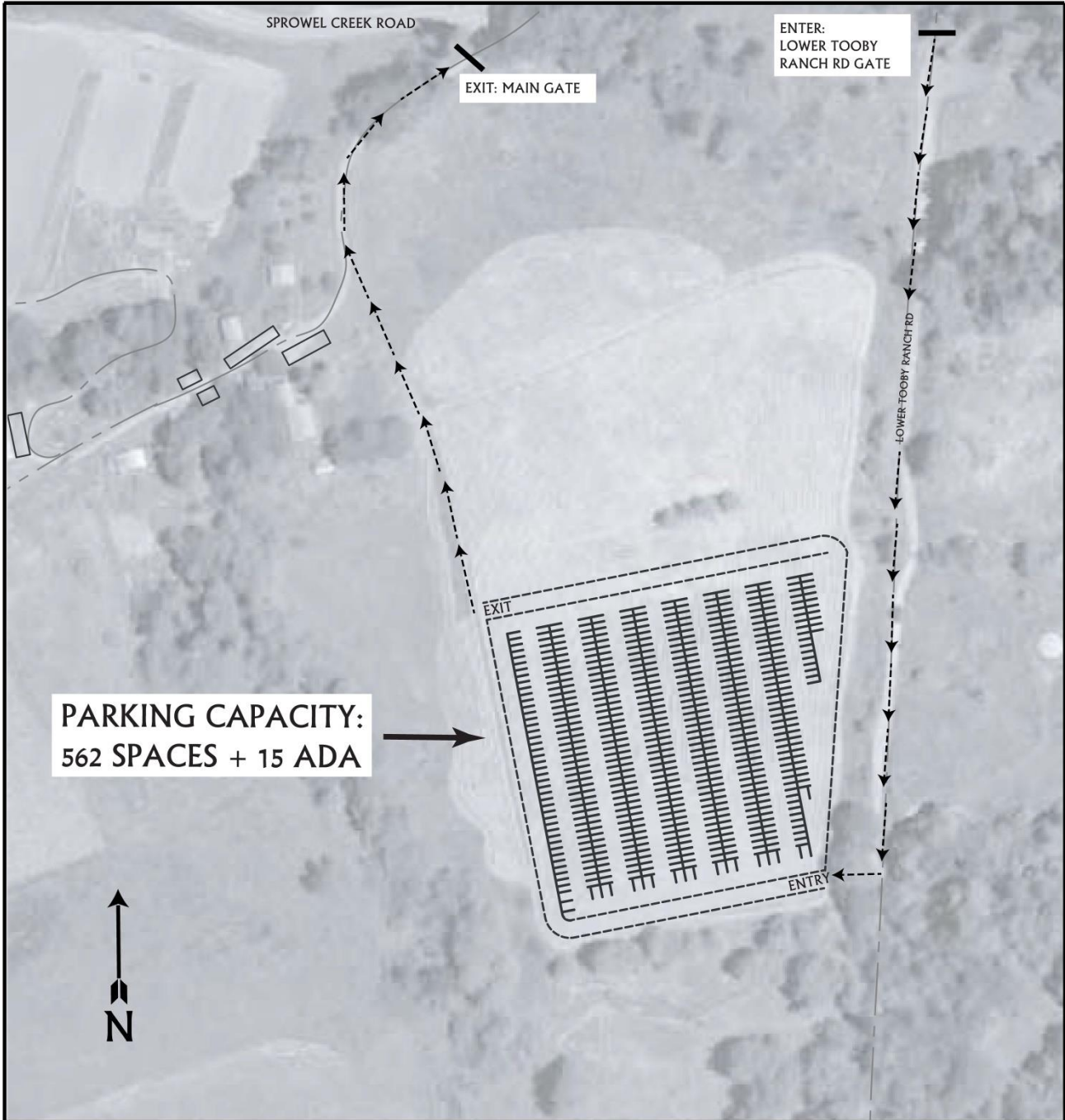
as required by Humboldt County Code (HCC) Section 109.1.3.3.4.: one parking space per every four seats, 2 spaces per staff member and 1 space per vendor. There would be 15 accessible spaces. Carpooling will be encouraged in all media releases.

**Maximum Medium-Sized Events:** The maximum medium-sized event with a total of 2500 on-site utilizing shuttles would need approximately 1000 parking spaces.

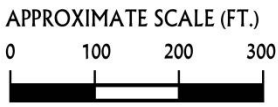
The event would consist of 2300 attendees, 100 staff, 35 vendor booths with 2 workers each, and 30 performers. Attendees would require 920 spaces at 2.5 per vehicle. There are 500 spaces on the site for available for attendees with the remaining 420 spaces would be public parking the towns of Garberville and Redway. Attendees will utilize the shuttle buses to arrive at the event location.

Staff would require 50 spaces at 2 per vehicle, vendors would require 35 spaces at 2 per vehicle, and performers would require 10 spaces for a total of 95 spaces. The site has 200 spaces for event support services which would be more than adequate. Traffic Flow through event is the same as for the festival. (See Figure 5-Traffic Flow)

This exceeds the requirements specified in Humboldt County Code (HCC) Section 109.1.3.3.4.: one parking space per every four seats, 2 spaces per staff member and 1 space per vendor.



**PARKING CAPACITY:  
562 SPACES + 15 ADA**



**FIGURE 3: MEDIUM SIZED EVENT PARKING**



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WWW.HUBERCAD.COM

REVISION: -B-

DRAWN BY: RHUBER  
DATE: 03/13/16



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## **10. Off-site Parking**

For events in the range of 1800- 2500 attendees additional parking will be available in Garberville and Redway for attendees riding the shuttles. (Figure 3)

There are 709 public parking spaces in the town of Garberville and 745 spaces in the town of Redway, excluding all parking lots for businesses. This is a total of 1454 public parking spaces within .25 miles of the shuttle bus stop locations. A typical event of this size would have attendees arriving and leaving over the course of up to 12 hours. The demand for parking at peak attendance would be lower than the maximum number of spaces needed for the total daily numbers of persons in attendance. It is important to note that not all of the parking spaces in the towns would be available for event parking. Public parking in Redway and Garberville is proven to be adequate for more than two decades for off-site parking for an event of twice this size and larger as evidenced during decades of past shuttle services to Summer Arts and Music Festival and Reggae on the River.

## **11. ON-SITE TRAFFIC**

### ***Entrance***

- Entrance to the Community Commons Area 4 for medium-sized events shall be from Sprowel Creek Road, entering the Community Park on the Lower Tooby Ranch Road. This primary access is the longest access route from the County road to the parking area to enable the longest available queue (back-up of waiting vehicles) into the parking area without queuing into or over the County right of way.
- There will be one-way circulation for attendees to enter at the Lower Tooby Ranch Road and into the on-site event parking lot.
- A traffic control attendant will be stationed at the entry road. The attendant will direct traffic towards the parking area.
- Traffic cones will delineate the access roads. Attendees will be directed onto Lower Tooby Ranch Road, which will be delineated to provide two entrance lanes to the parking area on the left of the entry road as well as a third “holding” lane. Parking attendants will ensure that parking is done safely and efficiently.
- Should incoming vehicles slow traffic at the entry into the site, traffic control personnel will divert inbound traffic to the second entrance using the main entrance to the Park. Traffic control personnel will hold outbound event traffic until traffic on Sprowel Creek Road has cleared.
- For medium-sized special events a temporary marked crosswalk shall be created connecting the Tooby Memorial Playground to the Park Headquarters area. The crossing shall be placed to maximize sight lines, and during periods of peak usage, there shall be a crossing guard or flagger available to assist pedestrians and control traffic.

## 12. Processing Incoming Vehicles and Traffic Queue

Vehicles entering the site at Lower Tooby Ranch Road will be guided by traffic control personnel to the parking gate. The parking gate will be positioned beyond Lower Tooby Ranch Road inside the parking lot to maximize the road length for vehicular entrance. The distance from Sprowel Creek Road entrance on the internal road to the processing point inside parking area is 2000 feet. The first 1000 feet of Lower Tooby Flat Road will be delineated to provide two lanes for incoming traffic and one lane for holding traffic for release. The road has the potential to simultaneously hold 150 vehicles between Sprowel Creek Road and the processing area, allowing 40 feet for each vehicle in the two stacking lanes and 20 feet for each vehicle in the holding lane. (Table #1)

Number of Lanes	Distance between vehicles	Length of road to processing	Potential numbers of cars in queue
2	40'	2000'	100
1 turn-out lane	20'	1000'	50
			<b>150</b>

Table #1: Processing incoming vehicles and traffic queue

## 13. Parking

- A temporary parking area will be provided on-site in the northerly grass field at the Community Commons and in the adjacent Main Agricultural field that is adjacent to the Lower Tooby Ranch Road. (Figure 6)
- Grass fields shall be sufficiently watered in the morning to prevent ignition of the grass and serve as a dust palliative.
- Temporary Parking areas will be laid out previous to the event with lime chalk. Twenty-five foot (25') access lanes will be provided between parking rows and along the perimeters of the parking area. Individual parking stalls will be marked out with eighteen foot by nine foot (18' x 9') dimensions off both sides of each division line.
- The ends of parking rows will be prominently marked by 7-foot tall poles with flags for visibility. The division line between adjacent head-to-head parking spaces will be lined with lime chalk striping from pole to pole in a straight, even alignment.
- Carpooling will be encouraged to reduce vehicles on the roadways.

## 14. Parking Lighting

Any events that do not end within one-half hour before dusk shall provide all parking facilities with one temporary lighting facility per parking area per HCC Section 109.1.2.7. Lights used to illuminate parking spaces or driveways shall be directed and shielded so rays will be confined to the Park property and parking areas. (Appendix I: Lighting Plan)

### **15. Exiting Event**

Vehicles will exit out the Main Park entrance at Park Headquarters creating a circular, one-way traffic flow.

### **16. Signage - Directional Exit signs**

Exit signs will be at posted in the parking lot during the event.

### **17. Emergency and Service Entrance**

- Lower Tooby Ranch Road will be used as the main entry during the event and will be available for emergency access and necessary services during medium-sized events.
- In the event that the Lower Tooby Ranch Road is closed, the Main Park Entrance will be utilized.
- Lower Tooby Ranch Road, beyond the parking area, will be closed to attendee traffic. It will be utilized as a one-way service access for staff, performers, service vehicles and emergency access vehicles only.



## ***FESTIVAL***

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### **Description**

This plan is scaled for an event similar in size and nature to the Mateel Community Center's Summer Arts and Music Festival or smaller. As an example, the Summer Arts and Music Festival is a two-day family-friendly event that is now in its thirty-ninth year. This event features a unique blending of local and regional musicians on three outdoor stages, roving entertainers, quality artisans displaying and selling wares, exhibits of fine arts displays, international cuisine, and on-site educational workshops.

The festival is open 14 hours on Saturday and 12 hours on Sunday. The attendance would fluctuate over the course of the day and the total number of attendees on the site at any one time would be less than the one day total.

For a similar event, systems will be utilized and scaled to the attendance expected for the event. This event will take place in the event area in the new Public Facility –Community Commons Area 4 in the Park. A festival sized event would occur once per year for a period of no more than two days.

### **General Attendees**

Attendance for the festival would have a maximum of 4,000 attendees on-site. A festival sized event would have an estimated daily event support as follows: 120 staff members, 130 vendor booths with 2 workers per booth, 100 performers. This type of event would have attendees and support staff arriving and departing over a 12-14 hour period. Approximately 100 staff/vendors may stay overnight at the site for security and cleanup. Many vendors camp in their booths at night to secure their merchandise. Staff and vendors typically would be onsite one-hour before and one-hour after the event to reduce traffic flows.

### **1. OFF-SITE TRAFFIC** ***Highway 101***

- **Southbound traffic** exiting at the second Garberville exit will turn right directly onto Sprowel Creek Road. Vehicles will follow Sprowel Creek Road to the event entrance approximately  $\frac{3}{4}$  mile on the left.
- **Northbound traffic:** Attendees traveling northbound on Highway 101 will exit at the first Garberville exit onto Redwood Drive, turn left at the stop sign onto Sprowel Creek Road, travel  $\frac{3}{4}$  mile and make a left into the event entrance.

### **2. Sprowel Creek Road**

- Cars will enter the on-site parking areas through the marked entry at Lower Tooby Ranch Road. A traffic control attendant with a radio will be stationed here.

- A secondary entrance at the main gate can be used temporarily at peak entry times if there is a need to get vehicles off Sprowel Creek Road very quickly. A traffic control attendant with an orange vest will be stationed here.

### **3. Signage**

- **Advanced Warning Signs**

Advanced warning signs shall be placed at locations as have been determined by the project engineer. There are no milepost markers on Sprowel Creek Road. Signs shall consist of retro reflective fabric signs on collapsible flag stands with a retro reflectorized cone placed adjacent to each flag stand.

The project traffic engineer has determined the following locations shall be signed as follows:

- On Sprowel Creek Road, west of US 101 at Sunnybank Lane (facing west bound traffic): “Special event ahead” (SC5) Signs shall be placed so as not to confuse motorists exiting US 101 south and turning right.
- On Sprowel Creek Road, at the large turnout after Leino Lane and before Lower Tooby Ranch Road (facing west bound traffic) “Flagger Ahead” (C9A).
- On Sprowel Creek Road, at turnout 500 feet before event entrance at Lower Tooby Ranch Road (facing west bound traffic): “Be prepared to stop” (W3-4).
- On Camp Kimtu Road (facing eastbound traffic) 500’ before junction with Sprowel Creek Road: “Special event ahead” (SC5).
- On Sprowel Creek Road, just east of the junction with Camp Kimtu Road (facing eastbound traffic) “Special event ahead” (SC5).
- On Sprowel Creek Road, 500 feet before event entrance at Lower Tooby Ranch Road (facing eastbound traffic) “Be prepared to stop” (W3-4).

Signage is not determined to be necessary and may confuse motorists if placed along the Sprowel Creek Road off-ramp on US 101.

- **Parking Restriction Signs**

Parking restriction signs will be placed along Sprowel Creek Road and Camp Kimtu Road. Event parking on all County roads west of the intersection of Sprowel Creek Road and Sunnybank Lane shall be prohibited and signed in accordance with California Vehicle Code Sections 22651.(m) or 22651.05.(3).

Event parking will be allowed only in designated parking areas on-site at the Community Park property. All parking restriction signs shall be in place no less than twenty-four hours or one day before the date of the event taking place.

- No event parking will be allowed on Sprowel Creek Road from Sunnybank Lane west to the site.
- No event parking will be allowed on Leino Lane.
- No event parking will be allowed along Camp Kimtu Road.
- Parking will be prohibited at Tooby Park.

Parking is prohibited by law on freeway off-ramps. Due to the distance to the event site and the steep hill on the return, it is unlikely that attendees would park on off-ramps to walk to the event.

The applicant shall furnish and erect signage as directed by the Public Works Department that includes the telephone number of the local traffic law enforcement agency.



#### **4. Traffic Control Personnel**

- Traffic Control and parking personnel will be properly trained and fully knowledgeable of established procedures as detailed in the Caltrans document entitled: "Flagging Instruction Handbook".
- In addition, all personnel assigned to traffic control shall be briefed and fully understand the procedures specified under the heading "Emergency Access" below.
- Traffic control personnel assigned to public street intersections for the purpose of traffic control shall adhere to the requirements of California Vehicle Code Section 21100.(e).
- Traffic Control personnel shall display proper insignia as required by California Vehicle Code.
- Traffic control personnel will wear standard safety vests and carry a flag and a two-way radio with sufficient extra batteries to allow communications over the time assigned. They will carry a standard Stop/Slow paddle in addition to the flag.
- Traffic personnel working on Sprowel Creek Road or Camp Kimtu Road shall wear either a white hardhat or white baseball cap to increase visibility and awareness by drivers.
- Traffic control measures and personnel in place and working beyond on-half hour before sunset shall adhere to the procedures as outlined within the procedures as outlined within the Caltrans document entitled "North Region Construction Nightwork Guide."

#### **5. Minimum Number of Traffic Control Personnel**

- For medium sized events, one (1) flagger shall be stationed at the intersection of Redwood Drive/Sprowel Creek Road at the conclusion of the event to direct traffic and reduce delays.
- One (1) traffic control person stationed on Sprowel Creek Road at the intersection with the Route US 101 southbound off / on ramps
- One (1) traffic control person stationed at the intersection of Sprowel Creek Road with Riverview Lane approximately four hundred (400') west of the Sprowel Creek Road intersection with the Route US 101 southbound off / on ramps.
- For all medium-sized events one (1) traffic control person shall be stationed on Sprowel Creek Road at each incoming entrance to the event.

- Two traffic control personnel will be assigned within the parking area for each access point to the event, with one flagger directing traffic from Lower Tooby Road into the parking area and one directing each vehicle into designated parking spaces.
- One traffic control person will be assigned to facilitate vehicles exiting at the main gate.
- Adequate public street-side parking is available in the towns of Garberville and Redway. No off-site private parking lots are planned.
- In addition to the minimum required number of personnel specified, sufficient additional traffic control personnel shall be furnished to relieve personnel for mandatory break periods.

## **6. *Non-Motorized Transportation***

- For a festival, shuttle buses will be provided. Pedestrians and bicyclists will be directed to use shuttle buses.
- “Share the Road” signs should be placed along Sprowel Creek Road to alert motorists of the presence of bicycles.
- “Sharrows” shall be placed in the roadway to indicate the potential presence of cyclists.
- During a festival, shuttle buses will have bicycle racks ferry bicyclists uphill to the shuttle stop locations. Bicycles can easily travel at the same speed as vehicular traffic downhill from Garberville to the event. (Figure 4)
- Bicycle racks will be provided at Park entry locations.
- A temporary marked crosswalk will be created connecting the Tooby Memorial Playground to the central Community Park area. The crossing would be temporarily marked with a sign Pedestrian Crosswalk (R9-8) and temporary marked lines indicating the walkway. The crossing should be placed to maximize sight lines, and during periods of peak usage, there will be a crossing guard or flagger available to assist pedestrians and control traffic. There will be no event parking at Tooby Park during a festival.

## **7. *Shuttle Service***

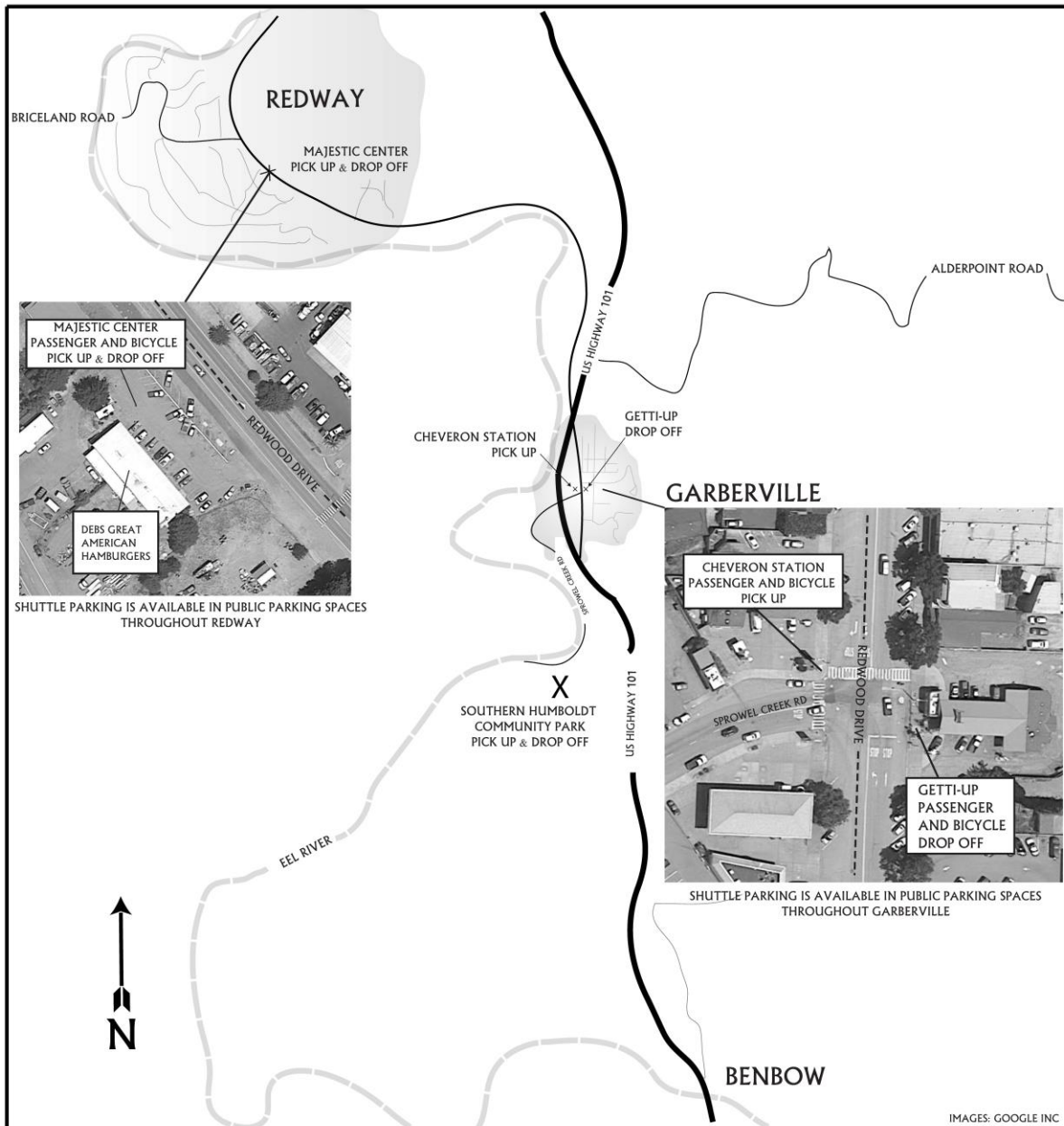
The use of a shuttle service for the festival event will greatly reduce the amount of traffic on the road as well as lessen the demand for on-site parking. A shuttle service will be provided for ticket holders, pedestrians, neighbors, and volunteers. It will take them to and from the event. For an event similar to the current Summer Arts and Music Festival, there will be

three 76-passenger buses and one 60 passenger bus. The buses will run continuously during the event, each bus making two runs per hour. Shuttle buses will service bus stops in Garberville and Redway. Shuttle service will be utilized for events in this category, and for all events with 2000-4000 attendees.

This plan utilizes an existing model of shuttle bus operations that have been in place for decades in the Southern Humboldt community. These events include the Summer Arts and Music Festival (now in its 40<sup>th</sup> year) and Reggae on the River (now in its 32<sup>nd</sup> year). The community is well-accustomed to this shuttle system and these shuttle stop locations and few problems have been reported in the past. Several shuttle stops are located within the County right-of-way.

- Shuttle service will be utilized for a festival to reduce the total number of vehicles leaving the site to a maximum of 700 outbound vehicles in a single hour.
- Shuttle buses heading to the event will pick up passengers in Redway along Redwood Drive approximately 150' east of the junction with Rusk Lane (near the Majestic Center). The bus will continue east on Redwood Drive and pick up passengers at the corner of Redwood Drive and Sprowel Creek Road at the Chevron Station. The bus will turn left on Sprowel Creek road and proceed to the event site and turn-around on site.
- For passenger return from the site, the shuttle bus will travel west on Sprowel Creek Road toward Garberville. The bus will turn right at the intersection of Sprowel Creek Road and Redwood Drive. The bus will proceed to the circle at the south of Redwood Drive in Garberville and turn left at the stop sign heading north on Redwood Drive.
- The shuttle bus will drop off passengers along in Garberville on Redwood Drive across from the intersection with Sprowel Creek Road at the long curbside in front of Getti-up Coffee. The shuttle bus will continue north along Redwood Drive to drop off passengers in Redway along Redwood Drive approximately 500' east of the junction with Rusk Lane (near the Majestic Center). (FIGURE 4)
- Temporary shelter and shade for attendees will be provided in proximity to the shuttle stops and on Park property and outside of the County right-of-way. Shade canopies will not obstruct the traveled way for both vehicular and non-motorized traffic.
- Shuttle buses will be outfitted with bicycle racks

Shuttle service will drop off and pick up attendees at designated bus stops near the front entrance to the park. Attendees will proceed on foot to entry/ticket booth and staging areas. All attendees and volunteers will be encouraged to use the shuttle and carpool. Shuttle locations and hours of operation will be published in local newspapers.



**FIGURE 4: SHUTTLE STOPS & PARKING**



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DRAWN BY: RHUBER  
 DATE: 03/13/16



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## ON-SITE TRAFFIC

### 1. Entrance

- Entrance to the Community Commons area for the festival shall be from Sprowel Creek Road, entering the Community Park on the Lower Tooby Ranch Road which has the longest queue.
- There will be one-way circulation for attendees to enter at the Lower Tooby Ranch Road and into the on-site event parking lot.
- A traffic control attendant will be stationed at the entry road and will direct drivers towards the parking area.
- Traffic cones will delineate the access roads. Attendees will be directed onto Lower Tooby Ranch Road which will be delineated with two entrance lanes to the parking area on the left of the entry road plus a third holding lane. Parking attendants will ensure that parking is done safely and efficiently.
- Should incoming traffic on the primary access queue up enough to impact operation on Sprowel Creek Road, traffic control personnel at the Sprowel Creek Road entrance shall redirect traffic to the secondary access point, the main entrance to the Park, until the queue along the primary access road is satisfactorily reduced to allow resumption of traffic on the primary parking lot access, Lower Tooby Ranch Road.
- During the festival, flaggers shall be stationed at the intersection of Redwood Drive and Sprowel Creek Road at the conclusion of the event to direct traffic and to reduce delays
- During the festival, a temporary marked crosswalk shall be created connecting the Tooby Memorial Playground to the Park Headquarters area. The crossing shall be placed to maximize sight lines, and during periods of peak usage, there shall be a crossing guard or flagger available to assist pedestrians and control traffic.

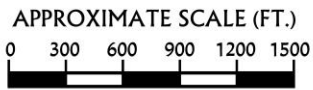
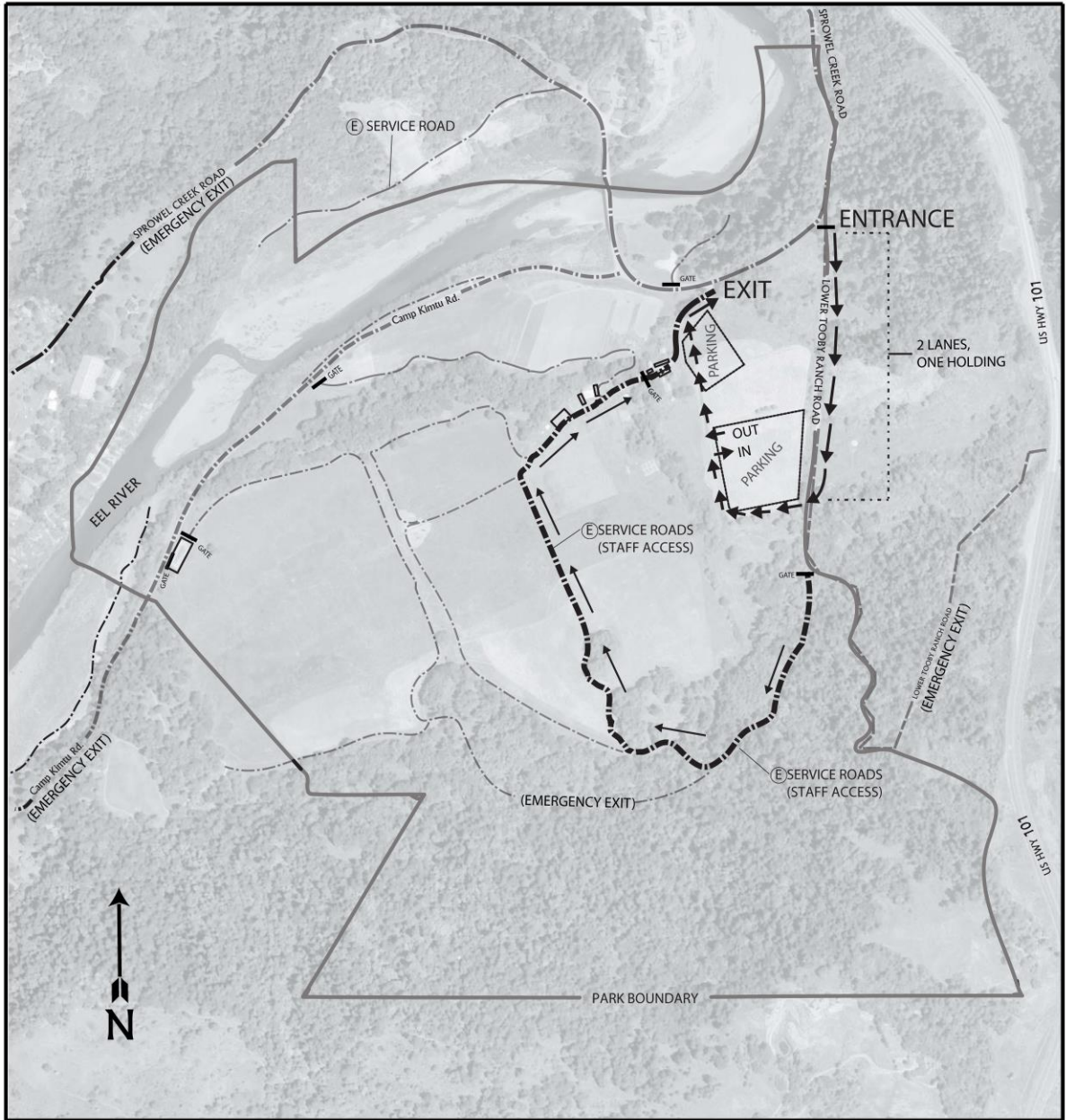


**2. Processing Incoming Vehicles and Traffic Queue**

Vehicles entering the site at Lower Tooby Ranch Road will be guided by traffic control personnel to the parking gate. The parking gate will be positioned beyond Lower Tooby Ranch Road inside the parking lot to maximize the road length for vehicular stacking. The distance from Sprowel Creek Road entrance on the internal road to the processing point inside the parking area is 2000 feet. The first 1000 feet of Lower Tooby Ranch Road will be delineated to provide two lanes of incoming traffic and one lane for holding traffic for release. The road has the potential to simultaneously hold 150 vehicles between Sprowel Creek Road and the processing area, allowing 40 feet for each vehicle in the two stacking lanes and 20 feet for each vehicle in the holding lane. (Table 2)

Number of Lanes	Distance between vehicles	Length of road to processing	Potential numbers of cars in queue
2	40'	2000'	100
1 turn-out lane	20'	1000'	50
			<b>150</b>

Table #2: Processing incoming vehicles and traffic queue



**FIGURE 5: FESTIVAL AND TRAFFIC FLOW**



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### **3. *Parking Area Access***

- All access roads serving parking areas from County roads shall have a durable dust free surface, gravel aggregate base.

### **4. *Parking***

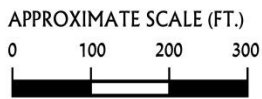
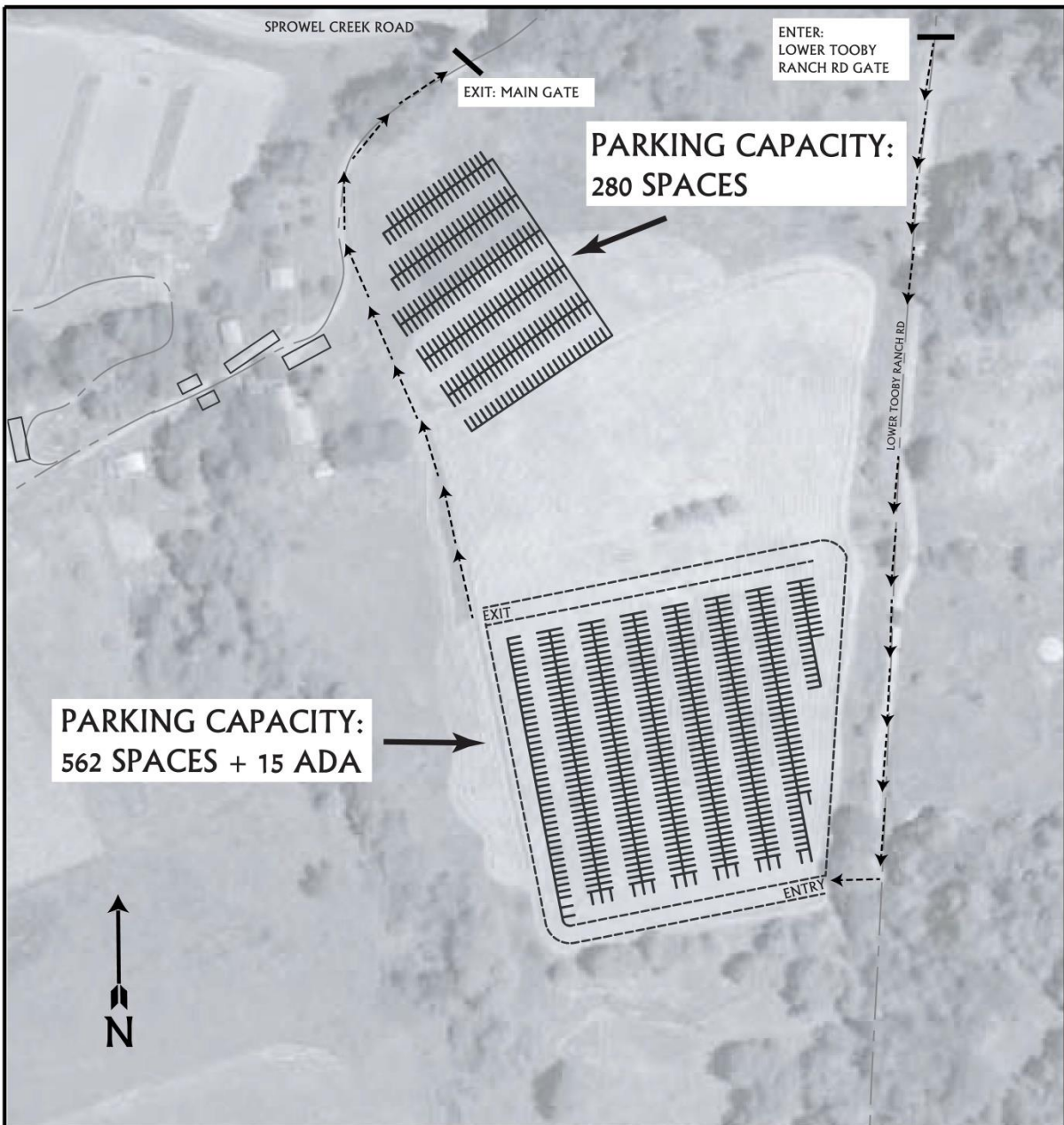
- A temporary parking area will be provided on-site in the northerly grass field at the Community Commons and in the adjacent Main Agricultural field that is adjacent to the Lower Tooby Ranch Road. (Figure 6)
- Grass fields shall be sufficiently watered in the morning to prevent ignition of the grass and serve as a dust palliative.
- Temporary parking areas will be laid out previous to the event with lime chalk. Twenty-five foot (25') access lanes will be provided between parking rows and along the perimeters of the parking area. Individual parking stalls will be marked out with eighteen foot by nine foot (18' x 9') dimensions off both sides of each division line.
- The ends of parking rows will be prominently marked by 7-foot tall poles with flags for visibility. The division line between adjacent head-to-head parking spaces will be lined with lime chalk striping from pole to pole in a straight, even alignment.
- Carpooling and the use of shuttle buses will be encouraged in advanced via local media outlets to reduce vehicles on the roadways.

### **5. *On-site Parking Capacity***

Parking on the site would be limited to 500 spaces for attendees and 200 spaces for vendors and others working the event. While the vendors and others employed during the festival would likely remain on-site for an hour or more after the event concludes, the limited parking would ensure that the amount of traffic generated during a single hour results in trips that can be adequately handled by the street network.

All other attendees would need to arrive by shuttle from parking in Garberville and Redway. It is understood that this is how a Festival of larger size currently operates in Benbow, where there is substantially less parking than could be made available at the SHCP site.

Parking passes would be made available through advance purchase only, with a variety of purchase options, including buying them on-line or at the usual local ticket outlets where attendees purchase their event tickets. The number that can be issued should be limited for each day of the Festival to 500. A separate pass should be required for each day, half-day passes available, with the passes to be displayed on the dashboard of the vehicle.



**FIGURE 6: FESTIVAL PARKING**

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## **6. *Parking Demand Determination***

For the Festival, on-site parking would be limited to a maximum of 500 spaces for attendees and 200 spaces for staff, volunteers, vendors and performers. A festival sized event with 4000 attendees onsite would have 500 parking spaces available for attendees (1 car per 2.5 persons).

Staff, vendors, and performers would have a total of 200 spaces: 120 staff would require 50 spaces (2 staff per car and not all staff onsite at one time), 130 vendor booths (requiring 1 space per vendor) and performers require 20 spaces (on rotation). There would be 700 spaces on the site with 15 accessible spaces. Staff and others working the event would be encouraged to utilize the shuttle buses.

With a 12-hour festival event, there is a natural flow of attendees in and out of the event site. The parking would need to be dispersed among onsite and streetside parking locations over the 12 hours of operation. Peak attendance is typically between 2:00 and 6:00 p.m. when there would be an estimated 1865 attendees on the site. The average attendee stays at the event approximately 4 hours. Conservatively estimating that one-half of the on-site parking passes were held by attendees at peak (1 parking space for each 2.5 persons), there would be an estimated 496 parking spaces needed offsite at the peak. The use of half-day parking passes and carpooling would further reduce this number.

There are at a total of 1,454 public parking spaces; Garberville has 709 public parking spaces in and Redway has 745 spaces, excluding all parking lots for businesses. These public parking spaces are within a five-minute walk of the shuttle bus stop locations. While not all parking spaces would be available, other larger local events have utilized this parking/shuttle system for decades and it has been well-proven to be a workable model for events in Southern Humboldt. There would be sufficient public parking to meet this demand.

## **7. *Offsite Parking:***

Offsite Parking would be available in public parking spaces in Redway and Garberville. Festivals would occur on Saturday and Sunday's when there are lower numbers of people conducting business in the towns which leaves more spaces available. Over the years it has been proven that the towns of Garberville and Redway offer ample additional off-site parking for the number of vehicles as evidenced during offsite parking with shuttle services to and from Summer Arts and Music Festival in Benbow, an event with almost identical off-site parking needs.

## **8. *Parking Passes***

For the festival attendees parking passes will be sold in advance on the web or at the regular ticket outlets. Only vehicles with parking passes will be allowed on the site.

## **9. *Parking Area Lighting***

Any events that do not end within one-half hour before dusk shall provide all parking facilities with either permanent or temporary lighting facilities per HCC Section 109.1.2.7. Lights used to illuminate parking spaces or driveways shall be shielded and directed so that the direct rays are confined to the Park property, roadways and parking areas. (Appendix I - Lighting Plan)

## **10. Departures**

During the event, patrons will be able to leave as necessary utilizing the Main Park access at Park Headquarters. Vehicles will exit out the Main Park access point creating a circular, one-way traffic flow. The release of cars onto Sprowel Creek Road will be controlled at the gate by traffic control personnel if necessary.

## **11. Signage - Directional Exit Signs**

Directional Exit signs will be at posted in the parking area during the event.

## **12. Non-Motorized Transportation**

A shuttle bus will be available for all off-site parking pedestrian traffic. Signage will be placed in visible locations to direct pedestrians to the shuttle buses. In Garberville, the shuttle buses will stop at the corner of Redwood Drive and Sprowel Creek Road. Pedestrians will be encouraged to take the shuttle bus. Shuttle buses will also be available for use by residents living along the Sprowel Creek/Garberville corridor who wish to go to the Park for reasons other than to attend the event.

It has been determined by the project traffic engineer, Dalene Whitlock, W-Trans that the project would not require improved shoulder widths along Sprowel Creek Road for non-motorized traffic. None of the activities at their proposed levels, small, medium and festival sized events, would trigger the need for improved shoulder facilities for pedestrians.

## **13. Staff and Vendor Access**

Staff and vendors will be on-site the day before the event to set up. Some on-site camping will be available. Vendors tend to camp within their booths to secure their merchandise. Volunteers and staff not on-site overnight will be encouraged to take the shuttle busses or to arrive at least one-half hour before the event opens.

## **14. Local Traffic Access**

Local traffic accessing a County Road in either direction shall not be stopped nor delayed by traffic control personnel except for allowing emergency vehicles to pass.

## **15. Emergency and Service Entrance**

- Lower Tooby Ranch Road will be used as the main entry during the event and will be available for emergency access and necessary services during the Festival.
- In the event that the Lower Tooby Ranch Road is closed, the Main Park Entrance will be utilized.
- Lower Tooby Ranch Road, beyond the parking area, will be closed to attendee traffic. It will be utilized as a one-way service access for staff, performers, service vehicles and emergency access vehicles only.

## **16. Emergency Access**

In the event an emergency vehicle requires access to a County road, event site, or points beyond, traffic control personnel shall adhere to the guidelines established within the Caltrans Flagging Instruction Handbook.

Immediately upon determination by traffic personnel that an emergency vehicle needs to proceed on the County road through the event area, an *“all stop, emergency vehicle”* or similar order shall be given over the radio by the traffic control personnel first aware of the emergency vehicle's presence. Traffic control personnel stationed on the County road at all parking lot access points shall immediately require all traffic in both directions to stop and direct outbound traffic on the County road to pull over onto the shoulder area or otherwise move or back up so as to allow sufficient clearance for emergency vehicles to get through the event area.

Upon securing a clear path, traffic control personnel stationed on the County road at each parking lot access point should broadcast on the radio a *“cleared route secured”* or other brief communication stating the emergency vehicle can proceed.

Traffic control personnel stationed on the County road at each parking lot access point securing a clear road shall hold all traffic in both directions until the emergency vehicle has passed.

Traffic control personnel shall be in constant radio contact with event personnel and advise them of the need for any emergency vehicle to access a County road.

### ***17. Emergency Access to the Park – Entry Points***

In event of an emergency, all existing access points to the Community Park shall provide access for emergency wildland fire equipment and civilian evacuation through use of public access points and also private internal Park ranch roads that provide connectivity, access, and exits to multiple locations within the Park property.

- **Main Entrance:** (Primary Emergency Entrance)

The main entrance to the Park at 934 Sprowel Creek Road. From this entrance, emergency vehicles can gain emergency access to the entire event site, to the upper and lower farm fields, and to the Park Headquarters. There is a network of ranch roads and access roads that will allow emergency vehicles multiple exits from this entrance and adequate room for vehicle turn around.

- **Lower Tooby Ranch Road:** (Alternate Emergency Entrance)

From this entrance, emergency vehicles can gain emergency access to the entire event site, the upper and lower farm fields, the residential and barn area. There is a network of ranch roads and a private access road that will allow emergency vehicles to access many locations on Park property. There is adequate room for vehicles to turn around and there are also alternate emergency exits from this entrance.

- **Lower Farm Field Access:** (Alternate Emergency Entrance)

Emergency vehicles can gain access to the lower farm field through the ranch road that runs along the perimeter of the lower farm field. (This is not a public access entrance.) The entrance is off Camp Kimtu Road approximately 1/8 mile from the Sprowel Creek Kimtu junction on the left side of the road.

- **Camp Kimtu Road:** (Alternate Emergency Entrance)

The third entry is accessed from the Park's entrance at Camp Kimtu Road. There is a circular drive for turn around. Continuing straight through the parking area to the gate to the left of the entrance, emergency vehicles can obtain access to the westernmost upper farm field and through the field to the Community Commons area designated for vendor camping.

### **Airport Access**

The Garberville Airport, located on Sprowel Creek Road less than one mile from the Park, can be used to airlift passengers for medical emergencies.

### **Hospital**

The Jerold Phelps Community Hospital is located in Garberville approximately 1.5 miles from the Community Park main entrance. Ambulance service is available from Garberville for transport of patients.



**APPENDIX F  
TRANSPORTATION DATA**

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PM Peak Hour - Existing Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 US 101 SB Ramp/Sprowl Creek Rd

Average Delay (sec/veh): 3.6 Worst Case Level of Service: B [ 10.2 ]

Street Name: US 101 SB Ramp Sprowl Creek Rd

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 0 1 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am

Base Vol: 0 0 0 20 0 2 0 62 3 56 35 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 0 0 20 0 2 0 62 3 56 35 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78

PHF Volume: 0 0 0 26 0 3 0 79 4 72 45 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Volume: 0 0 0 26 0 3 0 79 4 72 45 0

Critical Gap Module:

Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx

FollowUpTim:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:

Conflict Vol: xxxx xxxx 270 271 45 xxxx xxxx xxxxx 83 xxxx xxxxx

Potent Cap.: xxxx xxxx 724 639 1031 xxxx xxxx xxxxx 1527 xxxx xxxxx

Move Cap.: xxxx xxxx 697 607 1031 xxxx xxxx xxxxx 1527 xxxx xxxxx

Volume/Cap: xxxx xxxx 0.04 0.00 0.00 xxxx xxxx xxxxx 0.05 xxxx xxxxx

Level of Service Module:

2Way5thQ: xxxx xxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx

Control Del:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx

Control Del:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

LOS by Move: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxx 718 xxxx xxxx xxxxx 1527 xxxx xxxxx

Shared Queue:xxxxx 0.1 xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx

Shrd Condel:xxxxx 10.2 xxxxx xxxx xxxx xxxxx 7.5 xxxx xxxxx

Shared LOS: \* \* B \* \* \* \* \* \* \* \* \* \* \* A \*

ApproachDel: xxxxxx 10.2 xxxxxx xxxxxxxx

ApproachLOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

PM Peak Hour - Existing Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 US 101 SB Ramp/Sprowl Creek Rd

Average Delay (sec/veh): 3.9 Worst Case Level of Service: B [ 11.1 ]

Street Name: US 101 SB Ramp Sprowl Creek Rd

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 0 1 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm

Base Vol: 0 0 0 15 1 4 0 63 1 105 68 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 0 0 15 1 4 0 63 1 105 68 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85

PHF Volume: 0 0 0 18 1 5 0 75 1 124 80 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Volume: 0 0 0 18 1 5 0 75 1 124 80 0

Critical Gap Module:

Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx

FollowUpTim:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:

Conflict Vol: xxxx xxxx 404 405 80 xxxx xxxx xxxxx 76 xxxx xxxxx

Potent Cap.: xxxx xxxx 606 538 985 xxxx xxxx xxxxx 1536 xxxx xxxxx

Move Cap.: xxxx xxxx 566 491 985 xxxx xxxx xxxxx 1536 xxxx xxxxx

Volume/Cap: xxxx xxxx 0.03 0.00 0.00 xxxx xxxx xxxxx 0.08 xxxx xxxxx

Level of Service Module:

2Way5thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.3 xxxx xxxxx

Control Del:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx

Control Del:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

LOS by Move: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx 614 xxxxx xxxx xxxx xxxxx xxxxx xxxxx

Shared Queue:xxxxx 0.1 xxxxx xxxx xxxx xxxxx 0.3 xxxx xxxxx

Shrd Condel:xxxxx 11.1 xxxxx xxxx xxxx xxxxx 7.5 xxxx xxxxx

Shared LOS: \* \* B \* \* \* \* \* \* \* \* \* \* \* A \*

ApproachDel: xxxxxx 11.1 xxxxxx xxxxxxxx

ApproachLOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

AM Peak Hour - Existing Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprowl Creek Rd  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.169  
Loss Time (sec): 0 Average Delay (sec/veh): 8.3  
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*  
Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am  
Base Vol: 31 99 0 99 82 29 0 76 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 31 99 0 99 82 29 0 76 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83  
PHF Volume: 38 120 0 120 99 35 0 92 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 38 120 0 120 99 35 0 92 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 38 120 0 120 99 35 0 92 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.28 0.00 0.72 0.00 0.00 0.00  
Final Sat.: 645 710 0 717 833 216 0 567 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.06 0.17 xxxxx 0.17 0.12 0.16 xxxxx 0.16 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 8.5 8.6 0.0 0.0 8.6 7.5 8.1 0.0 8.1 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 8.5 8.6 0.0 0.0 8.6 7.5 8.1 0.0 8.1 0.0 0.0 0.0  
LOS by Move: A A \* A A A A A \* A \*  
ApproachDel: 8.6 8.1 8.1 8.1  
Delay Adj: 1.00 1.00  
ApproachDel: 8.6 8.1 8.1  
LOS by Appr: A A A A  
AllWayAvgQ: 0.1 0.2 0.0 0.0 0.2 0.1 0.2 0.2 0.2 0.0 0.0 0.0  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Existing Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprowl Creek Rd  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.223  
Loss Time (sec): 0 Average Delay (sec/veh): 8.7  
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*  
Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm  
Base Vol: 71 149 0 112 118 95 0 39 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 71 149 0 112 118 95 0 39 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96  
PHF Volume: 74 155 0 117 123 99 0 41 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 74 155 0 117 123 99 0 41 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 74 155 0 117 123 99 0 41 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.71 0.00 0.29 0.00 0.00 0.00  
Final Sat.: 635 697 0 695 804 495 0 203 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.12 0.22 xxxxx 0.17 0.15 0.20 xxxxx 0.20 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 9.0 9.1 0.0 0.0 8.7 7.8 9.0 0.0 9.0 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 9.0 9.1 0.0 0.0 8.7 7.8 9.0 0.0 9.0 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 9.1 8.3  
Delay Adj: 1.00 1.00  
ApproachDel: 9.1 8.3  
LOS by Appr: A A A A  
AllWayAvgQ: 0.1 0.3 0.0 0.0 0.2 0.2 0.2 0.2 0.2 0.0 0.0 0.0  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
Intersection #1 US 101 SB Ramp/Sprowl Creek Rd  
Average Delay (sec/veh): 3.6 Worst Case Level Of Service: [A 9.9]

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
Intersection #1 US 101 SB Ramp/Sprowl Creek Rd  
Average Delay (sec/veh): 3.9 Worst Case Level Of Service: [B 10.8]

Street Name:	US 101 SB Ramp	Sprowl Creek Rd	West Bound	East Bound
Approach:	North Bound	South Bound	L - T - R	L - T - R
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 0	0 0 1 0	0 0 0 1	0 1 0 0

Street Name:	US 101 SB Ramp	Sprowl Creek Rd	West Bound	East Bound
Approach:	North Bound	South Bound	L - T - R	L - T - R
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 0	0 0 1 0	0 0 0 1	0 1 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am

Base Vol:	0 0 20 0 2	0 62 3	56 35	0
Growth Adj:	1.10 1.10 1.10 1.10 1.10	1.10 1.10 1.10	1.10 1.10	1.10
Initial Bse:	0 0 22 0 2	0 68 3	62 39	0
User Adj:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00
PHF Adj:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00
PHF Volume:	0 0 22 0 2	0 68 3	62 39	0
Reduct Vol:	0 0 0 0 0	0 0 0	0 0	0
Final Volume:	0 0 22 0 2	0 68 3	62 39	0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm

Base Vol:	0 0 15 1	4 0 63	1 105	68	0
Growth Adj:	1.10 1.10 1.10 1.10 1.10	1.10 1.10 1.10	1.10 1.10	1.10	1.10
Initial Bse:	0 0 17 1	4 0 69	1 116	75	0
User Adj:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00	1.00
PHF Adj:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00	1.00
PHF Volume:	0 0 17 1	4 0 69	1 116	75	0
Reduct Vol:	0 0 0 0	0 0 0	0 0	0	0
Final Volume:	0 0 17 1	4 0 69	1 116	75	0

Critical Gap Module:

Critical Gap:xxxxx	xxxx	xxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Critical Gap Module:

Critical Gap:xxxxx	xxxx	xxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Conflict Vol:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	72	xxxx	xxxxx
Potent Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1542	xxxx	xxxxx
Move Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1542	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.03	0.00	0.00	xxxxx	xxxx	xxxx	0.04	xxxx	xxxx

Capacity Module:

Conflict Vol:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	70	xxxx	xxxxx
Potent Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1543	xxxx	xxxxx
Move Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1543	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.03	0.00	0.00	xxxxx	xxxx	0.07	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
Control Del:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT		
Shared Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
SharedQueue:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
Shrd ConDel:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.5	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx	xxxxxx	9.9	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx		
ApproachLOS:	*	*	A	*	*	*	*	*	*	*	*

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
Control Del:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT		
Shared Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
SharedQueue:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxxx
Shrd ConDel:xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.5	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx	xxxxxx	10.8	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx		
ApproachLOS:	*	*	B	*	*	*	*	*	A	*	*

Note: Queue reported is the number of cars per lane.

Note: Queue reported is the number of cars per lane.

AM Peak Hour - Future Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprowl Creek Rd  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.156  
Loss Time (sec): 0 Average Delay (sec/veh): 8.2  
Optimal Cycle: 0 Level Of Service: A

Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am

Base Vol: 31 99 0 99 82 76 0 29 0 0 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 34 109 0 109 90 84 0 32 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 34 109 0 109 90 84 0 32 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 34 109 0 109 90 84 0 32 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 34 109 0 109 90 84 0 32 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.72 0.00 0.28 0.00 0.00 0.00  
Final Sat.: 650 715 0 0 721 839 537 0 205 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.05 0.15 xxxxx 0.15 0.11 0.16 xxxxx 0.16 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 8.4 8.5 0.0 0.0 8.4 7.4 8.4 0.0 8.4 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 8.4 8.5 0.0 0.0 8.4 7.4 8.4 0.0 8.4 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 8.5 8.0 8.0 8.4  
Delay Adj: 1.00 1.00  
ApproachDel: 8.5 8.0 8.4  
LOS by Appr: A A A  
AllWayAvQ: 0.1 0.2 0.0 0.0 0.2 0.1 0.2 0.2 0.2 0.0 0.0 0.0  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Future Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprowl Creek Rd  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.237  
Loss Time (sec): 0 Average Delay (sec/veh): 8.9  
Optimal Cycle: 0 Level Of Service: A

Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm

Base Vol: 71 149 0 112 118 95 0 39 0 0 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 78 164 0 123 130 105 0 43 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 78 164 0 123 130 105 0 43 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 78 164 0 123 130 105 0 43 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 78 164 0 123 130 105 0 43 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.70 0.01 0.29 0.00 0.00 0.00  
Final Sat.: 630 691 0 0 689 795 489 0 201 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.12 0.24 xxxxx 0.18 0.16 0.21 0.00 0.21 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 9.1 9.3 0.0 0.0 8.9 7.9 9.2 9.2 9.2 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 9.1 9.3 0.0 0.0 8.9 7.9 9.2 9.2 9.2 0.0 0.0 0.0  
LOS by Move: A A \* A A A A A A \*  
ApproachDel: 9.2 8.4  
Delay Adj: 1.00 1.00  
ApproachDel: 9.2 8.4  
LOS by Appr: A A A  
AllWayAvQ: 0.1 0.3 0.0 0.0 0.2 0.2 0.2 0.2 0.2 0.0 0.0 0.0  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

AM Peak Hour - Existing plus Project Conditions  
 Southern Humboldt Community Park TIS  
 County of Humboldt

Trip Generation Report

Forecast for am

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips Total
1	In	1.00	Community Park	5.00	0.00	5	0	5 62.5
	Zone 1 Subtotal					5	0	5 62.5
2	Out	1.00	Community Park	0.00	3.00	0	3	3 37.5
	Zone 2 Subtotal					0	3	3 37.5
-----								
TOTAL						5	3	8 100.0

PM Peak Hour - Existing plus Project Conditions  
 Southern Humboldt Community Park TIS  
 County of Humboldt

Trip Generation Report

Forecast for pm

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips Total
1	In	1.00	Community Park	22.00	0.00	22	0	22 59.5
	Zone 1 Subtotal					22	0	22 59.5
2	Out	1.00	Community Park	0.00	15.00	0	15	15 40.5
	Zone 2 Subtotal					0	15	15 40.5
-----								
TOTAL						22	15	37 100.0

PM Peak Hour - Existing plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #1 US 101 SB Ramp/Sprowl Creek Rd

Average Delay (sec/veh): 3.6 Worst Case Level of Service: B [ 10.1]  
Street Name: US 101 SB Ramp Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am  
Base Vol: 0 0 20 0 2 0 62 3 56 35 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 20 0 2 0 62 3 56 35 0  
Added Vol: 0 0 0 0 3 0 3 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 20 0 5 0 65 3 56 37 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78  
PHF Volume: 0 0 26 0 6 0 83 4 72 47 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 26 0 6 0 83 4 72 47 0

Critical Gap Module:  
Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx  
Capacity Module:  
Conflict Vol: 276 278 47 xxxxx xxxxx xxxxx 87 xxxxx xxxxx  
Potent Cap.: 718 633 1027 xxxxx xxxxx xxxxx 1522 xxxxx xxxxx  
Move Cap.: 691 602 1027 xxxxx xxxxx xxxxx 1522 xxxxx xxxxx  
Volume/Cap: 0.04 0.00 0.01 xxxxx xxxxx xxxxx 0.05 xxxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.1 xxxxx xxxxx  
Control Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx  
LOS by Move: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx 740 xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx xxxxx 0.1 xxxxx xxxxx xxxxx xxxxx 0.1 xxxxx xxxxx  
Shrd ConDel:xxxxx xxxxx xxxxx 10.1 xxxxx xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx 10.1 xxxxxx xxxxxx  
ApproachLOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Existing plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #1 US 101 SB Ramp/Sprowl Creek Rd

Average Delay (sec/veh): 3.9 Worst Case Level of Service: B [ 10.4]  
Street Name: US 101 SB Ramp Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm  
Base Vol: 0 0 15 1 4 0 63 1 105 68 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 15 1 4 0 63 1 105 68 0  
Added Vol: 0 0 0 0 13 0 14 2 0 9 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 15 1 17 0 77 3 105 77 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 0 0 18 1 20 0 91 4 124 91 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 18 1 20 0 91 4 124 91 0

Critical Gap Module:  
Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx  
Capacity Module:  
Conflict Vol: 433 434 91 xxxxx xxxxx xxxxx 95 xxxxx xxxxx  
Potent Cap.: 584 518 972 xxxxx xxxxx xxxxx 1512 xxxxx xxxxx  
Move Cap.: 545 472 972 xxxxx xxxxx xxxxx 1512 xxxxx xxxxx  
Volume/Cap: 0.03 0.00 0.02 xxxxx xxxxx xxxxx 0.08 xxxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.3 xxxxx xxxxx  
Control Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.6 xxxxx xxxxx  
LOS by Move: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx 700 xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx xxxxx 0.2 xxxxx xxxxx xxxxx xxxxx 0.3 xxxxx xxxxx  
Shrd ConDel:xxxxx xxxxx xxxxx 10.4 xxxxx xxxxx xxxxx xxxxx 7.6 xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx 10.4 xxxxxx xxxxxx  
ApproachLOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
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PM Peak Hour - Existing plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)  
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Intersection #2 Redwood Dr/Sprowl Creek Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.179  
Loss Time (sec): 0 Average Delay (sec/veh): 8.4  
Optimal Cycle: 0 Level Of Service: A

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Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am

Base Vol: 31 99 0 99 82 76 0 29 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 31 99 0 99 82 76 0 29 0 0 0  
Added Vol: 2 0 0 0 1 2 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 33 99 0 99 83 78 0 29 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83  
PHF Volume: 40 120 0 120 101 95 0 35 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 40 120 0 120 101 95 0 35 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 40 120 0 120 101 95 0 35 0 0 0

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.73 0.00 0.27 0.00 0.00 0.00  
Final Sat.: 641 705 0 711 826 529 0 197 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.06 0.17 xxxxx 0.17 0.12 0.18 xxxxx 0.18 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 8.5 8.7 0.0 0.0 8.6 7.5 8.7 0.0 8.7 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 8.5 8.7 0.0 0.0 8.6 7.5 8.7 0.0 8.7 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 8.7 8.1 8.7 8.7  
Delay Adj: 1.00 1.00  
AppradjDel: 8.7 8.1 8.7  
LOS by Appr: A A A  
AllWayAvgQ: 0.1 0.2 0.0 0.0 0.2 0.1 0.2 0.2 0.2 0.0 0.0 0.0

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AllWayAvgQ: 0.1 0.2 0.0 0.0 0.2 0.1 0.2 0.2 0.2 0.0 0.0 0.0  
\*\*\*\*\*

PM Peak Hour - Existing plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)  
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Intersection #2 Redwood Dr/Sprowl Creek Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.225  
Loss Time (sec): 0 Average Delay (sec/veh): 8.9  
Optimal Cycle: 0 Level Of Service: A

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Street Name: Redwood Dr Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm

Base Vol: 71 149 0 112 118 95 0 39 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 71 149 0 112 118 95 0 39 0 0 0  
Added Vol: 7 0 0 0 0 2 12 0 2 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 78 149 0 112 120 107 0 41 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96  
PHF Volume: 81 155 0 117 125 111 0 43 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 81 155 0 117 125 111 0 43 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 81 155 0 117 125 111 0 43 0 0 0

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.72 0.00 0.28 0.00 0.00 0.00  
Final Sat.: 629 689 0 687 793 501 0 192 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.13 0.22 xxxxx 0.17 0.16 0.22 xxxxx 0.22 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 9.1 9.2 0.0 0.0 8.8 7.9 9.2 0.0 9.2 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 9.1 9.2 0.0 0.0 8.8 7.9 9.2 0.0 9.2 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 9.2 8.3 8.3 9.2  
Delay Adj: 1.00 1.00  
AppradjDel: 9.2 8.3 9.2  
LOS by Appr: A A A  
AllWayAvgQ: 0.1 0.3 0.0 0.0 0.2 0.2 0.3 0.3 0.3 0.0 0.0 0.0

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AllWayAvgQ: 0.1 0.3 0.0 0.0 0.2 0.2 0.3 0.3 0.3 0.0 0.0 0.0  
\*\*\*\*\*

AM Peak Hour - Future plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
\*\*\*\*\*

Intersection #1 US 101 SB Ramp/Sprowl Creek Rd  
\*\*\*\*\*

Average Delay (sec/veh): 3.6 Worst Case Level of Service: [ 10.3 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramp Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am  
Base Vol: 0 0 20 0 2 0 62 3 56 35 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 0 0 22 0 2 0 68 3 62 39 0  
Added Vol: 0 0 0 0 3 0 3 0 0 2 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 22 0 5 0 71 3 62 41 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78  
PHF Volume: 0 0 28 0 7 0 91 4 79 52 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 28 0 7 0 91 4 79 52 0

Critical Gap Module:  
Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 xxxxxx xxxx xxxxxx 2.2 xxxx xxxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx 303 305 52 xxxxx xxxxx xxxxxx 96 xxxxx xxxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 693 611 1022 xxxxx xxxxx xxxxxx 1511 xxxxx xxxxxx  
Move Cap.: xxxxx xxxxx xxxxx 664 578 1022 xxxxx xxxxx xxxxxx 1511 xxxxx xxxxxx  
Volume/Cap: xxxxx xxxxx xxxxx 0.04 0.00 0.01 xxxxx xxxxx xxxxx 0.05 xxxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.2 xxxxx xxxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.5 xxxxx xxxxxx  
LOS by Move: \* A \* \*  
Movement: L T - LTR - RT L T - LTR - RT L T - LTR - RT L T - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx 711 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx xxxxx 0.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.2 xxxxx xxxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.3 xxxxx xxxxx xxxxx xxxxx 7.5 xxxxx xxxxxx  
Shared LOS: \* A \* \*  
ApproachDel: xxxxxx 10.3 xxxxxx xxxxxx  
ApproachLOS: \* B \* \*

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Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Future plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
\*\*\*\*\*

Intersection #1 US 101 SB Ramp/Sprowl Creek Rd  
\*\*\*\*\*

Average Delay (sec/veh): 3.9 Worst Case Level of Service: [ 10.8 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramp Sprowl Creek Rd  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm  
Base Vol: 0 0 15 1 4 0 63 1 105 68 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 0 0 17 1 4 0 69 1 116 75 0  
Added Vol: 0 0 0 0 13 0 14 2 0 9 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 17 1 17 0 83 3 116 84 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 0 0 20 1 21 0 99 4 137 99 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 20 1 21 0 99 4 137 99 0

Critical Gap Module:  
Critical Gap:xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 xxxxxx xxxx xxxxxx 2.2 xxxx xxxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx 473 475 99 xxxxx xxxxx xxxxxx 102 xxxxx xxxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 553 491 962 xxxxx xxxxx xxxxxx 1502 xxxxx xxxxxx  
Move Cap.: xxxxx xxxxx xxxxx 512 443 962 xxxxx xxxxx xxxxxx 1502 xxxxx xxxxxx  
Volume/Cap: xxxxx xxxxx xxxxx 0.04 0.00 0.02 xxxxx xxxxx xxxxx 0.09 xxxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.3 xxxxx xxxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.6 xxxxx xxxxxx  
LOS by Move: \* A \* \*  
Movement: L T - LTR - RT L T - LTR - RT L T - LTR - RT L T - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx 663 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx xxxxx 0.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.3 xxxxx xxxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.8 xxxxx xxxxx xxxxx xxxxx 7.6 xxxxx xxxxxx  
Shared LOS: \* A \* \*  
ApproachDel: xxxxxx 10.8 xxxxxx xxxxxx  
ApproachLOS: \* B \* \*

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Note: Queue reported is the number of cars per lane.  
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AM Peak Hour - Future plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprawl Creek Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.200  
Loss Time (sec): 0 Average Delay (sec/veh): 8.6  
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*  
Street Name: Redwood Dr Sprawl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 8:00 - 9:00 am

Base Vol: 31 99 0 99 82 76 0 29 0 0 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 34 109 0 109 90 84 0 32 0 0 0  
Added Vol: 2 0 0 0 1 2 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 36 109 0 109 91 86 0 32 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83  
PHF Volume: 44 132 0 132 111 104 0 39 0 0 0  
Reduct Vol: 0 0 0 0 132 111 104 0 39 0 0  
Reduced Vol: 44 132 0 132 111 104 0 39 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 44 132 0 132 111 104 0 39 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.73 0.00 0.27 0.00 0.00 0.00  
Final Sat.: 633 695 0 703 814 519 0 193 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.07 0.19 xxxxx 0.19 0.14 0.20 xxxxx 0.20 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 8.7 8.9 0.0 0.0 8.8 7.7 8.9 0.0 8.9 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 8.7 8.9 0.0 0.0 8.8 7.7 8.9 0.0 8.9 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 8.8 8.3 8.3 8.9  
Delay Adj: 1.00 1.00 1.00  
ApproachDel: 8.8 8.3 8.9  
LOS by Appr: A A A  
AllWayAvgQ: 0.1 0.2 0.0 0.0 0.2 0.1 0.2 0.2 0.2 0.0 0.0 0.0  
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PM Peak Hour - Future plus Project Conditions  
Southern Humboldt Community Park TIS  
County of Humboldt

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)  
\*\*\*\*\*  
Intersection #2 Redwood Dr/Sprawl Creek Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.251  
Loss Time (sec): 0 Average Delay (sec/veh): 9.1  
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*  
Street Name: Redwood Dr Sprawl Creek Rd  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Stop Sign Stop Sign  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 1 0 0 0 0 0 0

Volume Module: >> Count Date: 7 Apr 2011 << 4:00 - 5:00 pm

Base Vol: 71 149 0 112 118 95 0 39 0 0 0  
Growth Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10  
Initial Bse: 78 164 0 123 130 105 0 43 0 0 0  
Added Vol: 7 0 0 0 2 12 0 2 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 85 164 0 123 132 117 0 45 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96  
PHF Volume: 89 171 0 128 137 121 0 47 0 0 0  
Reduct Vol: 0 0 0 0 128 137 121 0 47 0 0  
Reduced Vol: 89 171 0 128 137 121 0 47 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
FinalVolume: 89 171 0 128 137 121 0 47 0 0 0

Saturation Flow Module:  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 0.72 0.00 0.28 0.00 0.00 0.00  
Final Sat.: 620 679 0 677 779 490 0 189 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.14 0.25 xxxxx 0.19 0.18 0.25 xxxxx 0.25 xxxxx xxxxx  
Crit Moves: \*\*\*\*  
Delay/Veh: 9.3 9.5 0.0 0.0 9.1 8.1 9.5 0.0 9.5 0.0 0.0 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 9.3 9.5 0.0 0.0 9.1 8.1 9.5 0.0 9.5 0.0 0.0 0.0  
LOS by Move: A A \* A A A A \* A \*  
ApproachDel: 9.4 8.6 8.6 9.5  
Delay Adj: 1.00 1.00 1.00  
ApproachDel: 9.4 8.6 8.6 9.5  
LOS by Appr: A A A  
AllWayAvgQ: 0.2 0.3 0.0 0.0 0.2 0.2 0.3 0.3 0.3 0.0 0.0 0.0  
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**SEGMENT COLLISION RATE CALCULATIONS**

**County of Humboldt**

**Location:** Sprowl Creek Road west of Riverview Lane

**Date of Count:** Friday, August 01, 2008  
**ADT:** 1,400

**Number of Collisions:** 2  
**Number of Injuries:** 1  
**Number of Fatalities:** 0  
**Start Date:** January 1, 2007  
**End Date:** December 31, 2011  
**Number of Years:** 5

**Highway Type:** Conventional 2 lanes or less  
**Area:** Rural  
**Design Speed:** >55  
**Terrain:** Rolling/Mountain

**Segment Length:** 1.3 miles  
**Direction:** East/West

$$\frac{\text{NUMBER OF COLLISIONS x 1 MILLION}}{\text{ADT x 365 DAYS PER YEAR x SEGMENT LENGTH x NUMBER OF YEARS}}$$

$$\frac{2 \times 1,000,000}{1,400 \times 365 \times 1.3 \times 5}$$

	<u>Collision Rate</u>	<u>Fatality Rate</u>	<u>Injury Rate</u>
<b>Study Segment</b>	<b>0.60 c/mvm</b>	<b>0.0%</b>	<b>50.0%</b>
<b>Statewide Average*</b>	<b>1.00 c/mvm</b>	<b>3.2%</b>	<b>41.5%</b>

ADT = average daily traffic volume  
 c/mvm = collisions per million vehicle miles  
 \* 2009 Collision Data on California State Highways, Caltrans

**INTERSECTION COLLISION RATE CALCULATIONS**

**County of Humboldt**

**Intersection # 1:** Sprowl Creek Road & US 101 South Ramps  
**Date of Count:** Thursday, April 07, 2011

**Number of Collisions:** 0  
**Number of Injuries:** 0  
**Number of Fatalities:** 0  
**ADT:** 2600  
**Start Date:** July 1, 2006  
**End Date:** June 30, 2011  
**Number of Years:** 5

**Intersection Type:** Tee  
**Control Type:** Stop & Yield Controls  
**Area:** Suburban

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{0}{2,600} \times \frac{1,000,000}{365 \times 5}$$

	<b>Collision Rate</b>	<b>Fatality Rate</b>	<b>Injury Rate</b>
<b>Study Intersection</b>	<b>0.00 c/mve</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Statewide Average*</b>	<b>0.15 c/mve</b>	<b>0.8%</b>	<b>36.2%</b>

ADT = average daily total vehicles entering intersection  
c/mve = collisions per million vehicles entering intersection  
\* 2009 Collision Data on California State Highways, Caltrans

**Intersection # 2:** Sprowl Creek Road & Redwood Road  
**Date of Count:** Thursday, April 07, 2011

**Number of Collisions:** 4  
**Number of Injuries:** 1  
**Number of Fatalities:** 0  
**ADT:** 5800  
**Start Date:** July 1, 2006  
**End Date:** June 30, 2011  
**Number of Years:** 5

**Intersection Type:** Four-Legged  
**Control Type:** 4 Way Stop  
**Area:** Suburban

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{4}{5,800} \times \frac{1,000,000}{365 \times 5}$$

	<b>Collision Rate</b>	<b>Fatality Rate</b>	<b>Injury Rate</b>
<b>Study Intersection</b>	<b>0.38 c/mve</b>	<b>0.0%</b>	<b>25.0%</b>
<b>Statewide Average*</b>	<b>0.40 c/mve</b>	<b>0.1%</b>	<b>44.4%</b>

ADT = average daily total vehicles entering intersection  
c/mve = collisions per million vehicles entering intersection  
\* 2009 Collision Data on California State Highways, Caltrans



**APPENDIX G  
WATER SUPPLY DATA**





2 September 2014

To	Southern Humboldt Community Park		
Copy to	Kathryn Lobato		
From	Rebecca Crow	Tel	707-443-8326
Subject	Water Supply and Demand Analysis Memorandum	Job no.	8411201//

# 1 Introduction

## 1.1 Purpose of this report

The purpose of this technical memorandum is to present a water demand and water supply analysis for existing and proposed new facilities and events hosted in the Southern Humboldt Community Park (SHCP) to determine if the water available on site is sufficient to meet proposed future demands. The Park operations will include a variety of potable and non-potable water uses. This water supply and demand analysis was prepared to support the utilities and services section of the Environmental Impact Report (EIR) being prepared for the SHCP. This memo is broken into the following sections:

- Water Demand Analysis
- Water Supply Analysis
- Water Storage Analysis
- Supply and Demand Comparison
- Water Supply Options
- Recommendations and Conclusions

There are currently three sources of water in use at the Park: Source 1 (non-potable) is from the South Fork Eel River by a permitted Infiltration Gallery (IG); source 2 (potable) is from a tributary spring; and source 3 (potable) is from a well located in Tooby Memorial Park (TP Well). A fourth source, a groundwater well, (potable) is available in Area 4 but is currently not in use.

## 1.2 Scope and limitations

This report: has been prepared by GHD for Southern Humboldt Community Park and may only be used and relied on by Southern Humboldt Community Park for the purpose agreed between GHD and the Southern Humboldt Community Park as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Southern Humboldt Community Park arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and contract between GHD and SHCP and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Southern Humboldt Community Park and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

GHD has not been involved in the preparation of the Environmental Impact Report and has had no contribution to, or review of the Environmental Impact Report other than in the Water Supply and Demand Analysis. GHD shall not be liable to any person for any error in, omission from, or false or misleading statement in, any other part of the Environmental Impact Report.

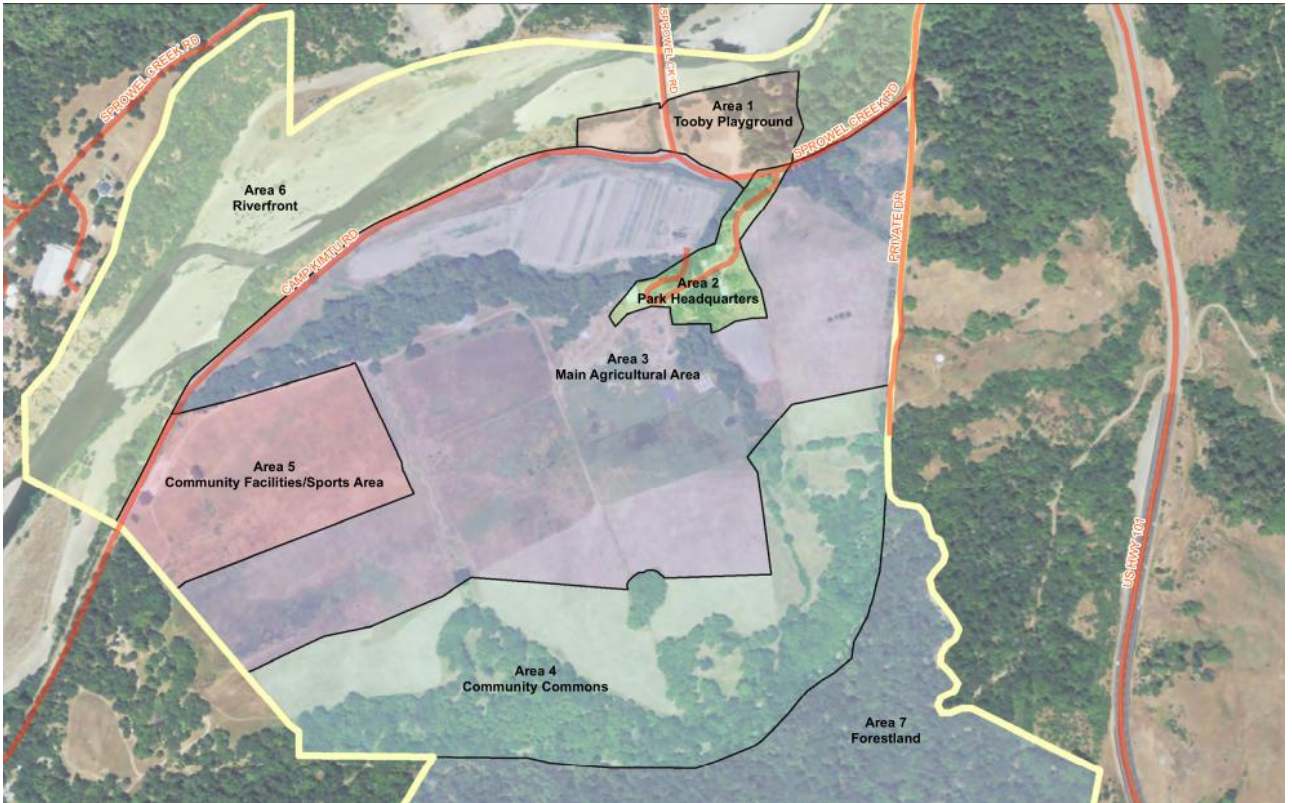
## 2 Water Demand Analysis

The section of the technical memorandum evaluates the proposed types of water uses, volume of use, and frequency of use for potable and non-potable water demands for existing and proposed future residential and recreation facilities based on the project planning information provided by SHCP. The project was split into seven (7) areas listed below.

- Area 1 – Tooby Memorial Park
- Area 2 – Park Headquarters
- Area 3 – Main Agricultural
- Area 4 – Community Commons
- Area 5 – Community Facilities
- Area 6 – Riverfront
- Area 7 – Forestland

According to the California Department of Public Health (CDPH), the water system at the Park is classified as “Transient Non-Community Water System”, meaning the water system is not a public water system. See Appendix A for the CDPH Decision Tree for Classification of Water Systems.

Figure 1 Map of Southern Humboldt Community Park Proposed Areas



Within this section, water demands are presented in terms of the project areas as shown in Figure 1, types of uses, and existing and future uses. In section 5 of this memorandum the demand is further broken out by potable and non-potable uses for comparison with available supply.

## 2.1 Existing Demands

Table 1 below presents estimates of the current water demands at the Park by source, estimated from existing known use. A list of existing facilities is located in Appendix A.

Table 1 Existing Water Demands at SHCP by Source

Source	Peak (gal/mo)	Off-Peak (gal/mo)
1 (IG)	328,015	167
2 (Spring)	31,741	13,262
3 (TP Well)	7,950	7,950
<b>Total</b>	<b>367,706</b>	<b>21,379</b>

Table 2 below presents estimates of the current water demands at the park by area. For the purpose of this analysis, Peak is defined as May 1 through October 31 (6 months), and Off-Peak is defined as November 1 through April 30 (6 months).

Table 2 Existing Water Demands at SHCP by Area

Area	Source	Peak (gal/mo)	Off-Peak (gal/mo)
1	TP Well	7,950	7,950
2	Spring	33,908	13,428
3	IG	325,848	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-
<b>Total</b>		<b>367,706</b>	<b>21,379</b>

## 2.2 Proposed Demands

### 2.2.1 New Facilities

Table 3 is a general summary of the existing and proposed facilities that require water at the Park. For a full description of the project facilities see Appendix A. Areas 6 and 7 are not included because there are no existing or proposed facilities that will use water in either area. The construction of proposed new facilities are broken into Phase 1 and Phase 2. Phase 1 includes years 1 through 3, and Phase 2 includes demands after year 3.

Table 3 Existing and Proposed Facilities Requiring Water

Area	Existing Facility	Proposed New Facility-Ph. 1	Proposed New Facility-Ph. 2
1	Caretaker Unit	Restrooms; Drinking Fountain	None
2	Ranch House, Cabin, Bunkhouse, Large Barn, Chicken Coop, Horse Barn	None	Remodel Structures into Offices, Workshop, Community Kitchen, etc.; Greenhouse; Restrooms; Drinking Fountain
3	Crop Irrigation	None	None
4	None	Temporary Sanitation Station Water Hookups; Food Vendor Washing Station Water Hookups; Faucet at Each Camp Site. *(1/2 capacity)*	Temporary Sanitation Station Water Hookups; Food Vendor Washing Station Water Hookups; Faucet at Each Camp Site. *(full capacity)*
5	None	None	Concession Stand with Sink; Restrooms; Drinking Fountain; Four (4) Irrigated Sports Fields.

The water demand for all uses except for irrigation was calculated using typical wastewater flow rates from Metcalf & Eddy “Wastewater Engineering: Treatment and Reuse”, Fourth Ed., 2003. As noted in Appendix B, several factors were increased by 20% to account for water that does not go to the wastewater system, which is a typical practice. A baseline, everyday water demand was calculated for

peak and off-peak months. The baseline water demand includes visitors using facilities at the hiking trails, playground, headquarter offices & spaces, restrooms, and sports fields. The baseline water demand also includes irrigation, livestock, and household use.

### 2.2.2 Irrigation Calculations

Four sports fields and surrounding areas equaling approximately ten (10) acres are proposed in Area 5. This area will need to be irrigated regularly depending on the time of year. Using historical average and drought precipitation data from Garberville and nearby Richardson's Grove, and average temperature (from Western Regional Climate Center), and applying the Blaney-Criddle Formula from U.S. Department of Agriculture, Soil Conservation Service Technical Release No. 21, an average and drought effective irrigation demand (inch/month) was calculated and converted to a monthly demand (gallon/month). Table 4 summarizes the irrigation demand calculations. For complete calculations, see Appendix B. Irrigation of crops in Area 3 is accounted for under existing uses and is based on historical water use in these areas and is anticipated to continue at historical rates.

**Table 4 Sports Fields Irrigation Demands - Proposed**

Month	Number days/mo	Avg. Effective Irrigation Demand (in/mo)	Drought Effective Irrigation Demand (in/mo)	Avg. Monthly Demand (gal/mo)	Drought Monthly Demand (gal/mo)
January	31	0.00	0.00	-	-
February	28	0.00	0.00	-	-
March	31	0.00	0.00	-	-
April	30	0.31	1.72	84,301	467,210
May	31	3.44	4.09	934,900	1,110,719
June	30	5.58	5.81	1,516,173	1,578,078
July	31	7.40	7.43	2,009,929	2,018,435
August	31	6.39	6.67	1,735,919	1,811,978
September	30	4.36	4.77	1,184,701	1,296,234
October	31	0.41	1.77	110,804	481,459
November	30	0.00	0.00	-	-
December	31	0.00	0.00	-	-

The irrigation demand was also analyzed using the minimum areas needing irrigation, which includes the sports fields only. The total of these four fields equals approximately 5.5 acres. This analysis is included as an approach to conserve water in response to the ongoing drought. Table 5 summarizes the minimum field irrigation requirements.

Table 5 Sports Fields Irrigation Demands - Minimum

Month	Number days/mo	Avg. Effective Irrigation Demand (in/mo)	Drought Effective Irrigation Demand (in/mo)	Avg. Monthly Demand (gal/mo)	Drought Monthly Demand (gal/mo)
January	31	0.00	0.00	-	-
February	28	0.00	0.00	-	-
March	31	0.00	0.00	-	-
April	30	0.31	1.72	46,689	258,756
May	31	3.44	4.09	517,777	615,151
June	30	5.58	5.81	839,704	873,989
July	31	7.40	7.43	1,113,162	1,117,873
August	31	6.39	6.67	961,406	1,003,530
September	30	4.36	4.77	656,124	717,895
October	31	0.41	1.77	61,367	266,647
November	30	0.00	0.00	-	-
December	31	0.00	0.00	-	-

### 2.2.3 Special Events and Phasing

Special events are held at various areas of the Park. These events typically occur during peak months and temporarily increase the water demand. These events include weddings, memorials, fundraisers, private parties, annual community events, medium events of 800 to 2,500 attendees occurring up to five times per year, and one large two-day festival with 5,000 attendees allowed once per year.

The construction of proposed water facilities will be phased as the park develops over the next several years. Phase 1 will occur over years 1 through 3 which includes construction of a new restroom in Area 1, and temporary facilities operated at half capacity in Area 4. Phase 2 will include construction of the remaining proposed facilities after year 3, and temporary facilities operated at full capacity in Area 4. Tables 6 and 7 depict a by-month assessment of the events in each phase used to calculate event driven water demands. Table 8 shows the Phase 1 demand including existing facilities to remain and proposed new Phase 1 uses. Table 9 shows the total Phase 2 water demands, including existing facilities to remain, all proposed new facilities, events, and irrigation.

Table 6 Summary of Events at SHCP [(AREA) – (EVENT) X (FREQUENCY)] – PHASE 1

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2 - Winter Event x 1 4 - Fundraiser x 1	None	None	1 - Egg Hunt x 1 2 - Spring Event x 1	1 - Bike Event x 1 4 - Fundraiser x 1 4 - Group of 10 Camp x 1	1 - Memorial x 1 4 - Wedding x 1 4 - 1,500 Person Event x 1 4 - Group of 10 Camp x 1 4 - Group of 15 Camp x 1 4 - Group of 20 Camp x 1	1 - Wedding x 1 2 - Summer Event x 1 4 - Wedding x 1 4 - 1,250 Person Event x 1 4 - Group of 10 Camp x 1 4 - Group of 15 Camp x 1	4 - Fundraiser x 1 4 - 1,250 Person Event x 1 4 - Group of 10 Camp x 1	1 - Walk in the Park Event x 1 4 - Group of 10 Camp x 1	2 - Fall Event x 1	None	None

Table 7 Summary of Events at SHCP [(AREA) – (EVENT) X (FREQUENCY)] – PHASE 2

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2 - Winter Event x 1 4 - Memorial x 1 4 - Fundraiser x 1	None	4 - Fundraiser x 1 5 - Soccer Tournament x 1	1 - Egg Hunt x 1 2 - Spring Event x 1 4 - Group of 10 Camp x 1	1 - Bike Event x 1 4 - Memorial x 1 4 - Fundraiser x 1 4 - 800 Person Event x 1 4 - Group of 10 Camp x 2	1 - Memorial x 1 4 - Wedding x 1 4 - Private Party x 1 4 - 1,500 Person Event x 1 4 - 5,000 Person Festival x 1 4 - Group of 10 Camp x 2 4 - Group of 15 Camp x 1 4 - Group of 20 Camp x 1	1 - Wedding x 1 2 - Summer Event x 1 4 - Wedding x 1 4 - Private Party x 1 4 - 1,250 Person Event x 1 4 - Group of 10 Camp x 2 4 - Group of 15 Camp x 1 4 - Group of 20 Camp x 1	4 - Wedding x 1 4 - Fundraiser x 1 4 - 1,250 Person Event x 1 4 - Group of 10 Camp x 2 4 - Group of 15 Camp x 1 4 - Group of 20 Camp x 1	1 - Walk in the Park Event x 1 4 - Memorial x 1 4 - Wedding x 1 4 - 800 Person Event x 1 4 - Group of 10 Camp x 1	2 - Fall Event x 1 5 - Soccer Tournament x 1	4 - Fundraiser x 1	None

Table 8 Summary of Post-Project Water Demands at SHCP by Month - PHASE 1

	(gallons/month)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AREA 1												
Baseline Water Use	9,072	9,072	9,072	9,072	18,402	18,402	18,402	18,402	18,402	18,402	9,072	9,072
Events, Camps, Tournaments	-	-	-	2,640	990	330	330	-	1,980	-	-	-
Irrigation	-	-	-	-	9,863	9,863	9,863	9,863	9,863	9,863	-	-
AREA 2												
Baseline I Water Use	19,094	19,094	19,094	19,094	39,965	39,965	39,965	39,965	39,965	39,965	19,094	19,094
Events, Camps, Tournaments	2,250	-	-	2,250	-	-	4,500	-	-	2,700	-	-
Irrigation	-	-	-	-	20,055	20,055	20,055	20,055	20,055	20,055	-	-
AREA 3												
Baseline Water Use	-	-	-	-	-	-	-	-	-	-	-	-
Events, Camps, Tournaments	-	-	-	-	-	-	-	-	-	-	-	-
Irrigation	-	-	-	-	325,848	325,848	325,848	325,848	325,848	325,848	-	-
AREA 4												
Baseline I Water Use	-	-	-	-	-	-	-	-	-	-	-	-
Events, Camps, Tournaments	240	-	-	-	348	1,768	1,352	1,348	108	-	-	-
/Irrigation	-	-	-	-	-	-	-	-	-	-	-	-
AREA 5												
Baseline Water Use	-	-	-	-	-	-	-	-	-	-	-	-
Events, Camps, Tournaments	-	-	-	-	-	-	-	-	-	-	-	-
Irrigation	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL DEMAND:</b>	<b>30,656</b>	<b>28,166</b>	<b>28,166</b>	<b>33,056</b>	<b>415,470</b>	<b>416,230</b>	<b>420,314</b>	<b>415,480</b>	<b>416,220</b>	<b>416,832</b>	<b>28,166</b>	<b>28,166</b>

Table 9 Summary of Post-Project Water Demands at SHCP by Month - PHASE 2

	(gallons/month)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AREA 1												
Baseline Water Use	9,072	9,072	9,072	9,072	18,402	18,402	18,402	18,402	18,402	18,402	9,072	9,072
Events, Camps, Tournaments	-	-	-	2,640	990	330	330	-	1,980	-	-	-
Irrigation	-	-	-	-	9,863	9,863	9,863	9,863	9,863	9,863	-	-
AREA 2												
Baseline I Water Use	19,094	19,094	19,094	19,094	39,965	39,965	39,965	39,965	39,965	39,965	19,094	19,094
Events, Camps, Tournaments	2,250	-	-	2,250	-	-	4,500	-	-	2,700	-	-
Irrigation	-	-	-	-	20,055	20,055	20,055	20,055	20,055	20,055	-	-
AREA 3												
Baseline Water Use	-	-	-	-	-	-	-	-	-	-	-	-
Events, Camps, Tournaments	-	-	-	-	-	-	-	-	-	-	-	-
Irrigation	-	-	-	-	325,848	325,848	325,848	325,848	325,848	325,848	-	-
AREA 4												
Baseline I Water Use	-	-	-	-	-	-	-	-	-	-	-	-
Events, Camps, Tournaments	320	-	240	108	1,176	9,996	1,796	1,916	928	-	240	-
Irrigation	-	-	-	-	-	-	-	-	-	-	-	-
AREA 5												
Baseline Water Use	5,400	5,400	5,400	5,400	14,190	14,190	14,190	14,190	14,190	14,190	5,400	5,400
Events, Camps, Tournaments	-	-	4,200	-	-	-	-	-	-	4,200	-	-
Irrigation (Proposed 10 acres)	-	-	-	467,210	1,110,719	1,578,078	2,018,435	1,811,978	1,296,234	481,459	-	-
<b>TOTAL DEMAND, (Proposed Irrigation in Area 5):</b>	<b>36,136</b>	<b>33,566</b>	<b>38,006</b>	<b>505,774</b>	<b>1,541,207</b>	<b>2,016,727</b>	<b>2,453,384</b>	<b>2,242,216</b>	<b>1,727,464</b>	<b>916,681</b>	<b>33,806</b>	<b>33,566</b>
Irrigation (Reduced 5.5 acres)	-	-	-	258,756	615,151	873,989	1,117,873	1,003,530	717,895	266,647	-	-
<b>TOTAL DEMAND, (Reduced Irrigation in Area 5)</b>	<b>36,136</b>	<b>33,566</b>	<b>38,006</b>	<b>297,320</b>	<b>1,045,639</b>	<b>1,312,638</b>	<b>1,552,821</b>	<b>1,433,768</b>	<b>1,149,125</b>	<b>701,869</b>	<b>33,806</b>	<b>33,566</b>



### 3 Water Supply Analysis

This section of the technical memorandum presents the evaluation of the capacity of the existing supply sources. Currently, SHCP has access to three (3) water sources, and owns another well located in area 4 of the park (not currently in use). The tables below summarize these sources. The pump at the Infiltration Gallery and the Upland Well (after installation) were assumed to run for twelve (12) hours per day.

Table 10 Existing Water Sources at SHCP

Source No.	Water Source	Permit	Water Rights Filings	Pump	Storage Capacity	Potable	Conditions
1	South Fork Eel River – Infiltration Gallery	CDFW: LSAA (R1-2009-0238)	SWRCB, Statement of Water Diversion and Use: S0243379	Gould's submersible pump 107 GPM (2013)	None	No	Rate of diversion 108 GPM or 10% of streamflow (lesser of the two)
2	Spring – Unnamed Tributary			None. Gravity feed	55,000 gallon tank	Yes	Rate of diversion 1.39 GPM. No draw of water July 2 to October 31 each year
3	Tooby Memorial Park – Well			-	Grundfos submersible pump	None	Yes
4	Upland Park – Well	-	Will apply after use starts	None – to be installed in the future.	None	Yes	Capacity approx. 2.5 GPM

Table 11 Water Source Capacity by Month

Month	No. of Days	Source 1 Capacity (12 hrs/day)	Source 2 Capacity	Source 3 Capacity	Source 4 Capacity (12 hrs/day)
		(gal/mo)			
January	31	2,388,240	62,050	Unknown – Currently supplying “plenty” of water to area 1 caretaker unit and irrigation (approx. 7,950 gal/mo)	55,800
February	28	2,157,120	56,045		50,400
March	31	2,388,240	62,050		55,800
April	30	2,311,200	60,048		54,000
May	31	2,388,240	62,050		55,800
June	30	2,311,200	60,048		54,000
July	31	2,388,240	-		55,800
August	31	2,388,240	-		55,800
September	30	2,311,200	-		54,000
October	31	2,388,240	-		55,800
November	30	2,311,200	60,048		54,000
December	31	2,388,240	62,050		55,800

## 4 Water Storage Analysis

The Southern Humboldt Community Park currently maintains one 55,000 gallon water storage tank. The tank holds water from the spring (source 2) and is located on an adjacent property APN 221-091-11. Additional water storage tanks, up to 50,000 gallons may be placed at this location for a total of 105,000 gallons of storage.

### 4.1 Storage Volume Requirements

There are typically three components to estimating required system storage volume. They are the working storage, fire storage, and emergency storage. The water storage needs for each of these are based on the proposed projected water demands developed in Sections 2.3 of this memorandum.

#### 4.1.1. Working Storage

The current 55,000 serves as the Park's working storage. As discussed under the water supply options section below, this storage can meet the SHCP's needs under several water supply options. Additional storage facilities for potable water use during peak summer months, would enhance the system but are not required.

#### 4.1.2. Fire Storage

Fire storage provides water for fighting fires. The annual volume of water used for firefighting is small, but during fires, the rate of use may be very high for several hours. This results in the need to have a relatively large volume of water always in reserve for fighting a fire. Currently, the 55,000 gallon water tank is plumbed with 1 ½" line to hydrant connections. The Park has a fire hydrant connection close to the event site that can be easily accessed during a fire. For the festival, the volunteer fire departments will have engines available on site, and the Park owns a portable 300-gallon fire-suppression water-pumper tank installed on a four-wheel drive truck that can provide access into most areas within park boundaries.

#### 4.1.3. Emergency Storage

The Park is not located within the Town of Garberville, and only three residences are located at the site. If an emergency takes place, there are a total of four water sources that these residences can divert water to use in emergencies should the primary source fail.

## 5 Supply and Demand Comparison

Table 12 below breaks out each facility requiring water and has the demand for each month including all the events listed in Tables 6 and 7. Each water source capacity is shown at the bottom of the table for comparison.

Table 12 Water Demands by Facility (after year 3)

FACILITY	WATER DEMANDS (gal/mo)														
	AREA	NEW (Y/N)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	EXISTING SOURCE
MH Caretakers Unit (2bd, 1ba)	1	N	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	Tooby Well
Irrigation	1	N	-	-	-	-	9,863	9,863	9,863	9,863	9,863	9,863	-	-	Tooby Well
Restrooms															
Toilets	1	Y	2,892	2,892	2,892	4,492	8,125	7,725	7,725	7,525	8,725	7,525	2,892	2,892	NA
Sinks	1	Y	1,446	1,446	1,446	2,246	4,063	3,863	3,863	3,763	4,363	3,763	1,446	1,446	NA
Drinking Fountains	1	Y	1,242	1,242	1,242	1,482	3,713	3,653	3,653	3,623	3,803	3,623	1,242	1,242	NA
Main Ranch House (3bd, 2ba)	2														Tank-Spring
Remodel - 2bd, 1ba residence	2	Remodel	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	NA
Remodel - offices, 1/2 ba, kitchen	2	Remodel	3,696	3,096	3,096	3,696	18,576	18,576	19,776	18,576	18,576	19,296	3,096	3,096	NA
Garage (offices)															NA
Cabin (office, 1/2 ba, kitchen)															Tank-Spring
Bunkhouse (2 bd, 1ba)	2	N	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	Tank-Spring
Irrigation	2	N	-	-	-	-	20,055	20,055	20,055	20,055	20,055	20,055	-	-	Tank-Spring
Large Barn (utility sink)	2	N	300	300	300	300	300	300	300	300	300	300	300	300	Tank-Spring
Chicken Coop	2	N	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	Tank-Spring
Horse Barn	2	N	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	Tank-Spring
Restrooms															
Toilets	2	Y	2,446	1,446	1,446	2,446	3,225	3,225	5,225	3,225	3,225	4,425	1,446	1,446	NA
Sinks	2	Y	1,223	723	723	1,223	1,613	1,613	2,613	1,613	1,613	2,213	723	723	NA
Drinking Fountains	2	Y	771	621	621	771	1,553	1,553	1,853	1,553	1,553	1,733	621	621	NA
Crop Irrigation	3	N	-	-	-	-	325,848	325,848	325,848	325,848	325,848	325,848	-	-	Eel River IG
Events Area - 4A															
*Food Vendor Washing	4A	Y	120	-	90	-	600	3,533	458	503	308	-	90	-	NA
*Hand washing	4A	Y	200	-	150	-	360	5,888	763	838	513	-	150	-	NA
Environmental Camp Area - 4B															
*Camp Sites (15 total)	4B	Y	-	-	-	72	144	384	384	384	72	-	-	-	NA
*Hand washing	4B	Y	-	-	-	36	72	192	192	192	36	-	-	-	NA
*Sports Fields (Proposed 10 acres)	5	Y	-	-	-	467,210	1,110,719	1,578,078	2,018,435	1,811,978	1,296,234	481,459	-	-	NA
*Sports Fields (Reduced 5.5 acres)	5	Y	-	-	-	258,756	615,151	873,989	1,117,873	1,003,530	717,895	266,647	-	-	NA
Concession Stand w/ Restrooms															
*Stand Sink	5	Y	1,800	1,800	2,400	1,800	5,160	5,160	5,160	5,160	5,160	5,760	1,800	1,800	NA
*Toilets	5	Y	1,800	1,800	3,800	1,800	4,300	4,300	4,300	4,300	4,300	6,300	1,800	1,800	NA
*Sinks	5	Y	900	900	1,900	900	2,150	2,150	2,150	2,150	2,150	3,150	900	900	NA
*Drinking Fountains	5	Y	900	900	1,500	900	2,580	2,580	2,580	2,580	2,580	3,180	900	900	NA
<b>TOTAL, PROPOSED</b>			<b>36,136</b>	<b>33,566</b>	<b>38,006</b>	<b>505,774</b>	<b>1,541,207</b>	<b>2,016,727</b>	<b>2,453,384</b>	<b>2,242,216</b>	<b>1,727,464</b>	<b>916,681</b>	<b>33,806</b>	<b>33,566</b>	
<b>TOTAL, REDUCED</b>			<b>36,136</b>	<b>33,566</b>	<b>38,006</b>	<b>297,320</b>	<b>1,045,639</b>	<b>1,312,638</b>	<b>1,552,821</b>	<b>1,433,768</b>	<b>1,149,125</b>	<b>701,869</b>	<b>33,806</b>	<b>33,566</b>	
Infiltration Gallery Capacity			2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	
Spring Capacity			62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050	
Upland Well Capacity			55,800	50,400	55,800	54,000	55,800	54,000	55,800	55,800	54,000	55,800	54,000	55,800	

\*Phase 2 facilities to be implemented after year 3. See Tables 8 and 9 for breakdown of water demands in each phase.

At this time, the Spring supplies water to the 55,000 gallon storage tank. SHCP currently has a forbearance program in place which stops the spring water withdrawals from July 2 to October 31. Table 13 shows a baseline water supply option with no new sources incorporated. Existing water facilities will continue to use their existing water sources and the Spring (with tank) would supply all new facilities, with the exception of the Infiltration Gallery supplying the irrigation of the sports fields in Area 5. An asterisk (\*) indicates facilities to be constructed in Phase 2.

Tables 14 and 15 show a comparison of available water supply with existing and proposed water demands under two scenarios. The first is the Phase 1 uses only, which are the uses without an asterisk in Table 13. As shown in Table 14 there is sufficient supply to meet the near term, Phase 1, needs of the Park with no changes to water supply. Table 15 compares the Phase 1 and 2 water demands to the water supply, which indicates additional supply is needed to meet the long-term demands of the Park.

Table 13 Water Sources for New and Existing Facilities

Facility	Area	As-Is Water Source (No changes to Existing)
MH Caretakers Unit (2bd, 1ba)	1	Tooby Well
Irrigation	1	Tooby Well
Restrooms		
Toilets	1	Tooby Well
Sinks	1	Tooby Well
Drinking Fountains	1	Tooby Well
Temp. Hand washing (for events)	2	Eel River IG
Temp. Food Washing (for events)	2	Tank-Spring
Main Ranch House (3bd, 2ba)		
*Remodel - 2bd, 1ba residence	2	Tank-Spring
*Remodel - offices, 1/2 ba, kitchen	2	Tank-Spring
*Garage (offices)		
*Cabin (office, 1/2 ba, kitchen)		
Bunkhouse (2 bd, 1ba)	2	Tank-Spring
Irrigation	2	Tank-Spring
Large Barn (sink to wash produce)	2	Tank-Spring
Chicken Coop	2	Eel River IG
Horse Barn	2	Eel River IG
Restrooms		
*Toilets	2	Tank-Spring
*Sinks	2	Tank-Spring
*Drinking Fountains	2	Tank-Spring
Crop Irrigation	3	Eel River IG
Events Area - 4A		
Food Vendor Washing	4A	Tank-Spring
Hand washing	4A	Tank-Spring
Environmental Camp Area - 4B		
Camp Sites (15 total)	4B	Tank-Spring
Hand washing	4B	Tank-Spring
*Sports Fields Irrigation	5	Eel River IG
*Concession Stand w/ Restrooms	5	
*Stand Sink	5	Tank-Spring
*Toilets	5	Tank-Spring
*Sinks	5	Tank-Spring
*Drinking Fountain	5	Tank-Spring

Table 14 Current Water Supply and Demand with New and Existing Facilities – PHASE 1

	AS-IS (NO CHANGES TO EXISTING) (gallons/month)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SOUTH FORK EEL RIVER INFILTRATION GALLERY												
<i>Demand</i>	2,664	2,264	2,264	2,514	22,505	23,288	23,591	23,130	22,355	22,619	2,264	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<b><u>2,385,576</u></b>	<b><u>2,154,856</u></b>	<b><u>2,385,976</u></b>	<b><u>2,308,686</u></b>	<b><u>2,365,735</u></b>	<b><u>2,287,912</u></b>	<b><u>2,364,649</u></b>	<b><u>2,365,110</u></b>	<b><u>2,288,845</u></b>	<b><u>2,365,621</u></b>	<b><u>2,308,936</u></b>	<b><u>2,385,976</u></b>
TOOBY WELL												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	currently unknown											
<i>Remaining</i>												
TANK (WITH SPRING)												
<i>Demand</i>	11,334	10,944	10,944	11,244	12,896	13,534	13,915	13,271	12,806	13,094	10,944	10,944
<i>Capacity</i>	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
<i>Tank Storage</i>	55,000	55,000	55,000	55,000	55,000	55,000	55,000	41,085	27,814	15,008	27,500	55,000
<i>Remaining</i>	<b><u>105,716</u></b>	<b><u>100,101</u></b>	<b><u>106,106</u></b>	<b><u>103,804</u></b>	<b><u>104,153</u></b>	<b><u>101,514</u></b>	<b><u>41,085</u></b>	<b><u>27,814</u></b>	<b><u>15,008</u></b>	<b><u>1,914</u></b>	<b><u>21,604</u></b>	<b><u>51,106</u></b>

Table 15 Current Water Supply and Demand with New and Existing Facilities – PHASE 2

	AS-IS (NO CHANGES TO EXISTING) (gallons/month)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SOUTH FORK EEL RIVER INFILTRATION GALLERY												
<i>Demand</i>	2,464	2,264	2,414	469,510	1,459,318	1,932,325	2,367,557	2,161,174	1,644,950	829,626	2,414	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<b><u>2,385,776</u></b>	<b><u>2,154,856</u></b>	<b><u>2,385,826</u></b>	<b><u>1,841,690</u></b>	<b><u>928,922</u></b>	<b><u>378,875</u></b>	<b><u>20,683</u></b>	<b><u>227,066</u></b>	<b><u>666,250</u></b>	<b><u>1,558,614</u></b>	<b><u>2,308,786</u></b>	<b><u>2,385,976</u></b>
TOOBY WELL												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	currently unknown											
<i>Remaining</i>												
TANK (WITH SPRING)												
<i>Demand</i>	24,800	22,230	26,670	24,588	53,066	61,886	58,186	53,806	52,818	58,790	22,470	22,230
<i>Capacity</i>	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
<i>Tank Storage</i>	55,000	55,000	55,000	55,000	55,000	55,000	55,000	-	-	-	27,500	55,000
<i>Remaining</i>	<b><u>92,250</u></b>	<b><u>88,815</u></b>	<b><u>90,380</u></b>	<b><u>90,460</u></b>	<b><u>63,983</u></b>	<b><u>53,162</u></b>	<b><u>(3,186)</u></b>	<b><u>(53,806)</u></b>	<b><u>(52,818)</u></b>	<b><u>(58,790)</u></b>	<b><u>10,078</u></b>	<b><u>39,820</u></b>

For Phase 2, the proposed new water services will need to be brought on-line.

## 6 Water Supply Options

Several water supply options were analyzed to help assist the Park in selecting the proper course of action for sourcing water for the long term. Assumptions made for the options include: (a) The pump at the Tooby Park Well has not been rated, so a supply analysis was not done at this source. It is assumed that the Tooby Well is potable and will have enough capacity to supply all the water necessary in Area 1; (b) The water from Tooby Well and Upland Well is potable; (c) The water used for irrigation and livestock in Area 2 has been changed to the Infiltration Gallery non-potable source for all options in order to maximize potable water throughout the Park; (d) For irrigation of the sports fields, a drought year was chosen.

- Option 1: Connect the Upland Well to the 55,000 gallon storage tank in addition to the Spring source. This will keep supplying potable water to the park during the forbearance months of July through October.
- Option 2: Connect the Upland Well to the 55,000 gallon storage tank in addition to the Spring source. This will keep supplying potable water to the park during the forbearance months of July through October. Also install dual-piping to the new facilities in Areas 2 and 5 with the Spring / Upland Well supplying potable water to hand washing sinks and drinking fountains, and the Infiltration Gallery supplying non-potable water to the toilets. This assumes all existing facilities will remain on their current water sources, i.e. the remodeled residential structures will still receive Spring water.
- Options 3: Add more storage (32,000 gallons) to the Spring water source, and use the Upland Well for all event area potable water and the concession stand with restrooms in Area 5.
- Option 4: Construct an on-site water treatment facility for the water from the South Fork Eel River Infiltration Gallery and supply the treated water to all the new facilities. During forbearance months, the tank will be refilled with treated water from the South Fork Eel River. The Upland Well is not used in this option.

As discussed above, for Phase 1, no new water supply configurations are needed to meet demands so no options were evaluated. For Phase 1, the Park does not need to make any changes to water sources for the first 3 years. See Table 14 for Phase 1 supply and demand data.

Table 16 lists all existing and new facilities requiring water. The proposed water source for each listed facility for all four options is shown.

Table 16 Water Supply Options for Phase 2 by Facility

Facility	Area	Option 1	Option 2	Option 3	Option 4
MH Caretakers Unit (2bd, 1ba)	1	Tooby Well	Tooby Well	Tooby Well	Tooby Well
Irrigation	1	Tooby Well	Tooby Well	Tooby Well	Tooby Well
Restrooms	1				
Toilets	1	Tooby Well	Tooby Well	Tooby Well	Tooby Well
Sinks	1	Tooby Well	Tooby Well	Tooby Well	Tooby Well
Drinking Fountains	1	Tooby Well	Tooby Well	Tooby Well	Tooby Well
Main Ranch House (3bd, 2ba)	2				
Remodel - 2bd, 1ba residence	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Tank-Spring
Remodel - offices, 1/2 ba, kitchen	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Tank-Spring
Garage (offices)					
Cabin (office, 1/2 ba, kitchen)					
Bunkhouse (2 bd, 1ba)	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Tank-Spring
Irrigation	2	Eel River IG	Eel River IG	Eel River IG	Eel River IG
Large Barn (sink to wash produce)	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Tank-Spring
Chicken Coop	2	Eel River IG	Eel River IG	Eel River IG	Eel River IG
Horse Barn	2	Eel River IG	Eel River IG	Eel River IG	Eel River IG
Restrooms	2				
Toilets	2	Tank-Spring & Well	Eel River IG	Tank-Spring	Eel River IG
Sinks	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Treated Eel River IG
Drinking Fountains	2	Tank-Spring & Well	Tank-Spring & Well	Tank-Spring	Treated Eel River IG
Crop Irrigation	3	Eel River IG	Eel River IG	Eel River IG	Eel River IG
Events Area - 4A	4A				
Food Vendor Washing	4A	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Hand washing	4A	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Environmental Camp Area - 4B	4B				
Camp Sites (15 total)	4B	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Hand washing	4B	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Sports Fields Irrigation	5	Eel River IG	Eel River IG	Eel River IG	Eel River IG
Concession Stand w/ Restrooms	5				
Stand Sink	5	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Toilets	5	Tank-Spring & Well	Eel River IG	Upland Well	Eel River IG
Sinks	5	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG
Drinking Fountains	5	Tank-Spring & Well	Tank-Spring & Well	Upland Well	Treated Eel River IG

Lastly, Table 17 shows a summary of the demand and capacity of each source by month for each option. For all options listed, when a deficit is shown, the existing storage tank will need to be filled with another potable source (e.g. the Upland Well, imported purchased potable water, etc.). At any given time, it has been determined that there is enough potable water in the park to meet the demands.



Table 17 Water Supply Options by Source

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>OPTION 1 (gallons)</b>												
<b>South Fork Eel River Infiltration Gallery (Proposed, 10 Acres Irrigation)</b>												
<i>Demand</i>	2,264	2,264	2,264	469,474	1,458,886	1,926,245	2,366,603	2,160,145	1,644,401	829,626	2,264	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<u>2,385,976</u>	<u>2,154,856</u>	<u>2,385,976</u>	<u>1,841,726</u>	<u>929,354</u>	<u>384,955</u>	<u>21,637</u>	<u>228,095</u>	<u>666,799</u>	<u>1,558,614</u>	<u>2,308,936</u>	<u>2,385,976</u>
<b>South Fork Eel River Infiltration Gallery (Minimum, 5.5 Acres Irrigation)</b>												
<i>Demand</i>	2,264	2,264	2,264	261,020	963,318	1,222,156	1,466,040	1,351,697	1,066,062	614,814	2,264	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<u>2,385,976</u>	<u>2,154,856</u>	<u>2,385,976</u>	<u>2,050,180</u>	<u>1,424,922</u>	<u>1,089,044</u>	<u>922,200</u>	<u>1,036,543</u>	<u>1,245,138</u>	<u>1,773,426</u>	<u>2,308,936</u>	<u>2,385,976</u>
<b>Tooby Well</b>												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	<i>currently unknown</i>											
<i>Remaining</i>												
<b>Tank (with Spring &amp; Upland Well)</b>												
<i>Demand</i>	24,800	22,230	26,670	24,588	53,066	61,886	58,186	53,806	52,818	58,790	22,470	22,230
<i>Capacity</i>	117,850	106,445	117,850	114,048	117,850	114,048	55,800	55,800	54,000	55,800	114,048	117,850
<i>Tank Storage</i>	55,000*	55,000	55,000	55,000	55,000	55,000	55,000	52,614	54,608	55,000	55,000	55,000
<i>Remaining</i>	<u>38,050</u>	<u>139,215</u>	<u>146,180</u>	<u>144,460</u>	<u>119,783</u>	<u>107,162</u>	<u>52,614</u>	<u>54,608</u>	<u>55,790</u>	<u>52,010</u>	<u>143,588</u>	<u>150,620</u>

\*Refill tank in January

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>OPTION 2 (gallons)</b>												
<b>South Fork Eel River Infiltration Gallery (Proposed, 10 Acres Irrigation)</b>												
<i>Demand</i>	6,510	5,510	7,510	473,720	1,466,411	1,933,770	2,376,128	2,167,670	1,651,926	840,351	5,510	5,510
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<u>2,381,730</u>	<u>2,151,610</u>	<u>2,380,730</u>	<u>1,837,480</u>	<u>921,829</u>	<u>377,430</u>	<u>12,112</u>	<u>220,570</u>	<u>659,274</u>	<u>1,547,889</u>	<u>2,305,690</u>	<u>2,382,730</u>
<b>South Fork Eel River Infiltration Gallery (Minimum, 5.5 Acres Irrigation)</b>												
<i>Demand</i>	6,510	5,510	7,510	265,266	970,843	1,229,681	1,475,565	1,359,222	1,073,587	625,539	5,510	5,510
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remaining</i>	<u>2,381,730</u>	<u>2,151,610</u>	<u>2,380,730</u>	<u>2,045,934</u>	<u>1,417,397</u>	<u>1,081,519</u>	<u>912,675</u>	<u>1,029,018</u>	<u>1,237,613</u>	<u>1,762,701</u>	<u>2,305,690</u>	<u>2,382,730</u>
<b>Tooby Well</b>												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	<i>currently unknown</i>											
<i>Remaining</i>												
<b>Tank (with Spring &amp; Upland Well)</b>												
<i>Demand</i>	20,554	18,984	21,424	20,342	45,541	54,361	48,661	46,281	45,293	48,065	19,224	18,984
<i>Capacity</i>	117,850	106,445	117,850	114,048	117,850	114,048	55,800	55,800	54,000	55,800	114,048	117,850
<i>Tank Storage</i>	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000*	55,000*
<i>Remaining</i>	<u>152,296</u>	<u>142,461</u>	<u>151,426</u>	<u>148,706</u>	<u>127,308</u>	<u>114,687</u>	<u>62,139</u>	<u>64,519</u>	<u>63,707</u>	<u>62,735</u>	<u>94,824</u>	<u>126,366</u>

\*Refill tank in November and December, if necessary

Table 17 Water Supply Options by Source, Continued

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>OPTION 3 (gallons)</b>												
<b>South Fork Eel River Infiltration Gallery (Proposed, 10 Acres Irrigation)</b>												
Demand	2,264	2,264	2,264	469,474	1,458,886	1,926,245	2,366,603	2,160,145	1,644,401	829,626	2,264	2,264
Capacity	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
Remaining	<u>2,385,976</u>	<u>2,154,856</u>	<u>2,385,976</u>	<u>1,841,726</u>	<u>929,354</u>	<u>384,955</u>	<u>21,637</u>	<u>228,095</u>	<u>666,799</u>	<u>1,558,614</u>	<u>2,308,936</u>	<u>2,385,976</u>
<b>South Fork Eel River Infiltration Gallery (Minimum, 5.5 Acres Irrigation)</b>												
Demand	2,264	2,264	2,264	261,020	963,318	1,222,156	1,466,040	1,351,697	1,066,062	614,814	2,264	2,264
Capacity	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
Remaining	<u>2,385,976</u>	<u>2,154,856</u>	<u>2,385,976</u>	<u>2,050,180</u>	<u>1,424,922</u>	<u>1,089,044</u>	<u>922,200</u>	<u>1,036,543</u>	<u>1,245,138</u>	<u>1,773,426</u>	<u>2,308,936</u>	<u>2,385,976</u>
<b>Tooby Well</b>												
Demand	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
Capacity	<i>currently unknown</i>											
Remaining												
<b>Tank (with Spring. Existing 55,000 gal + Proposed 32,000 gal)</b>												
Demand	19,080	16,830	16,830	19,080	37,700	37,700	42,200	37,700	37,700	40,400	16,830	16,830
Capacity	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
Tank Storage	87,000*	87,000	87,000	87,000	87,000	87,000	87,000	44,800	71,100	-	29,000*	58,000*
Remaining	<u>65,970</u>	<u>126,215</u>	<u>132,220</u>	<u>127,968</u>	<u>111,349</u>	<u>109,348</u>	<u>44,800</u>	<u>7,100</u>	<u>(30,600)<sup>1</sup></u>	<u>(40,400)<sup>2</sup></u>	<u>14,218</u>	<u>39,220</u>
<b>Upland Well</b>												
Demand	5,720	5,400	9,840	5,508	15,366	24,186	15,986	16,106	15,118	18,390	5,640	5,400
Capacity	55,800	50,400	55,800	54,000	55,800	54,000	55,800	55,800	54,000	55,800	54,000	55,800
Remaining	<u>50,080</u>	<u>45,000</u>	<u>45,960</u>	<u>48,492</u>	<u>40,434</u>	<u>29,814</u>	<u>39,814</u>	<u>39,694</u>	<u>38,882</u>	<u>37,410</u>	<u>48,360</u>	<u>50,400</u>

\*Refill tank in November, December, and January

1. Refill tank with water from Upland Well; 2. Refill tank with water from Upland Well and imported purchased potable water

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>OPTION 4 (gallons)</b>												
<b>Treated South Fork Eel River Infiltration Gallery (Proposed, 10 Acres Irrigation)</b>												
Demand	12,104	10,454	14,654	479,314	1,479,466	1,946,825	2,390,483	2,180,725	1,664,981	856,386	10,454	10,454
Capacity	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
Remaining	<u>2,376,136</u>	<u>2,146,666</u>	<u>2,373,586</u>	<u>1,831,886</u>	<u>908,774</u>	<u>364,375</u>	<u>(2,243)<sup>1</sup></u>	<u>207,515</u>	<u>646,219</u>	<u>1,531,854</u>	<u>2,300,746</u>	<u>2,377,786</u>
<b>Treated South Fork Eel River Infiltration Gallery (Minimum, 5.5 Acres Irrigation)</b>												
Demand	12,104	10,454	14,654	270,860	983,898	1,242,736	1,489,920	1,372,277	1,086,642	641,574	10,454	10,454
Capacity	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
Remaining	<u>2,376,136</u>	<u>2,146,666</u>	<u>2,373,586</u>	<u>2,040,340</u>	<u>1,404,342</u>	<u>1,068,464</u>	<u>898,320</u>	<u>1,015,963</u>	<u>1,224,558</u>	<u>1,746,666</u>	<u>2,300,746</u>	<u>2,377,786</u>
<b>Tooby Well</b>												
Demand	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
Capacity	<i>currently unknown</i>											
Remaining												
<b>Tank (with Spring)</b>												
Demand	14,960	14,040	14,280	14,748	32,486	41,306	34,306	33,226	32,238	32,030	14,280	14,040
Capacity	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
Tank Storage	55,000	55,000	55,000	55,000	55,000	55,000	55,000	20,694	-	-	27,500*	55,000*
Remaining	<u>102,090</u>	<u>97,005</u>	<u>102,770</u>	<u>100,300</u>	<u>84,563</u>	<u>73,742</u>	<u>20,694</u>	<u>(12,532)<sup>2</sup></u>	<u>(32,238)<sup>2</sup></u>	<u>(32,030)<sup>2</sup></u>	<u>18,268</u>	<u>48,010</u>

\*Refill tank in November and December

1. Use backup water from the Spring; 2. Refill tank with water from the Treated Infiltration Gallery

## 7 Recommendations and Conclusions

The current configuration with the Spring supplying all the potable water to Area 2, will not meet the demands during peak summer months once Phase 2 water demands come online. However, there is more than enough water in the park to meet the demands as shown in the options evaluated in the last section.

Option 2 is the preferred water supply configuration because it utilizes existing infrastructure, which results in minimum ground disturbance during construction and as a result is also likely the most cost effective. Option 2 also maximizes the use of potable water sources for potable needs, as the Eel River infiltration gallery source can be used for toilet flushing. This option also includes refilling of the 55,000 gallon existing tank from the Upland Well during the months of July through October, which improves the system's overall reliability.

It is assumed that if additional events beyond those included in this analysis or if the events occur in an alternate time of year (during the forbearance months), the Park will import purchased potable water in portable/temporary storage tanks for said events. If events occur in a different area, as long as the same source is used, it should not affect the supply.

For Phase 1, there is enough potable and non-potable water supply with the Park's current water sources and service configurations.

Regards,

A handwritten signature in black ink, appearing to read "Rebecca Crow", with a long horizontal flourish extending to the right.

**Rebecca Crow**

Project Manager

# Appendices

# Appendix A - (Supporting Documents)

- Decision Tree for Classification of Water Systems (CDPH)
- Proposed Project Site Map
- List of Facilities
  - Area 1
  - Area 2
  - Area 3
  - Area 4
  - Area 5
  - Area 6/7

## Appendix B - (Supporting Calculations)

- Existing Water Demand Calculations - GHD
- Post-Project Weekday Water Demands
- Post-Project Weekend Water Demands
- Estimated Number of Visitors - SHCP
- Event Water Demand Calculations (Phase 1 and 2)
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    - Blaney-Criddle Formula (SCS Technical Release No. 21)
    - Temperatures and Precipitation Data
- Water Source Capacity Calculations

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WaterSupplyDemandAnalysis\04-Technical Work\03 SumMemo-Recommend\Technical Memo-rcedit.docx

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	Stephanie Gould, EIT	Rebecca Crow, PE		Rebecca Crow, PE		9/2/2014

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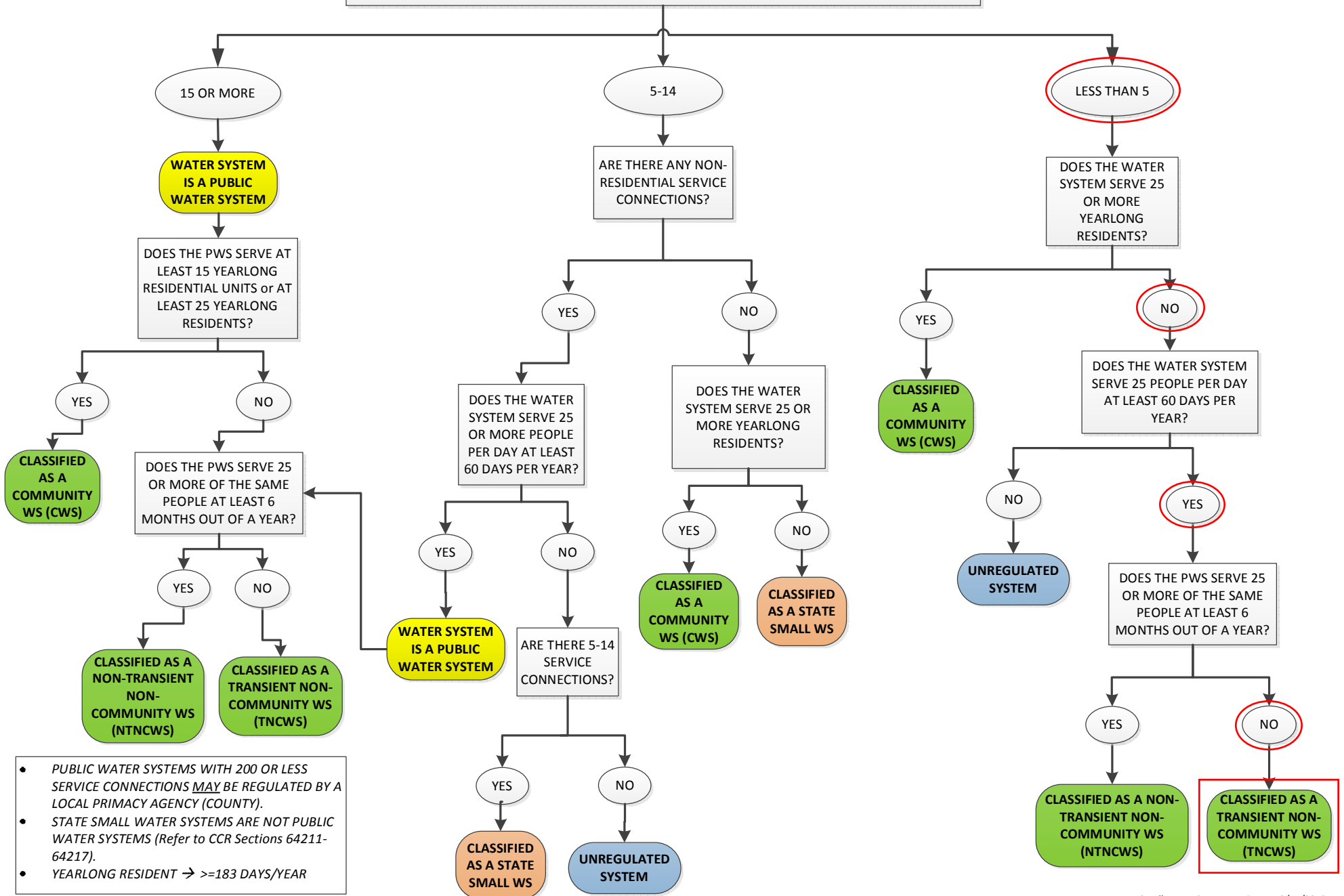
# Appendices

# Appendix A - (Supporting Documents)

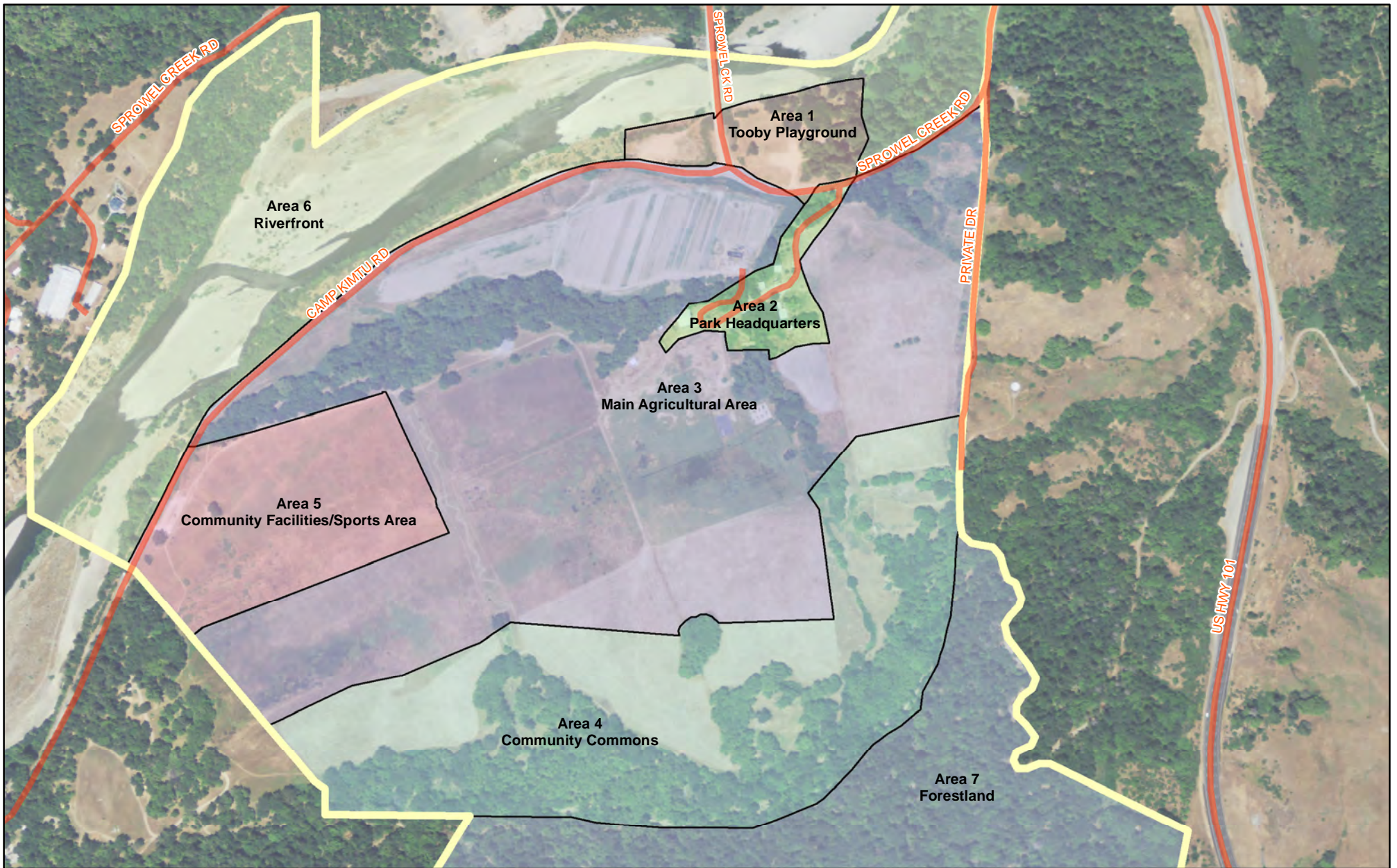
- Decision Tree for Classification of Water Systems (CDPH)
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# DECISION TREE FOR CLASSIFICATION OF WATER SYSTEMS

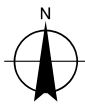
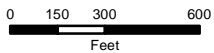
HOW MANY SERVICE CONNECTIONS DOES THE WATER SYSTEM HAVE?



- PUBLIC WATER SYSTEMS WITH 200 OR LESS SERVICE CONNECTIONS MAY BE REGULATED BY A LOCAL PRIMACY AGENCY (COUNTY).
- STATE SMALL WATER SYSTEMS ARE NOT PUBLIC WATER SYSTEMS (Refer to CCR Sections 64211-64217).
- YEARLONG RESIDENT → ≥183 DAYS/YEAR



Paper Size ANSI A



- Roads and Streets
- SHCP Property Boundary



Southern Humboldt Community Park  
Environmental Impact Report

Job Number	12556 11 001
Revision	2
Date	18 Oct 2012

Proposed Project  
Site Map

Figure 2

G:\12556 Southern Humboldt Community Park\12556-11-001 EIR Proj Mgmt Assistance\08-GIS\Maps\Figures\F2\_ProposedProject.mxd

718 3rd St Eureka CA 95501 T 707 443 8326 F 707 444 8330 E rebecca.crowl@ghd.com W www.ghd.com

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Data source: USDA, NAIP Aerial Imagery. Created by: amshows

FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 1 - Tooby Memorial Park - 8.2 acres**

*Residential Facilities*

Residence(s), caretaker (mobile home)	X		
---------------------------------------	---	--	--

*Agricultural Facilities*

None

*Recreational/Community Facilities*

Playground		X	
------------	--	---	--

Picnic area		X	
-------------	--	---	--

BBQ pits	X		
----------	---	--	--

Benches		X	
---------	--	---	--

Trails		X	
--------	--	---	--

Boat ramp (non-paved, non-motorized)			X
--------------------------------------	--	--	---

Gazebo/shade structure			X
------------------------	--	--	---

Kiosks (informational)		X	
------------------------	--	---	--

Restrooms (portable)	X		
----------------------	---	--	--

Restrooms (permanent)			X
-----------------------	--	--	---

Signage, gateway		X	
------------------	--	---	--

Signage, wayfinding/interpretive		X	
----------------------------------	--	---	--

*Transportation/Parking*

Parking area, permanent - daily use		X	
-------------------------------------	--	---	--

Parking area, unpaved regular use -			
-------------------------------------	--	--	--

seasonal events and sports		X	
----------------------------	--	---	--

Fencing for public areas for safety		X	
-------------------------------------	--	---	--

Intermittent use ranch service roads	X		
--------------------------------------	---	--	--

*Proposed Park Uses*

Farmer's market		X	
-----------------	--	---	--

Events, small (800 and under)	X		
-------------------------------	---	--	--

Parties (under 100 attendance)	X		
--------------------------------	---	--	--

Weddings, memorials, parties	X		
------------------------------	---	--	--

Workshops and classes	X		
-----------------------	---	--	--

Sporting tournaments (sports, bikes, disc golf)			X
---	--	--	---

Hiking, bicycling, equestrians	X		
--------------------------------	---	--	--

FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 2 - Park Headquarters - 6.0 acres**

<i>Residential Facilities</i>			
Residence(s), 3 bdrm ranch/caretaker house		X	
Residence(s), 2 bdrm bunkhouse (rental/farm-worker housing)	X		
Residence(s), 1 bdrm cabin	X		
<i>Agricultural Facilities</i>			
Agricultural storage	X		
2 barns/stable/horse barn/chicken coops	X		
Farm stand	X		
Greenhouses	X		
Old slaughterhouse and scale house	X		
Fencing for animals - ag		X	
Temporary fencing for animal protection/control	X		
<i>Recreational/Community Facilities</i>			
Community center w/ kitchen (includes daycare)			X
Benches		X	
Equestrian facility	X		
Skate park	X		
Performance stage (temporary)			X
Trails		X	
Kiosks (informational)		X	
Restrooms (portable)	X		
Restrooms (permanent)			X
Signage, gateway		X	
Signage, wayfinding/interpretive		X	
<i>Transportation/Parking</i>			
Parking area, permanent - daily use		X	
Parking area, unpaved regular use - seasonal events and sports	X		
Parking area, unpaved temporary - event use		X	
Fencing for public areas for safety			X
Park HQ main entrance (unpaved)			X
Intermittent use ranch service roads	X		
<i>Proposed Park Uses</i>			
Agricultural processing		X	
Agricultural production (includes forest mgmt)		X	
Animal boarding		X	
Cottage industry		X	
Farmer's market		X	
Livestock grazing	X		
Equestrian activities and events		X	
Events, midsize (attendance 800-2500)			X
Events, small (800 and under)			X
Parties (under 100 attendance)	X		
Weddings, memorials, parties			X
Workshops and classes			X
Camping (farm related)			X
Sporting tournaments (sports, bikes, disc golf)			X
Hiking, bicycling, equestrians	X		

FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 3 - Main Agricultural - 127.1 acres**

*Residential Facilities*

None

*Agricultural Facilities*

Greenhouses X

Fencing for animals - ag X

Temporary fencing for animal protection/control X

*Recreational/Community Facilities*

Benches X

Disc golf course X

Labyrinth (weddings and memorials) X

Trails X

Restrooms (portable) X

Signage wayfinding/interpretive X

*Transportation/Parking*

Parking area, unpaved regular use -  
seasonal events and sports X

Parking area, unpaved temporary - event use X

Fencing for public areas for safety X

Intermittent use ranch service roads X

*Proposed Park Uses*

Agricultural processing X

Agricultural production (includes forest mgmt) X

Animal boarding X

Cottage industry X

Livestock grazing X

Equestrian activities and events X

Weddings, memorials, parties X

Workshops and classes X

Camping (farm related) X

Sporting tournaments (sports, bikes, disc golf) X

Hiking, bicycling, equestrians X

Restoration, watershed/ecosystem/habitat X

FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 4 - Community Commons - 56.4 acres**

<i>Residential Facilities</i>			
None			
<i>Agricultural Facilities</i>			
Temporary fencing for animal protection/control	X		
<i>Recreational/Community Facilities</i>			
Picnic area			X
BBQ pits			X
Benches		X	
Camping site area (tent platforms, picnic tables, portable toilets)			X
Disc golf course	X		
Fenced dog park			X
Bike park			X
Performance stage (temporary)		X	
Trails		X	
Restrooms (portable)		X	
Signage, wayfinding/interpretive		X	
<i>Transportation/Parking</i>			
Parking area, unpaved temporary - event use			X
Fencing for public areas for safety		X	
Roads, new vehicular/pedestrian bridge			X
Intermittent use ranch service roads	X		
<i>Proposed Park Uses</i>			
Agricultural processing		X	
Agricultural production (includes forest mgmt)		X	
Animal boarding		X	
Livestock grazing	X		
Events, festival (attendance 2500-5000)			X
Events, midsize (attendance 800-2500)			X
Events, small (800 and under)			X
Parties (under 100 attendance)	X		
Weddings, memorials, parties		X	
Workshops and classes			X
Specialty camp area			X
Camping (farm related)			X
Sporting tournaments (sports, bikes, disc golf)			X
Hiking, bicycling, equestrians	X		
Restoration, watershed/ecosystem/habitat		X	



FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 5 - Community Facilities - 16.0 acres**

*Residential Facilities*

None

*Agricultural Facilities*

None

*Recreational/Community Facilities*

Playground X

Picnic area X

BBQ pits X

Benches X

Bleachers X

Skate park X

Sports field(s), multipurpose (baseball/soccer)  
130,000 sqft. X

Sports field(s), soccer 45,000 sqft. X

Sports field(s), multipurpose (soccer/football)  
70,000 sqft. X

Sports field(s), multipurpose (softball, baseball/  
soccer) 80,000 sqft. X

Multipurpose recreational building 12,000 sqft.,  
gymnasium, administration offices X

Trails X

Concession stands/storage X

Gazebo/shade structure X

Kiosks (informational) X

Restrooms (portable) X

Restrooms (permanent) X

Signage, gateway X

Signage, wayfinding/interpretive X

*Transportation/Parking*

Parking area, permanent - daily use X

Parking area, unpaved regular use -  
seasonal events and sports X X

Fencing for public areas for safety X

Roads, new or substantial improved (unpaved) X

Intermittent use ranch service roads X

*Proposed Park Uses*

Events, midsize (attendance 800-2500) X

Workshops and classes X

Sporting tournaments (sports, bikes, disc golf) X

Hiking, bicycling, equestrians X

FACILITY	EXISTING, NO CHANGE	EXISTING, MODIFICATIONS	PROPOSED
----------	------------------------	----------------------------	----------

**Area 6 - Riverfront - 77.0 acres**

*Residential Facilities*

None

*Agricultural Facilities*

None

*Recreational/Community Facilities*

Picnic area X

Trails X

Signage, wayfinding/interpretive X

*Transportation/Parking*

Parking area, permanent - daily use X

Parking area, unpaved regular use -

seasonal events and sports X

Parking area, unpaved temporary - event use X

Intermittent use ranch service roads X

*Proposed Park Uses*

Workshops and classes X

Hiking, bicycling, equestrians X

Restoration, watershed/ecosystem/habitat X

**Area 7 - Forestland - 115.0 acres**

*Residential Facilities*

None

*Agricultural Facilities*

None

*Recreational/Community Facilities*

Benches X

Disc golf course X

Trails X

Signage, wayfinding/interpretive X

*Transportation/Parking*

None

*Proposed Park Uses*

Agricultural production (includes forest mgmt) X

Sporting tournaments (sports, bikes, disc golf) X

Hiking, bicycling, equestrians X

Restoration, watershed/ecosystem/habitat X

## Appendix B - (Supporting Calculations)

- Existing Water Demand Calculations - GHD
- Post-Project Weekday Water Demands
- Post-Project Weekend Water Demands
- Estimated Number of Visitors - SHCP
- Event Water Demand Calculations (Phase 1 and 2)
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APPENDIX B  
POST-PROJECT TOTAL WATER DEMANDS

	Peak Monthly Demand (gal/mo)	Off-Peak Monthly Demand (gal/mo)
<b>AREA 1</b>		
MH Caretakers Unit (2bd, 1ba)	3,492	3,492
Restrooms		
<i>Toilets</i>	7,525	2,892
<i>Sinks</i>	3,763	1,446
<i>Drinking Fountains</i>	3,623	1,242
Landscaping	9,863	-
Potable Total:	10,877	6,180
Non-Potable Total:	17,388	2,892
<b>AREA 2</b>		
Main Ranch House (3bd, 2ba)		
Remodel - 2bd, 1ba residence	5,472	5,472
Remodel - offices, 1/2 ba, kitchen		
Garage (offices)		
Cabin (office, 1/2 ba, kitchen)	18,576	3,096
Bunkhouse (2 bd, 1ba)	5,472	5,472
Landscaping	18,082	-
Landscaping Backup	1,973	-
Large Barn (utility sink to wash produce)	1,790	-
Chicken Coop	300	300
Horse Barn	1,800	1,800
Livestock Backup	164	164
Restrooms		
<i>Toilets</i>	3,225	1,446
<i>Sinks</i>	1,613	723
<i>Drinking Fountains</i>	1,553	621
Potable Total:	54,657	17,484
Non-Potable Total:	5,362	1,610
<b>AREA 3</b>		
Crop Irrigation	325,848	-
<b>AREA 4</b>		
Events Area - 4A		
<i>Food Vendor Washing</i>	-	-
<i>Handwashing</i>	-	-
Environmental Camp Area - 4B		
<i>Camp Sites (15 total)</i>	-	-
<i>Handwashing</i>	-	-
<b>AREA 5</b>		
Sports Fields (Irrigated 10 acres)	See Irrigation Table	
Concession Stand w/ Restrooms		
<i>Stand Sink</i>	5,160	1,800
<i>Toilets</i>	4,300	1,800
<i>Sinks</i>	2,150	900
<i>Drinking Fountains</i>	2,580	900
Potable Total:	9,890	3,600
Non-Potable Total:	4,300	1,800
<b>AREA 6</b>		
None		
<b>AREA 7</b>		
None		

APPENDIX B  
EVENT WATER DEMAND CALCULATIONS  
PHASE 1

	No. of Units	Units	Quantities of WW flow* (gal/unit/event)	WW Generation (gal/event)	Water Demand (1.2 x WW Flow) (gal/event)	No. of Events/Yr	Potable Event Water Demand (gal/yr)	Non-Potable Event Water Demand (gal/yr)	Comments	Use Assumptions		
<b>Area 1</b>												
Egg Hunt	400	Attendees	6.5	2,600	2,640	1	1,040	1,600	For Tooby Park events: water use in restrooms (toilets, sinks, drinking fountains)	Potable: 2.0 gal/person for sinks, 0.6 gal/person for drinking fountain Non-Potable: 4.0 gal/person for toilets		
Bicycling Event	150	Attendees	6.5	975	990	1	390	600				
Walk in the Park	300	Attendees	6.5	1,950	1,980	1	780	1,200				
Wedding	50	Attendees	6.5	325	330	1	130	200				
Memorial	50	Attendees	6.5	325	330	1	130	200				
Totals:							2,470	3,800				
<b>Area 2</b>												
Spring Events	250	Attendees	2.00	500	550	1	550	-	For Park Headquarters Events: water use for temporary sanitation station (handwashing station outside of portable toilets, and wash area for food service).	Potable: 1.0 gal/person/day for food service, 1.0 gal/person/day for handwashing		
Summer Events	500	Attendees	2.00	1,000	1,100	1	1,100	-				
Fall Events	300	Attendees	2.00	600	660	1	660	-				
Winter	250	Attendees	2.00	500	550	1	550	-				
Totals:							2,860	-				
<b>Area 3</b>												
No Special Events in this Area												
<b>Area 4</b>												
Events Area - 4A												
Weddings	125	Attendees	0.75	94	100	2	200	-	For Community Commons events: water use for temporary sanitation station (handwashing station outside of portable toilets, and wash area for food service).	Potable: 0.30 gal/person/day for food service vendors, 0.5 gal/person/day for handwashing		
Memorials	-	Attendees	0.75	-	-	-	-	-				
Fundraisers	300	Attendees	0.75	225	240	3	720	-				
Private Parties	-	Attendees	0.75	-	-	-	-	-				
Small Event Totals:							920	-				
Medium Events (800 people)	-	Attendees	0.75	-	-	-	-	-				
Medium Events (1000-1500 people)	1,250	Attendees	0.75	938	1,000	2	2,000	-				
Medium Events (2000 people)	1,500	Attendees	0.75	1,125	1,200	1	1,200	-				
Medium Event Totals:							3,200	-				
Festival (2-day)	-	Attendees	0.75	-	-	-	-	-				
Environmental/Educational Camp Area - 4B												
Groups of 10	3	Campsite	12.0	36	36	15 (5/year x 3 days)	540	-	For Env/Edu Camp events: water use for temporary handwashing station outside portable toilets, and water spigot at each camp site	Potable: 8.0 gal/campsite/day for campsites, 4.0 gal/campsite/day for handwashing		
Groups of 15	4	Campsite	12.0	48	48	6 (2/year x 3 days)	288	-				
Groups of 20	6	Campsite	12.0	72	72	3 (1/year x 3 days)	216	-				
Group Totals:							1,044	-				
<b>Area 5</b>												
Sports Tournaments	0	Attendees	8.0	-	-	-	-	-	For Sports Facilities events: water use in restrooms (toilets, sinks, drinking fountain) and concession stand sink	Potable: 2.0 gal/person for sinks, 1.2 gal/person for drinking fountain, 1.2 gal/person for concession stand sink Non-Potable: 4.0 gal/person for toilets		



APPENDIX B  
EVENT WATER DEMAND CALCULATIONS  
PHASE 2

	No. of Units	Units	Quantities of WW flow* (gal/unit/event)	WW Generation (gal/event)	Water Demand (1.2 x WW Flow) (gal/event)	No. of Events/Yr	Potable Event Water Demand (gal/yr)	Non-Potable Event Water Demand (gal/yr)	Comments	Use Assumptions
<b>Area 1</b>										
Egg Hunt	400	Attendees	6.5	2,600	2,640	1	1,040	1,600	For Tooby Park events: water use in restrooms (toilets, sinks, drinking fountains)	Potable: 2.0 gal/person for sinks, 0.6 gal/person for drinking fountain Non-Potable: 4.0 gal/person for toilets
Bicycling Event	150	Attendees	6.5	975	990	1	390	600		
Walk in the Park	300	Attendees	6.5	1,950	1,980	1	780	1,200		
Wedding	50	Attendees	6.5	325	330	1	130	200		
Memorial	50	Attendees	6.5	325	330	1	130	200		
						Totals:	2,470	3,800		
<b>Area 2</b>										
Spring Events	250	Attendees	8.5	2,125	2,250	1	1,250	1,000	For Park Headquarters Events: water use in restrooms (toilets, sinks, drinking fountains), community kitchen, utility sink in large barn	Potable: 2.0 gal/person for sinks, 0.6 gal/person for drinking fountain, 2.4 gal/person for food service/community kitchen Non-Potable: 4.0 gal/person for toilets
Summer Events	500	Attendees	8.5	4,250	4,500	1	2,500	2,000		
Fall Events	300	Attendees	8.5	2,550	2,700	1	1,500	1,200		
Winter	250	Attendees	8.5	2,125	2,250	1	1,250	1,000		
						Totals:	6,500	5,200		
<b>Area 3</b>										
No Special Events in this Area										
<b>Area 4</b>										
Events Area - 4A										
Weddings	125	Attendees	0.75	94	100	4	400	-	For Community Commons events: water use for temporary sanitation station (handwashing station outside of portable toilets, and wash area for food service).	Potable: 0.30 gal/person/day for food service vendors, 0.5 gal/person/day for handwashing
Memorials	100	Attendees	0.75	75	80	3	240	-		
Fundraisers	300	Attendees	0.75	225	240	5	1,200	-		
Private Parties	150	Attendees	0.75	113	120	2	240	-		
						Small Event Totals:	2,080	-		
Medium Events (800 people)	800	Attendees	0.75	600	640	2	1,280	-		
Medium Events (1000-1500 people)	1,250	Attendees	0.75	938	1,000	2	2,000	-		
Medium Events (2000 people)	1,500	Attendees	0.75	1,125	1,200	1	1,200	-		
						Medium Event Totals:	4,480	-		
Festival (2-day)	5,000	Attendees	0.75	3,750	4,000	1 event x 2 days	8,000	-		
Environmental/Educational Camp Area - 4B										
Groups of 10	3	Campsite	12.0	36	36	30 (10/year x 3 days)	1,080	-	For Env/Edu Camp events: water use for temporary handwashing station outside portable toilets, and water spigot at each camp site	Potable: 8.0 gal/campsite/day for campsites, 4.0 gal/campsite/day for handwashing
Groups of 15	4	Campsite	12.0	48	48	9 (3/year x 3 days)	432	-		
Groups of 20	6	Campsite	12.0	72	72	9 (3/year x 3 days)	648	-		
						Group Totals:	2,160	-		
<b>Area 5</b>										
Sports Tournaments	250	Attendees	8.0	2,000	2,100	4 (2 days x 2 events)	4,400	4,000	For Sports Facilities events: water use in restrooms (toilets, sinks, drinking fountain) and concession stand sink	Potable: 2.0 gal/person for sinks, 1.2 gal/person for drinking fountain, 1.2 gal/person for concession stand sink Non-Potable: 4.0 gal/person for toilets



APPENDIX B  
PROPOSED WATER DEMANDS PHASE 2

PHASE 2				Water Demand (gal/mo)											
Facility	Area	Water Source	New Facility (Y/N)	*January*	*February*	*March*	*April*	*May*	*June*	*July*	*August*	*September*	*October*	*November*	*December*
MH Caretakers Unit (2bd, 1ba)	1	Tooby Well	N	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492
Landscaping	1	Tooby Well	N	-	-	-	-	9,863	9,863	9,863	9,863	9,863	9,863	-	-
Restrooms															
<i>Toilets</i>	1	Tooby Well	Y [1]	2,892	2,892	2,892	4,492	8,125	7,725	7,725	7,525	8,725	7,525	2,892	2,892
<i>Sinks</i>	1	Tooby Well	Y [1]	1,446	1,446	1,446	2,246	4,063	3,863	3,863	3,763	4,363	3,763	1,446	1,446
<i>Drinking Fountains</i>	1	Tooby Well	Y [1]	1,242	1,242	1,242	1,482	3,713	3,653	3,653	3,623	3,803	3,623	1,242	1,242
Main Ranch House (3bd, 2ba)															
Remodel - 2bd, 1ba residence	2	Tank-Spring	Remodel [2]	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472
Remodel - offices, 1/2 ba, kitchen															
Garage (offices)															
Cabin (office, 1/2 ba, kitchen)	2	Tank-Spring	Remodel [2]	3,696	3,096	3,096	3,696	18,576	18,576	19,776	18,576	18,576	19,296	3,096	3,096
Bunkhouse (2 bd, 1ba)	2	Tank-Spring	N	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472	5,472
Landscaping	2	Eel River IG	N	-	-	-	-	20,055	20,055	20,055	20,055	20,055	20,055	-	-
Large Barn (utility sink to wash produce)	2	Tank-Spring	N	-	-	-	-	1,790	1,790	1,790	1,790	1,790	1,790	-	-
Chicken Coop	2	Eel River IG	N	300	300	300	300	300	300	300	300	300	300	300	300
Horse Barn	2	Eel River IG	N	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964
Restrooms															
<i>Toilets</i>	2	Tank-Spring	Y [2]	2,446	1,446	1,446	2,446	3,225	3,225	5,225	3,225	3,225	4,425	1,446	1,446
<i>Sinks</i>	2	Tank-Spring	Y [2]	1,223	723	723	1,223	1,613	1,613	2,613	1,613	1,613	2,213	723	723
<i>Drinking Fountains</i>	2	Tank-Spring	Y [2]	771	621	621	771	1,553	1,553	1,853	1,553	1,553	1,733	621	621
Crop Irrigation	3	Eel River IG	N	-	-	-	-	325,848	325,848	325,848	325,848	325,848	325,848	-	-
Events Area - 4A															
<i>Food Vendor Washing</i>	4A	Tank-Spring	Y [full capac-2]	120	-	90	-	360	3,533	458	503	308	-	90	-
<i>Handwashing</i>	4A	Tank-Spring	Y [full capac-2]	200	-	150	-	600	5,888	763	838	513	-	150	-
Environmental Camp Area - 4B															
<i>Camp Sites (15 total)</i>	4B	Tank-Spring	Y [full capac-2]	-	-	-	72	144	384	384	384	72	-	-	-
<i>Handwashing</i>	4B	Tank-Spring	Y [full capac-2]	-	-	-	36	72	192	192	192	36	-	-	-
Sports Fields (Irrigated 10 acres, Proposed)	5	Eel River IG	Y [2]	-	-	-	467,210	1,110,719	1,578,078	2,018,435	1,811,978	1,296,234	481,459	-	-
Sports Fields (Irrigated 5.5 acres, Minimum)	5	Eel River IG	Y [2]	-	-	-	258,756	615,151	873,989	1,117,873	1,003,530	717,895	266,647	-	-
Concession Stand w/ Restrooms															
<i>Stand Sink</i>	5	Tank-Spring	Y [2]	1,800	1,800	2,400	1,800	5,160	5,160	5,160	5,160	5,160	5,760	1,800	1,800
<i>Toilets</i>	5	Tank-Spring	Y [2]	1,800	1,800	3,800	1,800	4,300	4,300	4,300	4,300	4,300	6,300	1,800	1,800
<i>Sinks</i>	5	Tank-Spring	Y [2]	900	900	1,900	900	2,150	2,150	2,150	2,150	2,150	3,150	900	900
<i>Drinking Fountains</i>	5	Tank-Spring	Y [2]	900	900	1,500	900	2,580	2,580	2,580	2,580	2,580	3,180	900	900

APPENDIX B  
PROPOSED WATER DEMANDS SUMMARY

	Water Demand (gal/mo)											
	*January*	*February*	*March*	*April*	*May*	*June*	*July*	*August*	*September*	*October*	*November*	*December*
<b>PHASE 1 (years 1-3)</b>												
<b>TOTAL TOOBY WELL</b>												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	Currently Unknown											
<i>Remain</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SPRING (TANK)</b>												
<i>Demand</i>	11,334	10,944	10,944	11,244	12,896	13,534	13,915	13,271	12,806	13,094	10,944	10,944
<i>Capacity</i>	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
<i>Tank Storage</i>	55,000	55,000	55,000	55,000	55,000	55,000	55,000	41,085	27,814	15,008	27,500	55,000
<i>Remain</i>	<b>105,716</b>	<b>100,101</b>	<b>106,106</b>	<b>103,804</b>	<b>104,153</b>	<b>101,514</b>	<b>41,085</b>	<b>27,814</b>	<b>15,008</b>	<b>1,914</b>	<b>21,604</b>	<b>51,106</b>
<b>TOTAL EEL RIVER IG</b>												
<i>Demand</i>	2,664	2,264	2,264	2,514	22,505	23,288	23,591	23,130	22,355	22,619	2,264	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remain</i>	<b>2,385,576</b>	<b>2,154,856</b>	<b>2,385,976</b>	<b>2,308,686</b>	<b>2,365,735</b>	<b>2,287,912</b>	<b>2,364,649</b>	<b>2,365,110</b>	<b>2,288,845</b>	<b>2,365,621</b>	<b>2,308,936</b>	<b>2,385,976</b>
<b>PHASE 2 (years 3+)</b>												
<b>TOTAL TOOBY WELL</b>												
<i>Demand</i>	9,072	9,072	9,072	11,712	29,255	28,595	28,595	28,265	30,245	28,265	9,072	9,072
<i>Capacity</i>	Currently Unknown											
<i>Remain</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SPRING (TANK)</b>												
<i>Demand</i>	24,800	22,230	26,670	24,588	53,066	61,886	58,186	53,806	52,818	58,790	22,470	22,230
<i>Capacity</i>	62,050	56,045	62,050	60,048	62,050	60,048	-	-	-	-	60,048	62,050
<i>Tank Storage</i>	55,000	55,000	55,000	55,000	55,000	55,000	55,000	-	-	-	27,500	55,000
<i>Remain</i>	<b>92,250</b>	<b>88,815</b>	<b>90,380</b>	<b>90,460</b>	<b>63,983</b>	<b>53,162</b>	<b>(3,186)</b>	<b>(53,806)</b>	<b>(52,818)</b>	<b>(58,790)</b>	<b>10,078</b>	<b>39,820</b>
<b>TOTAL EEL RIVER IG</b>												
<i>Demand</i>	2,264	2,264	2,264	469,474	1,458,886	1,926,245	2,366,603	2,160,145	1,644,401	829,626	2,264	2,264
<i>Capacity</i>	2,388,240	2,157,120	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240	2,388,240	2,311,200	2,388,240	2,311,200	2,388,240
<i>Remain</i>	<b>2,385,976</b>	<b>2,154,856</b>	<b>2,385,976</b>	<b>1,841,726</b>	<b>929,354</b>	<b>384,955</b>	<b>21,637</b>	<b>228,095</b>	<b>666,799</b>	<b>1,558,614</b>	<b>2,308,936</b>	<b>2,385,976</b>

**Assumptions:**

1. Temporary handwashing stations located in the park headquarters area 2, events area 4A, and the environmental camp area 4B for Phase 1 do not need to contain potable water.
2. The pump at the Tooby Park Well has not been rated, so a supply analysis was not done here. It is assumed that the well will have enough capacity to supply all water in Area 1.
3. The water from the Tooby Park Well is potable.
4. All water used for irrigation and landscaping in Area 2 is being supplied from the SF Eel River Infiltration Gallery.
5. The Upland Well was not analyzed in this particular comparison. See Alternatives Table.
6. See Events Table for Phase 1 to see which events per area were analyzed.

APPENDIX B  
EFFECTIVE IRRIGATION DEMAND CALCULATIONS

Garberville	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average temperature, t (°F)	43.7	46.6	49.4	52.7	58.4	63.9	69.6	69.8	66.2	57.5	48.3	43.4	
Average Total Precip (in.)	11.29	9.09	7.54	3.84	1.37	0.36	0.03	0.44	0.77	3.69	8.88	10.70	58.00
Average total Precip %	19%	16%	13%	7%	2%	1%	0%	1%	1%	6%	15%	18%	100%
Min. Precip (in)	4.89	3.94	3.27	1.66	0.59	0.16	0.01	0.19	0.33	1.60	3.85	4.63	25.12
Max. Precip (in)	21.06	16.96	14.07	7.16	2.56	0.67	0.06	0.82	1.44	6.88	16.57	19.96	108.21
Monthly % of daytime hours, p	6.75	6.72	8.32	8.93	10.01	10.09	10.22	9.55	8.39	7.75	6.73	6.54	
Monthly consumptive factor, f	2.95	3.13	4.11	4.71	5.85	6.45	7.11	6.67	5.55	4.46	3.25	2.84	
k <sub>t</sub>	0.44	0.49	0.54	0.60	0.70	0.79	0.89	0.89	0.83	0.68	0.52	0.44	
k <sub>c</sub>	0.49	0.57	0.73	0.85	0.90	0.92	0.92	0.91	0.87	0.79	0.67	0.55	
Climatic coefficient, k	0.22	0.28	0.39	0.51	0.63	0.73	0.82	0.81	0.72	0.54	0.35	0.24	
Consumptive use, u (in/mo)	0.64	0.88	1.62	2.39	3.66	4.69	5.82	5.42	4.02	2.40	1.14	0.68	
Days per month	31	28	31	30	31	30	31	31	30	31	30	31	

Irrigation System Efficiency = 80%  
 Pasture effective root zone (ft) = 2  
 Crop Depth Factor = 0.92

Input (blue colored)  
 Output (red colored)

Month	r <sub>t</sub> Average Rainfall (in/mo)	r <sub>t</sub> Drought Rainfall (in/mo)	u Consumptive Use (ET) (in/mo)	r <sub>e</sub> Average Effective Rainfall (in/mo)	r <sub>e</sub> Drought Effective Rainfall (in/mo)	u-r <sub>e</sub> Average Irrigation Demand (in/mo)	u-r <sub>e</sub> Drought Irrigation Demand (in/mo)	(u-r <sub>e</sub> )*eff Avg. Effective Irrigation Demand (in/mo)	(u-r <sub>e</sub> )*eff Drought Effective Irrigation Demand (in/mo)	Effective Irrigation Demand (in/day)	Drought Effective Irrigation Demand (in/day)
Jan	11.29	4.89	0.64	0.64	0.64	0.00	0.00	0.00	0.00	0.00	0.00
Feb	9.09	3.94	0.88	0.88	0.88	0.00	0.00	0.00	0.00	0.00	0.00
Mar	7.54	3.27	1.62	1.62	1.62	0.00	0.00	0.00	0.00	0.00	0.00
Apr	3.84	1.66	2.39	2.14	1.01	0.25	1.38	0.31	1.72	0.01	0.06
May	1.37	0.59	3.66	0.91	0.39	2.75	3.27	3.44	4.09	0.11	0.13
Jun	0.36	0.16	4.69	0.23	0.05	4.47	4.65	5.58	5.81	0.19	0.19
Jul	0.03	0.01	5.82	-0.10	-0.12	5.92	5.95	7.40	7.43	0.24	0.24
Aug	0.44	0.19	5.42	0.31	0.08	5.11	5.34	6.39	6.67	0.21	0.22
Sep	0.77	0.33	4.02	0.53	0.20	3.49	3.82	4.36	4.77	0.15	0.16
Oct	3.69	1.60	2.40	2.07	0.98	0.33	1.42	0.41	1.77	0.01	0.06
Nov	8.88	3.85	1.14	1.14	1.14	0.00	0.00	0.00	0.00	0.00	0.00
Dec	10.70	4.63	0.68	0.68	0.68	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00		33.36	11.04	7.54	22.32	25.82	27.90	32.28	0.91	1.05

Effective Rainfall calculated from Irrigation Water Requirements Technical Release No. 21

U.S. Dept. of Agriculture, Soil Conservation Service Engineering Division, April 1967

Appendix A ftp://ftp.wcc.nrcs.usda.gov/wntsc/waterMgt/irrigation/NEH15/ch2.pdf

r<sub>t</sub> = monthly mean rainfall

$$f = (0.531714 + 0.295164D - 0.057697D^2 + 0.003804D^3)$$

f = adjustment factor

D = net depth of application

$$r_e = (0.70917r_t^{0.82416} - 0.11556)(10)^{0.02426u} (f)$$

r<sub>e</sub> = effective rainfall

u = average monthly consumptive use

# days/mo	Avg. Effective Irrigation Demand (in/mo)	Drought Effect. Irrigation Demand (in/mo)	Proposed Sports Field - 10 Acres 435,600 sqft		Minimum Sports Field - 5.5 Acres 241,249 sqft	
			(avg) gal	(drought) gal	(avg) gal	(drought) gal
Jan	31 0.00	0.00	-	-	-	-
Feb	28 0.00	0.00	-	-	-	-
Mar	31 0.00	0.00	-	-	-	-
Apr	30 0.31	1.72	84,301	467,210	46,689	258,756
May	31 3.44	4.09	934,900	1,110,719	517,777	615,151
Jun	30 5.58	5.81	1,516,173	1,578,078	839,704	873,989
Jul	31 7.40	7.43	2,009,929	2,018,435	1,113,162	1,117,873
Aug	31 6.39	6.67	1,735,919	1,811,978	961,406	1,003,530
Sep	30 4.36	4.77	1,184,701	1,296,234	656,124	717,895
Oct	31 0.41	1.77	110,804	481,459	61,367	266,647
Nov	30 0.00	0.00	-	-	-	-
Dec	31 0.00	0.00	-	-	-	-

## Appendix A Blaney-Criddle Formula (SCS Technical Release No. 21)

*Because of the historical and in some cases legal significance of the Blaney-Criddle equation described in Technical Release No. 21 (SCS 1970), that method is presented in this appendix. The following material is taken directly from Technical Release No. 21. The reference crop methods presented in sections 623.0203 and 623.0204 have proven to be more accurate than this version of the Blaney-Criddle formula. Thus, the reference crop and appropriate crop coefficient techniques are recommended.*

Disregarding many influencing factors, consumptive use varies with the temperature, length of day, and available moisture regardless of its source (precipitation, irrigation water, or natural ground water). Multiplying the mean monthly temperature ( $t$ ) by the possible monthly percentage of daytime hours of the year ( $p$ ) gives a monthly consumptive-use factor ( $f$ ). It is assumed that crop consumptive use varies directly with this factor when an ample water supply is available. Expressed mathematically,

$$u = kf$$

$$U = \text{sum of } kf = KF$$

where:

- U = Consumptive use of the crop in inches for the growing season.
- K = Empirical consumptive-use crop coefficient for the growing season. This coefficient varies with the different crops being irrigated.
- F = Sum of the monthly consumptive-use factors for the growing season (sum of the products of mean monthly temperature and monthly percentage of daylight hours of the year).
- u = Monthly consumptive use of the crop in inches.
- k = Empirical consumptive-use crop coefficient for a month (also varies by crops).
- f = Monthly consumptive-use factor (product of mean monthly temperature and monthly percentage of daylight hours of the year).

$$f = \frac{t \times p}{100}$$

where:

- t = Mean monthly air temperature in degrees Fahrenheit.
- p = Monthly percentage of annual daylight hours. Values of p for 0 to 65 degrees north latitude are shown in table 2A-1.

**Note:** Value of t, p, f, and k can also be made to apply to periods of less than a month.

Following are modifications made in the original formula:

$$k = k_t \times k_c$$

where:

- k = a climatic coefficient which is related to the mean air temperature ( $t$ ).
- $k_t = .0173t - .314$ . Values of  $k_t$  for mean air temperatures from 36 to 100 degrees are shown in table 2A-4.
- $k_c$  = A coefficient reflecting the growth stage of the crop. Values are obtained from crop growth stage coefficient curves as shown in figures 2A-1 through 2A-25 at the back of this appendix.

The consumptive-use factor (F) may be computed for areas for which monthly temperature records are available, if the percentage of hours that is shown in table 2A-1 is used. Then the total crop consumptive use (U) is obtained by multiplying F by the empirical consumptive-use crop coefficient (K). This relationship allows the computation of seasonal consumptive use at any location for those crops for which values of K have been experimentally established or can be estimated.

**Table 2A-1** Monthly percentage of daytime hours (p) of the year for northern latitudes

Latitude N	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
65°	3.52	5.13	7.96	9.97	12.72	14.15	13.59	11.18	8.55	6.53	4.08	2.62
64°	3.81	5.27	8.00	9.92	12.50	13.63	13.26	11.08	8.56	6.63	4.32	3.02
63°	4.07	5.39	8.04	9.86	12.29	13.24	12.97	10.97	8.56	6.73	4.52	3.36
62°	4.31	5.49	8.07	9.80	12.11	12.92	12.73	10.87	8.55	6.80	4.70	3.65
61°	4.51	5.58	8.09	9.74	11.94	12.66	12.51	10.77	8.55	6.88	4.86	3.91
60°	4.70	5.67	8.11	9.69	11.78	12.41	12.31	10.68	8.54	6.95	5.02	4.14
59°	4.86	5.76	8.13	9.64	11.64	12.19	12.13	10.60	8.53	7.00	5.17	4.35
58°	5.02	5.84	8.14	9.59	11.50	12.00	11.96	10.52	8.53	7.06	5.30	4.54
57°	5.17	5.91	8.15	9.53	11.38	11.83	11.81	10.44	8.52	7.13	5.42	4.71
56°	5.31	5.98	8.17	9.48	11.26	11.68	11.67	10.36	8.52	7.18	5.52	4.87
55°	5.44	6.04	8.18	9.44	11.15	11.53	11.54	10.29	8.51	7.23	5.63	5.02
54°	5.56	6.10	8.19	9.40	11.04	11.39	11.42	10.22	8.50	7.28	5.74	5.16
53°	5.68	6.16	8.20	9.36	10.94	11.26	11.30	10.16	8.49	7.32	5.83	5.30
52°	5.79	6.22	8.21	9.32	10.85	11.14	11.19	10.10	8.48	7.36	5.92	5.42
51°	5.89	6.27	8.23	9.28	10.76	11.02	11.09	10.05	8.47	7.40	6.00	5.54
50°	5.99	6.32	8.24	9.24	10.68	10.92	10.99	9.99	8.46	7.44	6.08	5.65
49°	6.08	6.36	8.25	9.20	10.60	10.82	10.90	9.94	8.46	7.48	6.16	5.75
48°	6.17	6.41	8.26	9.17	10.52	10.72	10.81	9.89	8.45	7.51	6.24	5.85
47°	6.25	6.45	8.27	9.14	10.45	10.63	10.73	9.84	8.44	7.54	6.31	5.95
46°	6.33	6.50	8.28	9.11	10.38	10.53	10.65	9.79	8.43	7.58	6.37	6.05
45°	6.40	6.54	8.29	9.08	10.31	10.46	10.57	9.75	8.42	7.61	6.43	6.14
44°	6.48	6.57	8.29	9.05	10.25	10.39	10.49	9.71	8.41	7.64	6.50	6.22
43°	6.55	6.61	8.30	9.02	10.19	10.31	10.42	9.66	8.40	7.67	6.56	6.31
42°	6.61	6.65	8.30	8.99	10.13	10.24	10.35	9.62	8.40	7.70	6.62	6.39
41°	6.68	6.68	8.31	8.96	10.07	10.16	10.29	9.59	8.39	7.72	6.68	6.47
40°	6.75	6.72	8.32	8.93	10.01	10.09	10.22	9.55	8.39	7.75	6.73	6.54
39°	6.81	6.75	8.33	8.91	9.95	10.03	10.16	9.51	8.38	7.78	6.78	6.61
38°	6.87	6.79	8.33	8.89	9.90	9.96	10.11	9.47	8.37	7.80	6.83	6.68
37°	6.92	6.82	8.34	8.87	9.85	9.89	10.05	9.44	8.37	7.83	6.88	6.74
36°	6.98	6.85	8.35	8.85	9.80	9.82	9.99	9.41	8.36	7.85	6.93	6.81
35°	7.04	6.88	8.35	8.82	9.76	9.76	9.93	9.37	8.36	7.88	6.98	6.87
34°	7.10	6.91	8.35	8.80	9.71	9.71	9.88	9.34	8.35	7.90	7.02	6.93
33°	7.15	6.94	8.36	8.77	9.67	9.65	9.83	9.31	8.35	7.92	7.06	6.99
32°	7.20	6.97	8.36	8.75	9.62	9.60	9.77	9.28	8.34	7.95	7.11	7.05
31°	7.25	6.99	8.36	8.73	9.58	9.55	9.72	9.24	8.34	7.97	7.16	7.11
30°	7.31	7.02	8.37	8.71	9.54	9.49	9.67	9.21	8.33	7.99	7.20	7.16
29°	7.35	7.05	8.37	8.69	9.50	9.44	9.62	9.19	8.33	8.00	7.24	7.22
28°	7.40	7.07	8.37	8.67	9.46	9.39	9.58	9.17	8.32	8.02	7.28	7.27
27°	7.44	7.10	8.38	8.66	9.41	9.34	9.53	9.14	8.32	8.04	7.32	7.32
26°	7.49	7.12	8.38	8.64	9.37	9.29	9.49	9.11	8.32	8.06	7.36	7.37
25°	7.54	7.14	8.39	8.62	9.33	9.24	9.45	9.08	8.31	8.08	7.40	7.42
24°	7.58	7.16	8.39	8.60	9.30	9.19	9.40	9.06	8.31	8.10	7.44	7.47
23°	7.62	7.19	8.40	8.58	9.26	9.15	9.36	9.04	8.30	8.12	7.47	7.51
22°	7.67	7.21	8.40	8.56	9.22	9.11	9.32	9.01	8.30	8.13	7.51	7.56
21°	7.71	7.24	8.41	8.55	9.18	9.06	9.28	8.98	8.29	8.15	7.55	7.60

**Table 2A-1** Monthly percentage of daytime hours (p) of the year for northern latitudes—Continued

Latitude N	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
20°	7.75	7.26	8.41	8.53	9.15	9.02	9.24	8.95	8.29	8.17	7.58	7.65
19°	7.79	7.28	8.41	8.51	9.12	8.97	9.20	8.93	8.29	8.19	7.61	7.70
18°	7.83	7.31	8.41	8.50	9.08	8.93	9.16	8.90	8.29	8.20	7.65	7.74
17°	7.87	7.33	8.42	8.48	9.04	8.89	9.12	8.88	8.28	8.22	7.68	7.79
16°	7.91	7.35	8.42	8.47	9.01	8.85	9.08	8.85	8.28	8.23	7.72	7.83
15°	7.94	7.37	8.43	8.45	8.98	8.81	9.04	8.83	8.27	8.25	7.75	7.88
14°	7.98	7.39	8.43	8.43	8.94	8.77	9.00	8.80	8.27	8.27	7.79	7.93
13°	8.02	7.41	8.43	8.42	8.91	8.73	8.96	8.78	8.26	8.29	7.82	7.97
12°	8.06	7.43	8.44	8.40	8.87	8.69	8.92	8.76	8.26	8.31	7.85	8.01
11°	8.10	7.45	8.44	8.39	8.84	8.65	8.88	8.73	8.26	8.33	7.88	8.05
10°	8.14	7.47	8.45	8.37	8.81	8.61	8.85	8.71	8.25	8.34	7.91	8.09
9°	8.18	7.49	8.45	8.35	8.77	8.57	8.81	8.68	8.25	8.36	7.95	8.14
8°	8.21	7.51	8.45	8.34	8.74	8.53	8.78	8.66	8.25	8.37	7.98	8.18
7°	8.25	7.53	8.46	8.32	8.71	8.49	8.74	8.64	8.25	8.38	8.01	8.22
6°	8.28	7.55	8.46	8.31	8.68	8.45	8.71	8.62	8.24	8.40	8.04	8.26
5°	8.32	7.57	8.47	8.29	8.65	8.41	8.67	8.60	8.24	8.41	8.07	8.30
4°	8.36	7.59	8.47	8.28	8.62	8.37	8.64	8.57	8.23	8.43	8.10	8.34
3°	8.40	7.61	8.48	8.26	8.58	8.33	8.60	8.55	8.23	8.45	8.13	8.38
2°	8.43	7.63	8.49	8.25	8.55	8.29	8.57	8.53	8.22	8.46	8.16	8.42
1°	8.47	7.65	8.49	8.23	8.52	8.25	8.53	8.51	8.22	8.48	8.19	8.45
0°	8.50	7.67	8.49	8.22	8.49	8.22	8.50	8.49	8.21	8.49	8.22	8.50



## Seasonal consumptive-use coefficients

Consumptive-use coefficients (K) have been determined experimentally at numerous localities for most crops grown in the western states. Consumptive-use values (U) were measured, and these data were correlated with temperature and growing season. Crop consumptive-use coefficients were then computed by the formula:

$$K = \frac{U}{F}$$

The computed coefficients varied somewhat because of the diverse conditions, such as soils, water supply, and methods, under which the studies were conducted. These coefficients were adjusted where necessary after the data were analyzed. The resulting coefficients are believed to be suitable for use under normal conditions.

While only very limited investigations of consumptive use have been made in the Eastern or humid-area States, studies made thus far fail to indicate that there should be any great difference between the seasonal consumptive-use coefficients used there and those used in the Western States.

Table 2A-2 shows the values of seasonal consumptive-use crop coefficients currently proposed by Blaney-Criddle for most irrigated crops. Ranges in the values of these coefficients are shown. The values, however, are not all inclusive limits. In some circumstances, K values may be either higher or lower than shown.

## Monthly or short-time consumptive-use coefficients

Although seasonal coefficients (K) as reported by various investigators show some variation for the same crops, monthly or short-time coefficients (k) show even greater variation. These great variations are influenced by a number of factors that must be considered when computing or estimating short-time coefficients. Although these factors are numerous, the most important are temperature and the growth stage of the crop.

**Table 2A-2** Seasonal consumptive-use crop coefficients (K) for irrigated crops

Crop	Length of normal growing season or period <sup>1/</sup>	Consumptive-use coefficient (K) <sup>2/</sup>
Alfalfa	Between frosts	0.80 to 0.90
Bananas	Full year	.80 to 1.00
Beans	3 months	.60 to .70
Cocoa	Full year	.70 to .80
Coffee	Full year	.70 to .80
Corn (maize)	4 months	.75 to .85
Cotton	7 months	.60 to .70
Dates	Full year	.65 to .80
Flax	7 to 8 months	.70 to .80
Grains, small	3 months	.75 to .85
Grain, sorghum	4 to 5 months	.70 to .80
Oilseeds	3 to 5 months	.65 to .75
Orchard crops:		
Avocado	Full year	.50 to .55
Grapefruit	Full year	.55 to .65
Orange and lemon	Full year	.45 to .55
Walnuts	Between frosts	.60 to .70
Deciduous	Between frosts	.60 to .70
Pasture crops:		
Grass	Between frosts	.75 to .85
Ladino whiteclover	Between frosts	.80 to .85
Potatoes	3 to 5 months	.65 to .75
Rice	3 to 5 months	1.00 to 1.10
Soybeans	140 days	.65 to .70
Sugar beet	6 months	.65 to .75
Sugarcane	Full year	.80 to .90
Tobacco	4 months	.70 to .80
Tomatoes	4 months	.65 to .70
Truck crops, small	2 to 4 months	.60 to .70
Vineyard	5 to 7 months	.50 to .60

1/ Length of season depends largely on variety and time of year when the crop is grown. Annual crops grown during the winter period may take much longer than if grown in the summertime.

2/ The lower values of K for use in the Blaney-Criddle formula,  $U=KF$ , are for the more humid areas, and the higher values are for the more arid climates.

## Growing season

In using the Blaney-Criddle formula for computing seasonal requirements, the potential growing season for the various crops is normally considered to extend from frost to frost or from the last killing frost in the spring to the end of a definite period thereafter. For most crops, this is adequate for seasonal use estimates, but a refinement is necessary to more precisely define the growing season when monthly or short-time use estimates are required. In many areas records are available from which planting, harvesting, and growth dates can be determined. These records should be used where possible. In other areas temperature data may be helpful for estimating these dates. Table 2A-3 gives some guides that can help determine these dates.

The spring frost date corresponds very nearly with a mean temperature of 55 degrees, so it is obvious that many of the common crops use appreciable amounts of water before the last frost in the spring and may continue to use water after the first front in the fall.

## Climate coefficient ( $k_t$ )

While it is recognized that a number of climatological factors affect consumptive use by crops, seldom is complete climatological data on relative humidity, wind movement, sunshine hours, or pan evapotranspiration available for a specific site. Thus, it is necessary to rely on records of temperature that are widely available.

In 1954, J.T. Phelan attempted to correlate the monthly consumptive-use coefficient ( $k$ ) with the mean monthly temperature ( $t$ ). It was noted that a loop effect occurred in the plotted points—the computed values of ( $k$ ) were higher in the spring than in the fall for the same temperature. The effects of this loop were later corrected by the development of a crop growth stage coefficient ( $k_c$ ). The relationship between ( $k$ ) and ( $t$ ) was adopted for computing values of ( $k_c$ ), the temperature coefficient. This relationship is expressed as  $k_t = .0173t - .314$ . Table 2A-4 gives values of  $k_t$  for temperatures ranging from 36 to 100 degrees Fahrenheit.

**Table 2A-3** A guide for determining planting dates, maturity dates, and lengths of growing seasons as related to mean air temperature

Crops	Earliest moisture— Use or planting date as related to mean air temperature	Latest moisture— Use or maturing date as related to mean air temperature	Growing season days
<b>Perennial crops</b>			
Alfalfa	50° mean temp.	28° frost	Variable
Grasses, cool	45° mean temp.	45° mean temp.	Variable
Orchards, deciduous	50° mean temp.	45° mean temp.	Variable
Grapes	55° mean temp.	50° mean temp.	Variable
<b>Annual crops</b>			
Beans	60° mean temp.	32° frost	90 — 100
Corn	55° mean temp.	32° frost	140 — Max.
Cotton	62° mean temp.	32° frost	240 — Max.
Grain, spring	45° mean temp.	32° frost	130 — Max.
Potatoes, late	60° mean temp.	32° frost	130 — Max.
Sorghum, grain	60° mean temp.	32° frost	130 — Max.
Sugar beets	28° frost	28° frost	180 — Max.
Wheat, winter (fall season)		45° mean temp.	
(spring season)	45° mean temp.		

## Crop growth stage coefficients ( $k_c$ )

As previously stated, another factor that causes consumptive use to vary widely throughout the growing season is the plant itself. Stage of growth is a primary variable that must be recognized because it is obvious that plants in the rapid growth stage use water at a more rapid rate than will new seedlings. It is also obvious that these variations in consumptive use throughout the growing season will be greater for annual crops than for perennial crops, such as alfalfa, permanent pasture grasses, and orchards.

**Table 2A-4** Values of the climate coefficients ( $k_t$ ) for various mean air temperatures ( $t$ )<sup>1</sup>

$t$ (°F)	$k_t$	$t$ (°F)	$k_t$	$t$ (°F)	$k_t$
36	.31	58	.69	80	1.07
37	.33	59	.71	81	1.09
38	.34	60	.72	82	1.11
39	.36	61	.74	83	1.12
40	.38	62	.76	84	1.14
41	.40	63	.78	85	1.16
42	.41	64	.79	86	1.17
43	.43	65	.81	87	1.19
44	.45	66	.83	88	1.21
45	.46	67	.85	89	1.23
46	.48	68	.86	90	1.24
47	.50	69	.88	91	1.26
48	.52	70	.90	92	1.28
49	.53	71	.91	93	1.30
50	.55	72	.93	94	1.31
51	.57	73	.95	95	1.33
52	.59	74	.97	96	1.35
53	.60	75	.98	97	1.36
54	.62	76	1.00	98	1.38
55	.64	77	1.02	99	1.40
56	.66	78	1.04	100	1.42
57	.67	79	1.05		

<sup>1</sup> Values of ( $k_t$ ) are based on the formula,  $k_t = .0173 t - .314$  for mean temperatures less than 36°, use  $k_t = .300$ .

To recognize these variations in consumptive use, crop growth stage coefficients ( $k_c$ ) have been introduced into the formula. Values of these coefficients are calculated from research data. Where values of  $k_c$  are plotted against time or stage of growth, curves similar to those shown in figures 2A-1 through 2A-25 result. Such curves are used to obtain values of  $k_c$  that, when used with appropriate values of  $k_t$  will permit a determination of values of monthly or short-time consumptive-use coefficients ( $k$ ).

Also, the value of  $k_c$  might to some extent be influenced by factors other than the characteristics of the plant itself. For this reason, it is not expected that these curves can be used universally. They should, however, be valid over a considerable area and certainly should be of value in areas where no measured consumptive-use data are available.

For annual crops, such as corn, values of  $k_c$  are best plotted as a function of a percentage of the growing season. Figure 2A-7 shows the suggested values of  $k_c$  for corn.

For perennial crops, values of  $k_c$  generally are best plotted on a monthly basis. Figure 2A-1 shows the plotting of such values for alfalfa. Crop growth stage coefficient curves for all crops for which data are available are in this appendix.

## Assumptions in applying the formula

To apply results of a consumptive-use-of-water study in one area to other areas, certain assumptions must be made. If sufficient basic information is available locally, such actual data should be used; however, sufficient detail of the needed data is rarely available. Where necessary information is unavailable, the following assumptions must be made in applying the consumptive-use formula to transfer data between areas:

- Seasonal consumptive use ( $U$ ) of water varies directly with the consumptive-use factor ( $F$ ).
- Crop growth and yields are not limited by inadequate water at any time during the growing season.

- Growing periods for alfalfa, pasture, orchard crops, and natural vegetation, although usually extending beyond the frost-free periods, are usually indicated by such periods. Yields of crops dependent only upon vegetative growth vary with the length of the growing period.

midpoint date for each month or fraction is shown in column 2. The accumulated number of days from the planting date, April 20, to the midpoint of each month or period is shown in column 3. The percentage of the 120-day growing season represented by these midpoint dates is shown in column 4. Thus:

$$\text{column 4} = \frac{\text{column 3}}{120}$$

### Application to specific areas

The application of the Blaney-Criddle formula to specific areas can best be illustrated by examples. Two have been chosen for this purpose. The first is an annual crop, corn, grown in a humid area, Raleigh, North Carolina. The second is a perennial crop, alfalfa, grown in an arid area, Denver, Colorado.

#### Corn at Raleigh, North Carolina

The procedure for estimating the average daily, monthly, and seasonal consumptive use by corn at this location is shown in sample calculation 2A-1. The average length of the growing season for corn grown near Raleigh is 120 days beginning about April 20.

The estimate is made on a monthly basis, the months and fractions thereof being shown in column 1. The

Mean monthly air temperature values, shown in column 5, are taken from Weather Bureau records. The mean temperature is assumed to occur on the 15th day of each month. The mean air temperature for a part of a month can be obtained mathematically or graphically by assuming that the increase or decrease in temperature between the 15th day of any consecutive month is a straight-line relationship. For example, at Raleigh, the mean monthly air temperature for April is 60.6 degrees and that for May is 69.2 degrees. The mean air temperature for the midpoint date is calculated as follows:

$$60.6^\circ + \frac{10 \text{ days } (69.2^\circ - 60.6^\circ)}{30 \text{ days}} = 63.5^\circ$$

**Sample calculation 2A-1** Estimate of average daily, monthly, and seasonal consumptive-use by corn (harvested for grain) at Raleigh, North Carolina, latitude 35°47' N

(1) Month or period	(2) Midpoint of period	(3) Accum. days to midpoint	(4) Percent of growing season	(5) Mean air temp., t (°F)	(6) Daylight hours, p (%)	(7) Cons. use factor, f	(8) Climatic coeff., k <sub>t</sub>	(9) Growth stage coeff., k <sub>c</sub>	(10) Cons. use coeff., k	(11) Monthly cons. use, u (in)	(12) Daily cons. use, u (in/d)
April 20											
	April 25	5	4.2	63.5	3.05	1.94	.79	.46	.36	.70	.070
May	May 15	25	20.8	69.2	9.79	6.77	.88	.59	.52	3.52	.114
June	June 15	56	46.7	76.9	9.81	7.54	1.02	1.02	1.04	7.84	.261
July	July 15	86	71.7	79.4	9.98	7.92	1.06	1.05	1.11	8.79	.284
August	Aug. 9	111	92.5	78.3	5.52	4.32	1.04	.91	.95	4.10	.228
Aug. 18											
<b>Season total</b>										24.95 inches	

Raleigh is located at latitude 35°47' N. The monthly percentages of daylight hours, shown in column 6, are taken from table 2A-1. For parts of a month, the values of these percentages can be obtained in a similar manner as that described for mean air temperature. For example, at Raleigh, the monthly percentage of daylight hours for April is 8.84 and that for May is 9.79. For the period April 20 through April 30, the monthly percentage of daylight hours is calculated as:

$$\left( 8.84\% + \frac{10 \text{ days}(9.79\% - 8.84\%)}{30 \text{ days}} \right) \frac{10 \text{ days}}{30 \text{ days}} = 3.05\%$$

The values of consumptive use factors (f) shown in column 7 are the product of t and p divided by 100. Values of the climatic coefficient ( $k_t$ ) shown in column 8 are taken from table 2A-4. Values of the crop growth stage coefficient ( $k_c$ ) shown in column 9 are taken from the curve shown in figure 2A-7. The values of the monthly consumptive-use coefficient (k) shown in

column 10 are the product of  $k_t$  and  $k_c$ . Values of monthly consumptive use (u) shown in column 11 are the product of values of k and f. The average daily rates of consumptive use shown in column 12 are the monthly values of u (column 11) divided by the number of days in the month.

### Alfalfa in Denver, Colorado

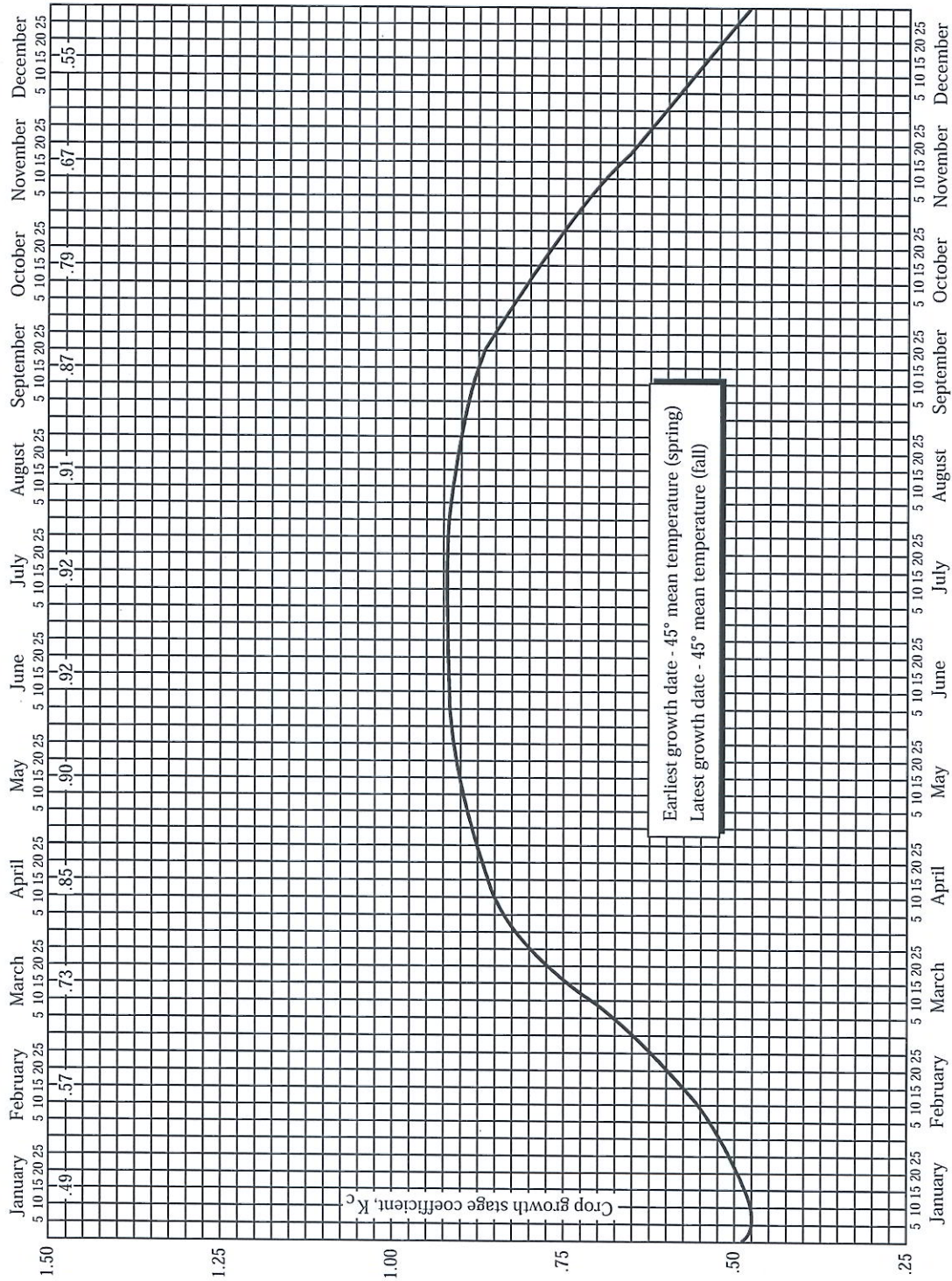
The procedure for estimating the average daily, monthly, and seasonal consumptive use by alfalfa in this location is shown in sample calculation 2A-2. The growing season for alfalfa grown near Denver is considered to be that period from the date corresponding to 50° mean temperature in the spring to the date corresponding to 28° frost in the fall. This period is from April 24 to October 25.

The procedure illustrated by sample calculation 2A-2 is the same as that described for corn in sample calculation 2A-1. The values of the crop growth stage coefficient ( $k_c$ ) shown in column 8 are taken from the curve for alfalfa shown in figure 2A-1.

#### Sample calculation 2A-2 Estimate of average daily, monthly, and seasonal consumptive use by alfalfa at Denver, Colorado

(1) Month or period	(2) Midpoint of period	(3) Days in period	(4) Mean air temp, t (°F)	(5) Daylight hours, p (%)	(6) Cons. use factor, f	(7) Climatic coeff., $k_t$	(8) Growth stage coeff., $k_c$	(9) Cons. use coeff., k	(10) Monthly cons. use, u (in/mo)	(11) Daily cons. use, u (in/d)
April 24										
	April 27	6	51.1	1.87	0.96	0.57	1.03	0.59	0.57	0.095
May	May 15	31	56.3	9.99	5.62	0.66	1.08	0.71	3.99	0.129
June	June 15	30	66.4	10.07	6.69	0.84	1.13	0.95	6.36	0.212
July	July 15	31	72.8	10.20	7.43	0.95	1.11	1.05	7.80	0.252
August	August 15	31	71.3	9.54	6.80	0.92	1.06	0.98	6.66	0.215
September	Sept. 15	30	62.7	8.39	5.26	0.77	0.99	0.76	4.00	0.133
October	Oct. 12	25	53.5	6.31	3.38	0.61	0.91	0.56	1.89	0.076
Oct. 25										
Seasonal total									31.27 inches	

**Figure 2A-15** Crop growth stage coefficient curve for pasture grasses



# RICHARDSON GROVE ST PK, CALIFORNIA (047404)

## Period of Record Monthly Climate Summary

Period of Record : 11/9/1961 to 8/31/2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	50.1	54.6	59.5	64.3	71.5	78.0	86.1	86.6	83.2	70.3	55.7	49.3	67.4
Average Min. Temperature (F)	37.3	38.5	39.5	41.0	45.3	49.9	53.1	52.9	49.3	44.7	40.9	37.5	44.2
Average Total Precipitation (in.)	13.20	10.34	8.87	4.53	1.88	0.64	0.06	0.37	0.91	3.88	9.64	13.69	68.01
Average Total SnowFall (in.)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 98.6% Min. Temp.: 98.7% Precipitation: 99.6% Snowfall: 99.3% Snow Depth: 98.9%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

---

Western Regional Climate Center, [wrcc@dri.edu](mailto:wrcc@dri.edu)

NOAA Atlas 14, Volume 6, Version 2

GARBERVILLE

Station ID: 04-3320

Location name: Redway, California, US\*

Latitude: 40.1000°, Longitude: -123.8000°

Elevation:

Elevation (station metadata): 340 ft\*

\* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.166 (0.147-0.190)	0.195 (0.172-0.224)	0.236 (0.207-0.271)	0.269 (0.234-0.313)	0.317 (0.265-0.383)	0.355 (0.290-0.441)	0.396 (0.313-0.505)	0.438 (0.336-0.578)	0.498 (0.364-0.690)	0.546 (0.383-0.788)
10-min	0.238 (0.210-0.273)	0.280 (0.247-0.321)	0.338 (0.296-0.388)	0.386 (0.336-0.448)	0.455 (0.380-0.550)	0.509 (0.415-0.631)	0.567 (0.449-0.724)	0.628 (0.481-0.829)	0.714 (0.521-0.989)	0.783 (0.549-1.13)
15-min	0.288 (0.254-0.330)	0.339 (0.298-0.389)	0.408 (0.358-0.470)	0.467 (0.406-0.542)	0.550 (0.459-0.665)	0.616 (0.502-0.764)	0.686 (0.543-0.875)	0.760 (0.582-1.00)	0.864 (0.630-1.20)	0.947 (0.664-1.37)
30-min	0.403 (0.355-0.461)	0.474 (0.417-0.543)	0.571 (0.501-0.657)	0.653 (0.568-0.758)	0.769 (0.642-0.930)	0.861 (0.702-1.07)	0.959 (0.759-1.22)	1.06 (0.814-1.40)	1.21 (0.881-1.67)	1.33 (0.928-1.91)
60-min	0.560 (0.494-0.641)	0.659 (0.580-0.755)	0.794 (0.697-0.913)	0.907 (0.789-1.05)	1.07 (0.892-1.29)	1.20 (0.976-1.48)	1.33 (1.06-1.70)	1.48 (1.13-1.95)	1.68 (1.23-2.33)	1.84 (1.29-2.65)
2-hr	0.873 (0.770-1.00)	1.03 (0.906-1.18)	1.24 (1.09-1.42)	1.41 (1.23-1.64)	1.65 (1.38-2.00)	1.84 (1.50-2.29)	2.04 (1.62-2.60)	2.25 (1.72-2.96)	2.53 (1.85-3.51)	2.76 (1.93-3.98)
3-hr	1.14 (1.01-1.31)	1.34 (1.18-1.54)	1.61 (1.41-1.85)	1.83 (1.59-2.13)	2.14 (1.79-2.59)	2.38 (1.94-2.95)	2.63 (2.08-3.36)	2.89 (2.21-3.81)	3.25 (2.37-4.50)	3.53 (2.47-5.08)
6-hr	1.80 (1.59-2.06)	2.12 (1.87-2.43)	2.54 (2.23-2.92)	2.89 (2.51-3.35)	3.36 (2.81-4.07)	3.73 (3.04-4.62)	4.11 (3.25-5.24)	4.50 (3.45-5.94)	5.04 (3.67-6.98)	5.46 (3.82-7.87)
12-hr	2.70 (2.38-3.09)	3.21 (2.83-3.68)	3.89 (3.41-4.47)	4.44 (3.86-5.16)	5.21 (4.35-6.30)	5.80 (4.73-7.20)	6.42 (5.08-8.19)	7.05 (5.40-9.30)	7.93 (5.78-11.0)	8.62 (6.04-12.4)
24-hr	3.94 (3.53-4.48)	4.75 (4.26-5.41)	5.82 (5.20-6.65)	6.70 (5.94-7.71)	7.90 (6.79-9.38)	8.84 (7.45-10.7)	9.80 (8.07-12.1)	10.8 (8.66-13.7)	12.2 (9.39-16.1)	13.3 (9.90-18.1)
2-day	5.48 (4.92-6.24)	6.69 (5.99-7.62)	8.24 (7.37-9.41)	9.49 (8.42-10.9)	11.2 (9.59-13.2)	12.4 (10.5-15.0)	13.7 (11.3-17.0)	15.0 (12.0-19.1)	16.7 (12.9-22.1)	18.1 (13.5-24.7)
3-day	6.67 (5.98-7.59)	8.17 (7.32-9.31)	10.1 (9.02-11.5)	11.6 (10.3-13.4)	13.6 (11.7-16.2)	15.1 (12.8-18.3)	16.6 (13.7-20.6)	18.1 (14.6-23.1)	20.1 (15.5-26.6)	21.7 (16.2-29.6)
4-day	7.48 (6.71-8.51)	9.19 (8.23-10.5)	11.4 (10.1-13.0)	13.1 (11.6-15.0)	15.3 (13.2-18.2)	17.0 (14.3-20.5)	18.6 (15.3-23.1)	20.3 (16.3-25.8)	22.4 (17.3-29.7)	24.1 (18.0-32.9)
7-day	9.38 (8.41-10.7)	11.5 (10.3-13.1)	14.1 (12.6-16.1)	16.2 (14.4-18.6)	18.9 (16.3-22.5)	20.9 (17.7-25.4)	22.9 (18.9-28.4)	24.9 (20.0-31.7)	27.5 (21.2-36.4)	29.5 (22.0-40.3)
10-day	10.8 (9.72-12.3)	13.2 (11.9-15.1)	16.2 (14.5-18.5)	18.6 (16.5-21.4)	21.7 (18.6-25.7)	23.9 (20.1-28.9)	26.1 (21.5-32.3)	28.3 (22.7-36.0)	31.1 (24.0-41.2)	33.3 (24.8-45.5)
20-day	14.3 (12.9-16.3)	17.6 (15.8-20.1)	21.6 (19.3-24.7)	24.6 (21.8-28.3)	28.5 (24.5-33.8)	31.2 (26.3-37.8)	33.8 (27.8-41.9)	36.3 (29.2-46.2)	39.5 (30.5-52.3)	41.8 (31.2-57.1)
30-day	17.4 (15.6-19.8)	21.4 (19.2-24.4)	26.2 (23.4-29.9)	29.8 (26.4-34.3)	34.2 (29.4-40.6)	37.4 (31.5-45.2)	40.3 (33.2-49.9)	43.1 (34.5-54.8)	46.5 (35.8-61.4)	48.9 (36.5-66.7)
45-day	22.7 (20.4-25.8)	27.9 (25.0-31.8)	34.1 (30.4-38.9)	38.5 (34.2-44.4)	44.0 (37.8-52.2)	47.7 (40.2-57.8)	51.2 (42.2-63.4)	54.4 (43.6-69.2)	58.2 (44.9-77.0)	60.9 (45.5-83.2)
60-day	27.0 (24.2-30.7)	33.2 (29.7-37.8)	40.3 (36.0-46.0)	45.5 (40.3-52.3)	51.6 (44.4-61.3)	55.8 (47.0-67.5)	59.5 (49.0-73.8)	63.0 (50.5-80.1)	67.1 (51.8-88.7)	69.9 (52.2-95.5)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical



APPENDIX B  
WATER SOURCE CAPACITY CALCULATIONS

SF Eel Flowrate = 152 cfs  
68217.6 gpm  
10% streamflow = 6821.76 gpm  
Use 108 gpm

Source	Capacity (gpm)	Capacity (gpd)	Capacity (gal/mo)	Potable (Y/N)
1	107.0	77,040	2,343,300	N
*2	1.4	2,002	60,882	Y
3		-	-	Y
4	2.5	1,800	54,750	Y

\*No draw allowed July 2 - Oct 31

Month	No. of Days	Source 1 Capacity (pump 12 hrs/day)	Source 2 Capacity	Source 4 Capacity (pump 12 hrs/day)
January	31	2,388,240	62,050	55,800
February	28	2,157,120	56,045	50,400
March	31	2,388,240	62,050	55,800
April	30	2,311,200	60,048	54,000
May	31	2,388,240	62,050	55,800
June	30	2,311,200	60,048	54,000
July	31	2,388,240	-	55,800
August	31	2,388,240	-	55,800
September	30	2,311,200	-	54,000
October	31	2,388,240	-	55,800
November	30	2,311,200	60,048	54,000
December	31	2,388,240	62,050	55,800

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WaterSupplyDemandAnalysis\04-Technical Work\03 SumMemo-Recommend\Technical Memo-rcedit.docx

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	Stephanie Gould, EIT	Rebecca Crow, PE		Rebecca Crow, PE		9/2/2014

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**APPENDIX H**  
**BIOLOGICAL BACKGROUND STUDIES**

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## Southern Humboldt Community Park

### Feasibility Study

Submitted  
November 25, 2002

Prepared for: Southern Humboldt Working Together, Incorporated  
P.O. Box 185  
Garberville, CA 95542  
(707) 923-4022  
Attention: Steve Dazey

Prepared by: Mad River Biologists  
J. Brett Lovelace, Staff Biologist  
Ron LeValley, Senior Biologist  
Stephanie Morrissette, Associate Biologist  
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## I. Summary

Two site visits were conducted by Mad River Biologists in order to characterize and document the biological resources of the Southern Humboldt Community Park near Garberville, California. The various plant communities and habitats were mapped and assessed for the potential to support sensitive plant species. All plant and wildlife species encountered were recorded and can be found in Appendices 2 and 3. Two occurrences of the rare epiphytic lichen, *Usnea longissima* were found and mapped. No other sensitive species were encountered at the time of the field visits. Additional seasonally appropriate field surveys that target the fifteen sensitive plant species identified in the rare plant habitat assessment should be conducted if any future development or land management plans could have the potential to negatively affect the habitats identified as being suitable for these species.

## II. Introduction

The Southern Humboldt Community Park (a portion of what was formerly known as the “Tooby Ranch”) is an approximately 475-acre property recently acquired by Southern Humboldt Working Together, Incorporated, a non-profit organization based in Garberville, California. The following document is a feasibility study designed to assist Southern Humboldt Working Together and the Humboldt County Planning Department in identifying the biological resources that exist on the property. The resulting information can be used in the planning of any future development of the property. Field visits to the property described herein were conducted on March 27, 2001 and October 23, 2001. Project personnel included Senior Biologist Ron LeValley, Associate Biologist Stephanie Morrisette and Staff Biologist J. Brett Lovelace. This document contains a description of the biological resources identified on the property, including maps of plant communities, lists of plant and animal species encountered, and an assessment of the potential for the identified habitats to host sensitive plant/animal species.

## III. Methods

A field investigation of the Southern Humboldt Community Park occurred on March 27, 2001 by Senior Biologist Ron LeValley and Associate Biologist Stephanie Morrisette of Mad River Biologists. The site investigation consisted of walking through the property and recording the presence and potential presence of wildlife, including noting calls and songs, tracks, droppings, and other signs. Similarly, habitats were assessed for their suitability to support sensitive flora. A second site visit occurred on October 24, 2001 by Mad River Biologists Staff Biologist J. Brett Lovelace for the purpose of mapping habitats.

Compiled species lists for the ranch are included as Appendices 2 and 3. Since the appearance and identification of many species is seasonally dependent, these lists should not be considered complete. They are, however, very useful for characterizing the site. Plants were identified to species, except in a few cases when individuals were identifiable only to genus due to the absence of flower and/or fruit. Nomenclature used follows *The Jepson Manual* (Hickman 1993) for vascular plants and *Macrolichens of the Pacific Northwest* (McCune & Geiser 1997) for lichens.

## IV. Site Description

The Southern Humboldt Community Park (formerly known as the “Tooby Ranch”) is approximately a 475-acre property located less than ½ mile south of Garberville, in southern Humboldt County, California (Figure 1). The Eel River passes through the north and northwest sections of the property offering aquatic, riverine habitats bordered by riparian vegetation. Upland forests and grasslands interspersed with drainages also occur on the site. Historic uses of the property include cattle ranching (possibly haying), and some timber harvesting (Dazey pers. comm.).

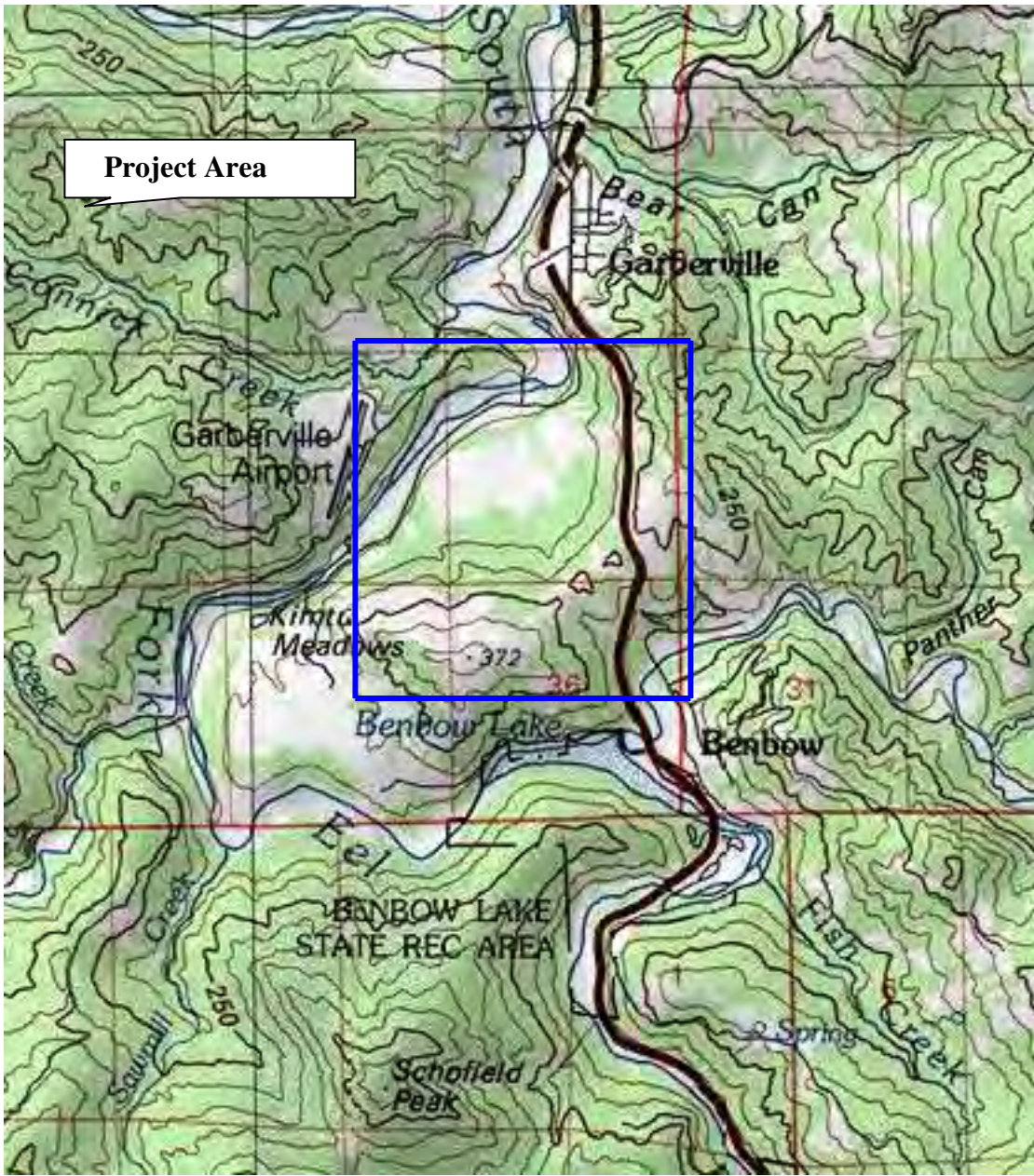


Figure 1. Site Location Map.

## IV. a. Plant Community and Habitat Types

The following upland habitat descriptions are consistent with those described in *A Manual of California Vegetation* (Sawyer & Keeler-Wolf 1995). Wetland vegetation types were classified according to the *Classification of Wetlands and Deepwater Habitats* (Cowardin et al. 1979). Soil descriptions are consistent with *Soils of Western Humboldt County California* (McLaughlin & Harradine 1965). The gravel bar and associated riparian vegetation was previously mapped by Natural Resources Management Corporation (Golec 2000).

### **California Annual Grasslands**

The large tract of open grasslands in the center of the property can be classified under the California annual grassland series. This series is composed of alien and native annual species. The species composition of this series varies among sites. At the Southern Humboldt Community Park, the dominant species include annual (and to a lesser extent, perennial) grasses and herbs such as colonial bent (*Agrostis capillaris*), silver European hairgrass (*Aira caryophyllea*), sweet vernal grass (*Anthoxanthum odoratum*), quaking grass (*Briza maxima*), brome (*Bromus* sp.), soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), hedgehog dogtail (*Cynosurus echinatus*), orchard grass (*Dactylis glomerata*), Queen Anne's lace (*Daucus carota*), California poppy (*Eschscholzia californica*), wild cucumber (*Marah* sp.), sweet-cicely (*Osmorhiza* sp.), shamrock (*Trifolium dubium*), vetch (*Vicia* sp.), buttercup (*Ranunculus* sp.), sheep sorrel (*Rumex acetosella*), and curly dock (*Rumex crispus*).

The substrates found in this habitat vary across the site, and the slopes range from 0-3%. Soils of the Ettersberg series occur immediately south of the stand of California bay (*Umbellularia californica*) trees that parallel Camp Kimtu Road (refer to Appendix 4), and in the western portion of the grasslands of the property. This soil type is also found in the meadow area to the southeast of the Tooby Memorial Park. Ettersberg soils are typically well drained, though this varies with the clay content of subsoils. They are derived from gravely river sediments of the Franciscan and Yager formations.

In the northeastern portion of the grasslands, the substrate is a Hookton silty clay loam. Hookton silty clay loams are imperfectly drained soils derived from the Hookton formation. Such soils typically have higher organic content, are subject to compaction, and as a consequence remain wet for extended periods.

Honeydew clay loams comprise the dominant soil type in the southeastern portion of the grasslands. These soils are derived from an alluvial greywacke parent material from the Franciscan formation. These soils experience more surface compaction than other Honeydew soils.

Moderately well drained Arcata loam soils are found at the bottom of the north-facing slope near the southwestern edge of the grasslands. Arcata soils develop from young, softly consolidated alluvial deposits of the Hookton formation. The Arcata soils in this region often remain wet for extended periods due to compaction of the substratum.

Ferndale fine sandy loam forms the substrate of the grasslands located to the south of the Camp Kimtu Road and immediately north of the above-mentioned stand of California bay trees (refer to Appendix 4). The Ferndale series is composed of young sedimentary alluvial deposits from the Franciscan formation. They have good drainage and dry out relatively rapidly. These soils are considered to be well suited for agricultural use.

In the southeastern corner of the property, grasslands are found on a Usal clay loam. Usal clay loams are derived from a sandstone and shale parent material and are considered to be productive for timber and range use.

## Redwood Series

This series is characterized as having redwood as the dominant tree in the canopy. It occurs in the area currently known as Tooby Memorial Park, which is located on the south bank of the Eel River and on the north side of Camp Kimtu Road. Associates encountered in this area include Pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), coyote brush (*Baccharis pilularis*), sword fern (*Polystichum munitum*), and the invasive scotch broom (*Cytisus scoparius*). Soils in the Tooby Memorial Park are an Ettersberg loam.

## California Bay Series

This habitat type was found bordering much of the grasslands, oak woodlands, and/or Douglas-fir stands. It is characterized as having California bay (*Umbellularia californica*) as the sole or dominant tree in the canopy. Other associates include big leaf maple (*Acer macrophyllum*), black oak (*Quercus kelloggii*), and Pacific madrone (*Arbutus menziesii*). The understory in this habitat is typically lacking, although where this habitat type is found adjacent to Camp Kimtu Road, a moderate understory composed of Himalayan blackberry (*Rubus discolor*) exists. The stand of bay trees that bisects the grasslands appears to occur within a “terrace escarpment” between Ettersberg loam and Ferndale fine sandy loam. Other substrates that support this plant community are Hookton silty clay loams and Honeydew clay loams.

## Black Oak Series

This habitat type occupies the lower to middle slopes along the southern portion of the property. It is characterized by a mixed species composition including black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), Pacific madrone (*Arbutus menziesii*), and Douglas-fir (*Pseudotsuga menziesii*). The understory is fairly open with low shrub cover made up primarily of hazelnut (*Corylus cornuta*), sword fern (*Polystichum munitum*), wood fern (*Dryopteris arguta*), and young Douglas-fir saplings. The herbaceous cover is low to moderate, consisting of many mixed woodland species such as wood strawberry (*Fragaria vesca*), sanicle (*Sanicula* sp.), hedge nettle (*Stachys* sp.), exotic pea (*Lathyrus* sp.), hairy cat's ear (*Hypochaeris radicata*), maidenhair fern (*Adiantum aleuticum*), sweet-cicely (*Osmorhiza* sp.), vetch (*Vicia* sp.), buttercup (*Ranunculus* sp.), honeysuckle (*Lonicera* sp.), trail plant (*Adenocaulon bicolor*), starflower (*Trientalis* sp.), rose (*Rosa* sp.), (*Bellis perenne*), poison oak (*Toxicodendron diversilobum*), self-heal (*Prunella vulgaris*), bedstraw (*Gallium* sp.), Queen Anne's lace (*Daucus carota*), shooting star (*Dodocatheon* sp.), lousewort (*Pedicularis* sp.), Calypso orchid (*Calypso bulbosa*), tarweed (*Madia* sp.), gold back fern (*Pentagramma triangularis*), licorice fern (*Polypodium glycyrrhiza*), toothwort (*Cardamine* sp.), yerba buena (*Satureja douglasii*), sword fern (*Polystichum munitum*), and cow parsnip (*Heracleum lanatum*). The forested hillsides supporting this habitat type are Honeydew and Usal clay loams.

## Douglas-fir Series

This series is characterized by a species composition where Douglas-fir (*Pseudotsuga menziesii*) is the sole or dominant tree in the canopy, occasionally coexisting with other associates such as black oak (*Quercus kelloggii*), California bay (*Umbellularia californica*), canyon live-oak (*Quercus chrysolepis*), and Pacific madrone (*Arbutus menziesii*). The density of the understory is typically low but varies, and is dominated by hazelnut (*Corylus cornuta*), sword fern (*Polystichum munitum*), wood fern (*Dryopteris arguta*), and canyon live-oak (*Quercus chrysolepis*). This habitat type was encountered on the middle to upper slopes along the southern portion of the property. In the central region of this slope there is an increase in the dominance of Douglas-fir,

with an increase in the abundance of mature Douglas-fir trees and snags. This area exhibits a multi-layered canopy with frequent gaps, thus providing a greater degree of stand structural complexity. The substrates found in association with this habitat type are Usal clay loams.

### **Douglas-fir – tanoak Series**

The Douglas-fir – tanoak series is composed primarily of Douglas-fir (*Pseudotsuga menziesii*) and tanoak (*Lithocarpus densiflorus*). Two areas were encountered on the site in which this habitat type existed. One of these locations is in the extreme southwest of the property and is a younger stand with a higher estimated stem density relative to the adjacent Douglas-fir series. The dominant species in this area are Douglas-fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), canyon live-oak (*Quercus chrysolepis*), and Pacific madrone (*Arbutus menziesii*) in the canopy, with sword fern (*Polystichum munitum*), wood fern (*Dryopteris arguta*), and canyon live-oak (*Quercus chrysolepis*) in the shrub layer. Melbourne loam/clay loams make up the substrate in this part of the property. These soils are derived from sandstone and shale and are rated high for timber production and range use.

This plant community also occurs in the northwestern corner of the property where the species composition is similar, with the addition of manzanita (*Arctostaphylos* sp.), toyon (*Heteromeles arbutifolia*) and California blackberry (*Rubus ursinus*). Here, there is an increase in the stand density and the density of the understory, which is composed of smaller individuals of the same species. The soils in this area are a Hugo gravelly loam/stony clay loam and a Timmons clay loam. Hugo soils are derived from a sandstone and shale parent material. They are known to be productive for timber and to a lesser extent, for range use. Timmons clay loams are a well-drained alluvial soil derived from the Hookton formation. Such soils also have a high rating for timber production. This soil type is restricted to the north bank of the Eel River, adjacent (south) to Camp Kimtu Road.

### **Coyote brush series**

This series exists primarily along the edges and banks of the Eel River channel. This habitat is characterized by disturbance from the fluctuations in water levels and meandering of the river, and also from gravel extraction, which occurs on the northern bank of the Eel River. The species associated with this habitat include coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus discolor*), California blackberry (*Rubus ursinus*), white sweetclover (*Melilotus alba*), pigweed (*Chenopodium* sp.), and black mustard, (*Brassica nigra*). This community is common along terrace escarpments adjacent to the river. The dominant substrate in this plant community is an unconsolidated river wash composed of gravels and sand.

## **IV. b. Wetland Habitat Types**

These “Wetland Types” were used to characterize habitats that exist on the property where these habitats could not easily be assigned to an existing classification found in Sawyer & Keeler-Wolf (1995). These assignments were based primarily on the presence of hydrophytic plant species (species adapted to anoxic conditions caused by frequent inundation and/or saturation of the substrate). It is important to note that formal wetland delineations were not conducted at the Southern Humboldt Community Park and these assignments should not be construed to be wetlands under the definitions described by the U.S. Army Corps of Engineers (1987).

### **Palustrine Emergent Wetlands**

This “habitat” type was used to characterize wet meadows and seeps found adjacent to upland grasslands and forested areas. In the wet meadows (refer to Appendix 4), soils appear to remain saturated, if not flooded, for long periods. The vegetation is composed primarily of sedges (*Carex* spp. and *Scirpus* spp.), rushes (*Juncus* spp.), knotweed (*Polygonum* sp.), Harding grass (*Phalaris aquatica*), and pennyroyal (*Mentha pulegium*). The substrate in this area is composed both of imperfectly drained Hookton silt loam and Ettersberg loam.

This habitat type was encountered in the southwestern and northeastern portions of the grasslands, where there was evidence of ponding and/or prolonged soil saturation. Stunted vegetation, soil mottling, and the presence of pennyroyal (*Mentha pelugium*), rush species (*Juncus* spp.), and other hydrophytes characterize this area. The substrate is an Ettersberg loam.

### **Palustrine Scrub-shrub Wetlands**

The Palustrine scrub-shrub wetlands are characterized as having woody vegetation that is less than 6 meters tall. This habitat type is found intergrading into the Palustrine forested wetland in the area near the main entrance to the property and across the road from the Tooby Memorial Park, and most likely represents an earlier stage in the succession of these plant communities. The species that occur here are red alder (*Alnus rubra*), Sitka willow (*Salix sitchensis*), arroyo willow (*Salix lasiolepis*), Oregon ash (*Fraxinus latifolia*), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), and cultivated pear (*Pyrus* sp.) The herbaceous layer is dominated by rushes (*Juncus* spp.) and sedges (*Carex* spp. and *Scirpus* spp.).

This habitat also occurs in a creek bed that flows through a culvert and under the driveway to the west of the existing structures. This area is dominated by both willow species (*Salix lasiolepis* and *S. sitchensis*) and Himalayan blackberry (*Rubus discolor*). Soils in these areas are Hookton silt loams and Ettersberg loams.

### **Palustrine Forested Wetlands**

The palustrine-forested wetlands differ from scrub-shrub wetlands in that the height of the woody vegetation is greater than 6 meters. This habitat type is located near the main entrance to the property and is contiguous with the scrub-shrub wetland identified above. This area drains the wet meadows to the east of the structures that exist on the site, and it hosts tree species such as red alder (*Alnus rubra*), Sitka willow (*Salix sitchensis*), arroyo willow (*Salix lasiolepis*), Oregon ash (*Fraxinus latifolia*), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), cultivated pear (*Pyrus* sp.), and to a lesser extent redwood (*Sequoia sempervirens*) and black oak (*Quercus kelloggii*). The herbaceous layer is dominated by rushes (*Juncus* spp.) and sedges (*Carex* spp. and *Scirpus* sp.). Soils in this area are Hookton silt loam and Ettersberg loam.

### **Upper Perennial Riverine System — Unconsolidated Shore**

This system exists along, and immediately adjacent to the Eel River channel. This type of wetland system is associated with the upper sections of a perennial river system that is not influenced by tides, has a relatively high water velocity, and where there is little to no planktonic life. The vegetation is scarce and consists primarily of pioneering plants that establish only for a brief period due to fluctuations in the water level. The substrate is classified as river wash, which is unconsolidated and varies from a gravel or cobble to sand or silt. The dominant species represented in this habitat are arroyo willow (*Salix lasiolepis*), Sitka willow (*S. sitchensis*), black cottonwood (*Populus balsamifera* ssp. *Trichocarpa*), white sweetclover (*Melilotus alba*), radish (*Raphanus sativus*), black mustard (*Brassica nigra*), red alder (*Alnus rubra*), coyote brush (*Baccharis pilularis*), sedges (*Carex* spp.), and pigweed (*Chenopodium* sp.).



## V. Assessment for Sensitive Flora and Fauna

Tables 1 and 2 list sensitive flora and fauna (respectively) that are known to occur, or for which potentially suitable habitat has been identified within the study area. In the discussion of each species, the legal or protection status is listed along with comments regarding the probability for each species to occur within the study area. Special attention was given to those regionally occurring species considered endangered, threatened, or of special concern by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. The state list was taken from the California Department of Fish and Game Natural Diversity Database of Special Status Plants, Animals and Natural Communities of California dated January 2002.

Special plant and animal taxa are generally defined as species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- Officially listed by California or the Federal Government as Endangered, Threatened, Rare, or Sensitive;
- A candidate for state or federal listing as Endangered, Threatened, Rare or Sensitive;
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act (CEQA) Guidelines;
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization (NGO).
- Taxa listed in the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California*;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, valley shrub-land habitats, vernal pool, etc.).

### V. a. Plant Species Addressed

The California Natural Diversity Database (CNDDDB) and the California Native Plant Society (CNPS) Inventory of Rare, Threatened and Endangered Plants were queried for the Garberville and surrounding eight quadrangles in March 2002. The database queries generated eighteen sensitive plant species for the nine quadrangles. A list of regionally occurring Special Status plants was compiled for the property based on the results of the data base queries, review of pertinent literature, and a reconnaissance-level assessment of the project area for potentially suitable habitat for the queried species. Some species generated from the database queries have low probability for occurring within the project area due to narrow habitat requirements for a specific soil type, host species, water regime or other environmental factor. Species (i.e. *Gilia capitata* ssp. *pacifica*, *Castilleja mendocinensis*, and *Castilleja affinis* ssp. *litoralis*) restricted to areas far outside the elevational range for the project area and/or not known from similar habitats (i.e. coastal habitats) as those found within the project area were considered to have a low probability of occurrence at the Southern Humboldt Community Park and are not addressed here. Table 1 summarizes the regulatory status and habitat requirements for the resulting fifteen Special Status species that were addressed in the rare plant assessment.

The California Native Plant Society (CNPS) *Inventory of Rare, Threatened, and Endangered Plants, Sixth Edition* (Tibor 2001) includes five lists for categorizing plant species of concern. The plants on the CNPS list

1A, 1B, and 2 are considered rare, endangered, and threatened plants pursuant to Section 15380 of the California Environmental Quality Act (CEQA). The plants on these lists meet the definitions under the Native Plant Protection Act and/or the California Endangered Species Act of the California Department of Fish and Game Code and are eligible for state listing.

- List 1A – Plants that are presumed extinct in California;
- List 1B –Plants that are rare or endangered in California and elsewhere;
- List 2 – Plants that are rare or endangered in California but are more common elsewhere;
- List 3 – Plants for which more information is needed for final listing to be undertaken;
  - List 4 – Plants of limited distribution (a watch list), which are uncommon enough that their status warrants monitoring.

Species listed in the CNPS Inventory are further characterized by a rarity, endangerment and distribution code (R-E-D code), which was developed to increase the refinement of assigning plants to categories. The rarity component addresses the extent of the plant, both in terms of numbers of individuals and the nature and extent of distribution; endangerment refers to the plant’s vulnerability to extinction; and distribution focuses on the overall range of the plants. The R-E-D system is summarized below as taken from page 55-60 of the CNPS *Inventory of Rare, Threatened, and Endangered Plants, Sixth Edition* (Tibor 2001):

R (Rarity)

- 1.Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2.Distributed in a limited number of occurrences, occasionally more if each occurrence is small.
- 3.Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.

E (Endangerment)

- 1.Not endangered
- 2.Endangered in a portion of its range
- 3.Endangered throughout its range

D (Distribution)

- 1.More or less widespread outside of California
- 2.Rare outside of California
- 3.Endemic to California

In addition, the federal government has categorized some plants as Species of Special Concern. Species of Special Concern is a designation that was created for what used to be “C2” candidate species, and presently functions as a watch list. Species of Special Concern have no federal legal protection.

Table 1 summarizes the regulatory status and habitat requirements for the fourteen Special Status species that were addressed in the rare plant assessment for The Southern Humboldt Community Park. Table 2 summarized the regulatory status and habitat requirements for all regionally occurring Special Status animals.

Table 1. Sensitive Plant Species Addressed at the Southern Humboldt Community Park.

Rare Plant Species	Status	Habitat	Comments
<p><i>Arabis macdonaldiana</i>                      “McDonald’s rock cress”                       Family: Brassicaceae</p>	<p>Federal: Endangered                      State: Endangered                      CNPS: 1B                      R-E-D: 2-3-2</p>	<p>Lower montane coniferous forests, north coast coniferous forests, upper montane coniferous forests/serpentinite, 135-1800 m (Tibor 2001); rocky outcrops, ridges, slopes, and flats on serpentinite in lower/upper montane coniferous forests, 135-1455 m (CNDDDB 2001); steep slopes, dry ridges, serpentinite areas, +/- 1200 m (Hickman 1993).</p>	<p>Blooms: May-July                      Perennial herb                      Endangered by mining (Tibor 2001)                      *Known from the adjacent Noble Butte quadrangle.</p>
<p><i>Arctostaphylos canescens</i>                      ssp. <i>sonomensis</i>                       “Sonoma manzanita”                       Family: Ericaceae</p>	<p>Federal: None                      State: None                      CNPS: 1B                      R-E-D: 2-2-3</p>	<p>Chaparral and lower montane coniferous forests, sometimes serpentinite 180 to 1675 m, sometimes on serpentinite (Tibor 2001); chaparral and lower montane coniferous forests, sometimes found on serpentinite, 180-1700 m (CNDDDB 2001); ridges, slopes, chaparral, forest; 200-1500 m (Hickman 1993).</p>	<p>Blooms: January-April                      Evergreen shrub                      Threatened by development (Tibor 2001)                      *Known from the adjacent Noble Butte quadrangle, this species has the potential to occur in gravelly, forested areas at higher elevations at the site.</p>
<p><i>Arctostaphylos stanfordiana</i>                      ssp. <i>Raichei</i>                       “Raiche’s manzanita”                       Family: Ericaceae</p>	<p>Federal: None                      State: None                      CNPS: 1B                      R-E-D: 2-3-3</p>	<p>Rocky (often serpentinite) habitat in chaparral, openings in lower montane coniferous forests, 450-1000 m (Tibor 2001); slopes/ridges in chaparral and lower montane coniferous forests, 450-1000 m (CNDDDB 2001); rocky +/- serpentinite soils in chaparral, 450-1000 m (Hickman 1993).</p>	<p>Blooms: February-April                      Evergreen shrub                      Threatened by urbanization                      *Known from the adjacent Noble Butte quadrangle</p>

Rare Plant Species	Status	Habitat	Comments
<p><i>Astragalus agnicidus</i></p> <p>“Humboldt milk-vetch”</p> <p>Family: Fabaceae</p>	<p>Federal: None  State: Endangered  CNPS: List 1B  R-E-D: 3-3-3</p>	<p>Disturbed areas in broadleaved upland forest, northcoast coniferous forest, 575-750 m (Tibor 2001); disturbed areas in partially timbered forests, broadleaved upland forests, 575-750 m (CNDDDB 2001); open soil in woodland +/- 750 m (Hickman 1993).</p>	<p>Blooms: June-September</p> <p>Perennial herb</p> <p>Threatened by grazing and logging</p> <p>*Only known from one area in Humboldt County (Bear Buttes Ranch, Miranda quadrangle).</p>
<p><i>Cardamine pachystigma</i> var. <i>dissectifolia</i></p> <p>“Dissected-leaf toothwort”</p> <p>Family: Brassicaceae</p>	<p>Federal: None  State: None  CNPS: List 3  R-E-D: ?-?-3</p>	<p>Chaparral, Lower montane coniferous forest / usually serpentinite, rocky, 255-2,500 m (Tibor 2001); serpentinite outcrops &lt; 900 m (Hickman 1993),</p>	<p>Blooms: February – May</p> <p>Perennial herb (rhizomatous)</p> <p>*More information is needed on location, rarity, and endangerment.</p>
<p><i>Erigeron biolettii</i></p> <p>“Streamside daisy”</p> <p>Family: Asteraceae</p>	<p>Federal: None  State: None  CNPS: 3  R-E-D: ?-?-3</p>	<p>Broadleaf upland forest, cismontane woodland, North Coast coniferous forest, rocky/mesic sites, 30 – 1100 m (Tibor 2001); dry slopes, rocks, ledges along rivers, &lt;1100 m (Hickman 1993).</p>	<p>Blooms: June-September</p> <p>Perennial herb</p> <p>Potential habitat includes forested drainages.</p>

<i>Eriogonum kelloggii</i> "Kellogg's buckwheat"  Family: Polygonaceae	Federal: Candidate State: Endangered CNPS: 1B R-E-D: 3-2-3	Rocky, serpentinite areas in lower montane coniferous forests, 925-1220 m (Tibor 2001); rocky, serpentine sites in chaparral/lower montane coniferous forests, 925-1220 m (CNDDB 2001); serpentine soil, 1000-1200 m (Hickman 1993).	Blooms: May-August  Perennial herb  *Known from only one area in Mendocino County (adjacent Noble Butte quadrangle).
Rare Plant Species	Status	Habitat	Comments
<i>Erythronium revolutum</i> "Coast fawn lily"  Family: Liliaceae	Federal: None State: None CNPS: 2 R-E-D: 2-2-1	Bogs & fens, broadleaved upland forest, North Coast coniferous forest, and mesic stream banks, 0-1065 m (Tibor 2001); stream banks and wet places in woodlands; 0-1000 m (Hickman 1993).	Blooms: March-June  Perennial herb (bulbiferous)  Potential habitat onsite includes areas of moderate to high canopy cover along forested drainages.

<i>Gentiana setigera</i> “Mendocino gentian” Family: Gentianaceae	Federal: None State: None CNPS: 1B R-E-D: 3-2-2	Wet areas, meadows, and seeps in lower montane coniferous forests, 490-1065 m (Tibor 2001); meadows, seeps, and bogs, meadows in lower montane coniferous forests, usually or always on serpentine, 490-1065 m (CNDDDB 2001); wet mountain meadows +/- 1065 m (Hickman 1993).	Blooms: August-September Perennial herb *Known from the adjacent Noble Butte quadrangle
<i>Monardella villosa</i> ssp. <i>globosa</i> “Robust monardella” Family: Lamiaceae	Federal: None State: None CNPS: 1B R-E-D: 3-2-3	Openings in chaparral, cismontane woodland, coastal scrub; 185–600 m (Tibor 2001); oak woodland, chaparral, openings, 200-600 m (Hickman 1993).	Blooms: June-July Perennial herb (rhizomatous)
<i>Montia howellii</i> “Howell’s montia” Family: Portulacaceae	Federal: Species of Concern State: Special Status Species CNPS: List 2 R-E-D: 3-2-1	Meadows, and seeps, and vernal pools/vernally mesic areas, North Coast coniferous forests; 0-595 m (Tibor 2001); often on compacted soils, meadows, vernal pools/vernally wet sites, north coast coniferous forests, 0-400 m (CNDDDB 2001); wet shaded places near the coast in the redwood forest plant community (Munz & Keck 1965); around vernal pools, often on compacted soil, < 400 m (Hickman 1993).	Blooms: March – May Annual herb Previously thought to be extinct, this species has been recently documented growing in seasonally inundated, often-compacted soils in lightly disturbed areas or depressions that retain water (including cattle hoof prints and wheel ruts). Potentially suitable habitat includes moist meadows and roadsides within the study area. It is known from the Miranda, Briceland and other quadrangles in Humboldt county.
Rare Plant Species	Status	Habitat	Comments
<i>Sedum eastwoodiae</i> “Red Mountain stonecrop” Family: Crassulaceae	Federal: Candidate State: None CNPS: 1B R-E-D: 3-2-3	Lower montane coniferous forest, often on serpentinite, 600-1200 m (Tibor 2001); among rocks in serpentine soil in lower montane coniferous forests, 600-1200 m (CNDDDB 2001); serpentine soils among rocks, 600-1200 m (Hickman 1993).	Blooms: May-July Perennial herb *Endemic to one area in Mendocino County (adjacent Noble Butte quadrangle).

<p><i>Sidalcea malachroides</i></p> <p>“Maple-leaved checkerbloom”</p> <p>Family: Malvaceae</p>	<p>Federal: None State: None CNPS: 1B R-E-D: 2-2-2</p>	<p>Broadleaved upland forest, coastal prairie/scrub, and north coast coniferous forests, often on disturbed sites, 2-700 m (Tibor 2001); woodlands and clearings near the coast &lt; 700 m (Hickman 1993).</p>	<p>Blooms: April-August</p> <p>Perennial herb</p> <p>Suitable habitat for this species includes coastal prairie, coastal scrub and openings and edges of the intermittent forested areas within the study area. It has been documented along Wildcat Ridge south of Ferndale. The presence of suitable habitat within the study area warrants further field investigation.</p>
<p><i>Tracyina rostrata</i></p> <p>“Beaked tracyina”</p> <p>Family: Asteraceae</p>	<p>Federal: None State: None CNPS: 1B R-E-D: 3-2-3</p>	<p>Valley and foothill grasslands, cismontane woodlands, 90-250 m (Tibor 2001); open and grassy meadows within oak woodland and grassland habitats, valley and foothill grasslands, cismontane woodlands, 150-500 m (CNDDDB 2001); grassy slopes &lt; 500 m (Hickman 1993).</p>	<p>Blooms: May-June</p> <p>Annual herb</p> <p>*This species is known from the Fort Seward quadrangle and potentially suitable habitat includes the California annual grasslands, and oak woodlands.</p>
<p><i>Viburnum ellipticum</i></p> <p>“Oval-leaved viburnum”</p> <p>Family: Caprifoliaceae</p>	<p>Federal: None State: None CNPS: 2 R-E-D: 2-1-1</p>	<p>Chaparral, cismontane woodland, lower montane coniferous forest, 215-1400 m (Tibor 2001); chaparral, yellow pine forests, generally on northfacing slopes, 300-1400 m (Hickman 1993).</p>	<p>Blooms: May-June</p> <p>Deciduous shrub</p>

Table 2. Special Status Fish and Wildlife Species Addressed

Common Name	Scientific Name	Listing
<b>Fish</b>		
Coho Salmon (S. OR/N. CA Coastal ESU)	<i>Oncorhynchus kisutch</i>	FT
Chinook Salmon (California Coastal ESU)	<i>Oncorhynchus tshawytscha</i>	FT
Steelhead (Northern CA ESU)	<i>Oncorhynchus mykiss</i>	CSC
<b>Amphibians</b>		
Southern Torrent Salamander	<i>Rhyacotriton variegatus</i>	CSC
Tailed Frog	<i>Ascaphus truei</i>	CSC
Northern Red-legged Frog	<i>Rana aurora aurora</i>	CSC
Foothill Yellow-legged Frog	<i>Rana boylei</i>	CSC
<b>Reptiles</b>		
Northwestern Pond Turtle	<i>Clemmys marmorata marmorata</i>	CSC
<b>Birds</b>		
Great Egret	<i>Area alba (rookery)</i>	CDF
Great Blue Heron	<i>Ardea herodias (rookery)</i>	CDF
Cooper's Hawk	<i>Accipiter cooperi</i>	CSC
Northern Goshawk	<i>Accipiter gentiles (nesting)</i>	CDF
Sharp-shinned Hawk	<i>Accipiter striatus</i>	CSC
Golden Eagle	<i>Aquila chrysaetos</i>	CSC, CP, CDF
Northern Harrier	<i>Circus cyaneus (nesting)</i>	CSC
White-tailed Kite	<i>Elanus leucurus (nesting)</i>	CP
Bald Eagle	<i>Haliaeetus leucocephalus</i>	CE, FT, CP, CDF
Osprey	<i>Pandion haliaetus</i>	CSC, CDF
Merlin	<i>Falco columbianus (wintering)</i>	CSC
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	CE, CDF, CP
Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	FT, CSC
Marbled Murrelet	<i>Brachyramphus marmorata</i>	CE, FT, CDF
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	FT, CDF
Vaux's Swift	<i>Chaetura vauxi (nesting)</i>	CSC
Willow Flycatcher	<i>Empidonax trailii</i>	CE
California Horned Lark	<i>Eremophila alpestris actia</i>	CSC
Purple Martin	<i>Progne subis</i>	CSC
Bank Swallow	<i>Riparia riparia</i>	CT
Black-capped Chickadee	<i>Parus atricapillus</i>	CSC
Yellow Warbler	<i>Dendroica petechia (nesting)</i>	CSC
Yellow-breasted Chat	<i>Icteria virens (nesting)</i>	CSC
Tricolored Blackbird	<i>Agelaius tricolor (nesting colony)</i>	CSC
<b>Mammals</b>		
Pallid Bat	<i>Antrozous pallidus</i>	CSC
Townsend's Western Big-eared Bat	<i>Plecotus townsendii townsendii</i>	CSC
California Red Tree Vole	<i>Arborimus pomo</i>	CSC
<b>Legend</b>		



Definitions for Table 2.
FE - Listed as Endangered by the Federal Government
FT - Listed as Threatened by the Federal Government
CE - Listed as Endangered by the State of California
CT - Listed as Threatened by the State of California
CP - California Fully Protected Species
CSC - California Species of Special Concern
CDF – California Division of Forestry Sensitive
ESU - Evolutionarily Significant Unit

## V. b. Wildlife Species Accounts

The species accounts below include an assessment of the status of the considered species on the proposed project site.

### ***Coho Salmon - Southern Oregon/northern California ESU (Oncorhynchus kisutch)***

Coho salmon are found in the North Pacific Basin from California to Alaska and from Russia to Japan. While populations seem relatively healthy in Alaska and parts of British Columbia, selected populations in the continental U.S. rivers have declined dramatically and a few of the Evolutionarily Significant Units (ESUs) have been designated Threatened or Endangered. The Southern Oregon/Coastal California ESU was designated Threatened by the Fish and Wildlife Service on June 5, 1997.

*Coho Salmon are known to occur in the Eel River adjacent to the site. “Fall run” Coho enter the estuary as early as August with the peak occurring in November. Specific management strategies for this species would depend on the nature and extent of proposed projects, but would certainly involve maintaining water quality and healthy wetlands.*

### ***Steelhead - Northern California ESU (Oncorhynchus mykiss)***

Steelhead are found in the North Pacific Ocean from the Kamchatka Peninsula in Asia to the northern Baja Peninsula. Many of the populations in California have been designated as Endangered or Threatened. The Northern California Province ESU was listed as Threatened by the federal government in August 2000.

*Northern California Steelhead are known to occur in the Eel River adjacent to the site. The winter steelhead start moving into the river in November running through March, with peak activity during January. Specific management strategies for this species would depend on the nature and extent of proposed projects, but would certainly involve maintaining water quality and healthy wetlands*

### ***Chinook Salmon – California Coastal ESU (Oncorhynchus tshawytscha)***

Chinook (or King) salmon were historically distributed along the coast of North America from the Ventura River in southern California to Point Hope, Alaska, and the Mackenzie River area in Canada. In the western Pacific they were found in Northeast Asia from Hokkaido, Japan, to the Anadyr River, Russia. While populations seem relatively healthy in Alaska and parts of British Columbia, selected populations in the continental U.S. rivers have declined dramatically and a few of the Evolutionarily Significant Units (ESU) have been designated Threatened or Endangered. The California Coastal ESU was listed as Threatened in November 1999.

*Chinook are known to occur in the Eel River adjacent to the site. Chinook start coming into the river in August. They tend to hold in the waters below Fernbridge until rains allow them upstream. The Chinook run from August through December, with the peak in late October. Specific management strategies for this species would depend on the nature and extent of proposed projects, but would certainly involve maintaining water quality and healthy wetlands.*

**Southern Torrent Salamander (*Rhyacotriton variegatus*)**

The Southern Torrent Salamander (recently distinguished from the Olympic Salamander (*Rhyacotriton olympicus*) is found primarily along the coast from the Olympic Peninsula to Sonoma County, California. It is an inhabitant of cold, clear streams, springs and seeps in Douglas-fir and redwood forests, rarely straying away from the splash zone. The Southern Torrent Salamander is a Species of Special Concern in California.

*Suitable habitat for the Torrent Salamander does not occur at the assessed site.*

**Tailed Frog (*Ascaphus truei*)**

Found in most of northwestern California, the Tailed Frog is probably fairly common in suitable habitat. It is found in and near clear, cold streams in conifer or hardwood/conifer forests. The Tailed Frog is more often found in wet stands than in moderately wet stands and is absent from dry stands. Their distribution may be limited by the presence of cold, year-round flowing streams. The larvae, which are restricted to an aquatic existence, take 2-3 years to transform into adults. A number of studies have indicated that Tailed Frogs disappear from logged areas, probably as a result of increased water temperatures and siltation. This effect may be more prominent inland than on the coast. The Tailed Frog is a Species of Special Concern in California.

*Suitable habitat for this species does not occur at the assessed site.*

**Northern Red-legged Frog (*Rana aurora aurora*)**

The Northern Red-legged Frog is typically found in ponded areas along the Coast and Cascade Ranges from northern California to southern British Columbia. Here on the north coast of California it is widespread in ponds and along rivers where there is quiet water and emergent aquatic vegetation providing cover. When not breeding this species wanders widely in damp woods, including riparian and coniferous forests. Breeding takes place in late winter and early spring. Red-legged frogs have a weak voice and are consequently inconspicuous. Egg masses consisting of up to 2-3,000 eggs are deposited in water up to 6" deep. Most young are completely transformed into adults by mid-summer or earlier. The diet of Red-legged Frogs consists primarily of insects captured near water. The Northern Red-legged Frog is considered a Species of Special Concern in California. The main reasons for concern in California are declining habitat and alleged predation by the introduced Bullfrog (*Rana catesbiana*).

*It is likely that the Red-legged Frog occurs in the wetland areas at the assessed site. Management recommendations center on the maintenance of healthy wetland habitats and the control of introduced bullfrogs. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

**Foothill Yellow-legged Frog (*Rana boylei*)**

The Foothill Yellow-legged Frog is found in coastal and foothill habitats throughout northern California. Its preferred habitat is along streams and rivers, especially where riffles are present. The Yellow-legged Frog escapes into the water and hides among vegetation or in the bottom when disturbed. It is less likely to use the riparian forests and other adjacent habitats than other frogs. Breeding takes place later in the spring, when high water flows have subsided. Eggs are laid in a mass of up to 1,000 eggs and are attached to rocks in shallow, flowing water. Larvae transform into frogs during the summer.

The Foothill Yellow-legged Frog is considered a Species of Special Concern in California. The main reasons for concern in California are declining habitat and predation by the introduced Bullfrog. Along the north coast, Yellow-legged Frogs are found in most rivers and large streams.

*Yellow-legged Frogs almost certainly occur along the Eel River at the project site. Project activities should avoid disturbing the river habitat, especially during the frog's summer breeding season. Proposed gravel mining activities should occur sufficiently far from the water's edge to prevent introduction of sediment into the river.*

**Northwestern Pond Turtle (*Clemmys marmorata marmorata*)**

The Western Pond Turtle is the only native aquatic turtle in California. It is widely distributed west of the Cascades and Sierra Nevada. Pond Turtles are found near and in water, especially slow moving or quiet waters, primarily ponds, small lakes, reservoirs, and quiet streams and rivers. They can be found basking on rocks, logs or on the bank along aquatic vegetation. Basking perches seem to be an important component of their habitat needs. Females lay a clutch of 5-11 eggs between April and August in a small hole in a dirt bank, sometimes at a distance from their home water. The diet of Pond Turtles consists of aquatic plants, fish, invertebrates and carrion.

The Northwestern Pond Turtle is considered a Species of Special Concern in California and is a Category 2 Candidate for Federal Listing. Along the north coast of California, the Pond Turtle is sparsely distributed, mainly at ponds in the interior. This species, like the Yellow-legged Frog, seems to prefer sunny areas and so may avoid the coastal fog belt.

*Western Pond Turtles probably occur along the Eel River at the project site. Project activities should avoid disturbing the river habitat, including sandy or silt banks where the turtle might nest, especially during the summer breeding season.*

**Great Egret (*Ardea alba*)**

The Great Egret is a large, white heron with a yellow bill and long dark legs. In breeding plumage, ornate white plumes extend from their chest and rump. This species returns to communal roosting sites at night, and like many other herons will sometimes nest in mixed colonies. They roost and nest in undisturbed stands of trees. Once sought for their plumes, which were used to decorate women's hats, they were nearly extirpated by market hunters around the 1900's. Extending through most of North America, they have made a great comeback in recent years under protection. In northwestern California records suggest an invasion of Great Egrets to the area beginning about 1930. In recent times they are locally common residents and breeders. The Great Egret is a California Department of Forestry Sensitive Species.

*This species is uncommonly found along the Eel River near the Project site and in adjacent wetland habitats. No nesting or roosting sites are known at the project site. If a nesting or roosting site were established at the project site, disturbances at such sites should be avoided.*

**Great Blue Heron (*Ardea herodias*)**

As the name implies, this lanky wetland bird has an overall blue-gray plumage with pale under parts. Its long dark legs, flexible neck, and spear-like yellow bill, give an overall grand impression. Great Blue Herons are colonial nesters and sometimes nest in mixed colonies near wetland habitat. Nesting and roosting occur in undisturbed stands of trees or shrubs. They occur over much of North America and, despite degradation of their preferred wetland habitats, seem to be improving in overall numbers. The most widely distributed heron in northwestern California; this species is a locally common resident and breeder. The Great Blue Heron is a California Department of Forestry Sensitive Species.

*This species is uncommonly found along the Eel River near the project site and in adjacent wetland habitats. No nesting or roosting sites are known at the project site. If a nesting or roosting site were established at the project site, disturbances at such sites should be avoided.*

**Cooper's Hawk (*Accipiter cooperi*)**

The Cooper's Hawk is found throughout North America. It is found in a wide variety of forested and scrub habitats where it preys primarily on songbirds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of its major prey, songbirds. Locally, the Cooper's Hawk is an uncommon winter resident and rare summer breeder. The Cooper's Hawk is a Species of Special Concern in California.

*A recent study (Nelson 2002) on private land not far from the project site showed a tendency for Cooper's Hawks to select nest sites in mixed mid-late successional conifer forests, usually on north-facing slopes and*

near water. More than half of the nests were in grand fir (*Abies grandis*), even though that tree species was uncommon in the stands. Specific management strategies for this species would depend on the nature and extent of proposed projects and on the location of nests and would consist of reducing or eliminating disturbance during the nesting season.

#### **Northern Goshawk (*Accipiter gentilis*)**

The Northern Goshawk is a rare resident and breeder in middle and higher elevation mature coniferous forests in northern California. It hunts in wooded areas, using snags and dead-top trees for observation and plucking perches. The status of Northern Goshawks in the coastal mountains of southern Humboldt County is poorly known, but records at lower elevations along the Eel River are exceedingly scarce. The few records of goshawks nesting in the coast range have been associated with meadow edges. The species is not likely to be found breeding at the project site.

*Specific management strategies for this species would depend on the nature and extent of proposed projects and on the location of nests and would consist of reducing or eliminating disturbance during the nesting season.*

#### **Sharp-shinned Hawk (*Accipiter striatus*)**

The Sharp-shinned Hawk is found throughout North America. It is found in a wide variety of forested and scrub habitats where it preys primarily on small birds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of the hawks' major prey, songbirds. The Sharp-shinned Hawk is a Species of Special Concern in California.

Locally, the Sharp-shinned Hawk is an uncommon winter resident and rare summer breeder.

*A recent local study (Nelson 2002) suggests that Sharp-shinned hawks select nest sites in young-mid seral forests with a prominent hardwood component, partial to moderate canopy closure, close to water. Specific management strategies for this species would depend on the nature and extent of proposed projects and on the location of nests and would consist of reducing or eliminating disturbance during the nesting season.*

#### **Golden Eagle (*Aquila chrysaetos*)**

The Golden Eagle is a widespread bird of North America that is uncommon in the vicinity of the project. None were seen during the field investigation, but it is likely that the occasional individual would fly over the project site and rarely feed in the open portions. Typical nesting sites were not evident during the field visit, although it is possible that a nest could be established in the forested portion of the site.

*Specific management strategies for this species would depend on the nature and extent of proposed projects and on the location of nests and would consist of reducing or eliminating disturbance during the nesting season.*

#### **White-tailed Kite (*Elanus leucurus*)**

The White-tailed Kite is a white, falcon shaped raptor with black shoulder patches, for which it was formerly named. Kites forage mostly on rodents that they catch by hovering over a field and dropping down on an unsuspecting animal. They nest and roost in trees or small bushes in semi-open areas mostly on the coastal plain. Kite populations exhibit swings in abundance. Now numerous, persecution in the twentieth century brought them to the brink of extirpation in California. They are now uncommon to common throughout northern California, especially where open fields provide habitat for voles, their main prey. Nesting takes place in trees usually adjacent to open fields. The White-tailed Kite is a California Protected Species.

*Specific management strategies for this species would depend on the nature and extent of proposed projects and on the location of nests and would consist of reducing or eliminating disturbance during the nesting season.*

#### **Northern Harrier (*Circus cyaneus*)**

The Northern Harrier is easily identified by its low, floppy, close-to-the-ground flight. The Northern Harrier cruises low across fields, meadows and marshes often hunting by sound. They typically nest on the ground in shrubs, cattails or tall vegetation. The Northern Harrier has declined almost everywhere in North America. Losses have been attributed to urbanization and pesticide exposure. In northwestern California this species is a common migrant and winter visitor, but uncommon as a breeder and summer resident. The only certain breeding records are around the immediate vicinity of Humboldt Bay. The Northern Harrier is a Species of Special Concern in California.

*Northern Harriers might occasionally forage over the open habitats at the assessed project site, especially during winter, but are not expected to nest at the site. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

### **Bald Eagle (*Haliaeetus leucocephalus*)**

The Bald Eagle is found throughout North America and occurs widely in California. Concentrations of Bald Eagles are found where their preferred food is concentrated, i.e. in major waterfowl wintering areas and along major salmon streams and rivers with adjacent snags for perching. Nesting takes place in large stick nests, usually high in a tree, living or dead. Eggs can be laid as early as January, incubation is 30-45 days, and the young take their first flight approximately 2 and 1/2 months after hatching. Their food consists largely of fish, either caught themselves or stolen from Ospreys. Bald Eagles also feed upon a wide variety of small mammals, aquatic birds, and even carrion.

The Bald Eagle has been proposed for removal from the federal Endangered Species list. It is a California Protected Species.

*The closest known nest sites of the Bald Eagle are along the Mad River near Blue Lake, near the coastal lagoons near Orick, and along the South Fork of the Trinity River. An increase in the local population is due largely to increased winter sightings (Harris 1996). Bald Eagles would be expected to occur around the Eel River in winter. Given their apparent increase in numbers, this species could potentially nest near the project site in the future. Specific management strategies would depend upon the location and the nature of a nest site.*

### **Osprey (*Pandion haliaetus*)**

The Osprey is a well-known fish-eating bird found throughout the world. Locally it is a common nesting bird along all the major rivers, bays and lakes. Once considered in danger of extinction in North America, it has made an impressive comeback since the decline in use of DDT. The Osprey is a Species of Special Concern in California.

*No Osprey nests were found during the assessment visit, but Ospreys could establish a nest in the forested portion of the project site. Management recommendations depend on the location of nests and consist of reducing or eliminating disturbance during the nesting season.*

### **Merlin (*Falco columbianus*)**

The Merlin is found throughout North America. It is found in a wide variety of open habitats where it preys primarily on shorebirds and songbirds. Populations in North America have declined due to pesticide residues and habitat destruction. The Merlin is a Species of Special Concern in California.

*Merlins are occasionally seen in winter in Humboldt County and may use the project site for winter foraging. Management recommendations consist of protecting riparian habitats and songbird populations in general. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

### **American Peregrine Falcon (*Falco peregrinus anatum*)**

The Peregrine Falcon is found throughout North America. It is often found in aquatic habitats where it preys primarily on water birds, both shorebirds and ducks. Populations in North America had declined due to pesticide residues, nest disturbances (including the illegal removing of chicks for falconry) and habitat

destruction. Recovery of the species led to its removal from the federal endangered species list in August, 1999 however its status remains in a 5 year review period and it remains on the California endangered species list. Locally, the Peregrine Falcon is an uncommon winter resident and rare summer breeder.

*Peregrines were recently discovered nesting in very large snag-top redwoods at two sites in Humboldt County. They are regularly seen in winter around Humboldt Bay and rarely in other parts of Humboldt County, but probably do not use the project site except for occasional foraging or roosting. No typical nesting sites (exposed cliffs inaccessible to ground predators) were noted during field inspection.*

#### **Western Snowy Plover (*Charadrius alexandrinus nivosus*)**

The Western Snow Plover is a small shorebird that nests along sandy marine and estuarine, and alkali lake shores, and of North America. In California, their nesting and roosting habitats are distributed along the length of the coast and at scattered inland localities – including selected gravel bars of the lower Eel River. Along the coast, Snowy Plovers feed primarily in the dry sand of upper beaches for insects and amphipods. Concern for the species centers around the alteration of beach habitat due to the introduction of European Beach Grass and increased disturbance by recreational enthusiasts. Along the Eel River, large gravel bars provide a unique nesting habitat. The long-term effects of gravel mining on nesting habitat has not been adequately assessed. The Western Snow Plover is listed as Threatened by the United States and is a California Species of Special Concern.

*Snowy Plovers occur on gravel bars in the lower Eel River. However, the gravel bar habitat along the Eel River at the project site is most likely too vegetated and small in extent to provide suitable habitat for Snowy Plover nests.*

#### **Marbled Murrelet (*Brachyramphus marmoratus*)**

The Marbled Murrelet is an uncommon and reportedly declining marine bird that depends on old growth forests for nesting sites. In North America it is distributed between Alaska and central California. The Marbled Murrelet is a California Endangered and Federal Threatened species.

The Marbled Murrelet is a small seabird somewhat larger than a robin. It occurs from the Aleutian archipelago south to central California. It is unique among seabirds in nesting exclusively in trees (except where there are no trees). Nest sites have been detected up to 52 miles inland in Washington. Marbled Murrelets are associated with late successional /old-growth forests throughout most of their range. Almost all nests discovered in North America were in forests with old-growth characteristics. Most nests are placed under overhanging branches. Nesting habitat must be available within flight distance of the ocean.

*There is no suitable nesting habitat at the assessed site.*

#### **Northern Spotted Owl (*Strix occidentalis caurina*)**

The Northern Spotted Owl is a medium-sized forest owl that occurs along the Pacific Coast from southwestern British Columbia to central California. It is strongly associated with late successional/old-growth forests. In northern California the spotted owl also occurs in some types of relatively young forests, especially where those forests are structurally similar to late successional /old-growth forests. The Northern Spotted Owl is a federally Threatened species and a California Species of Special Concern.

*The forested habitats at the project site are marginally suitable for Spotted Owl roosting and foraging, and possibly are suitable for nesting. Management recommendations include informal consultation with the Fish and Wildlife Service or protocol surveys for determining presence and breeding status prior to activities that would modify the forest habitat, ( e.g. timber harvest, road clearing in the forest or other similar actions). If Spotted Owls are found to be present, appropriate seasonal and habitat modification restrictions should be implemented.*

**Vaux's Swift (*Chaetura vauxi*)**

The Vaux's Swift is a small, insect-eating, summer resident bird of the coastal forests of Northwestern California. It feeds high in the air, often above the canopy of the forests and over meadows, water, and many other habitats. It roosts and nests in hollow trees and snags, especially those that have been burned. The Vaux's Swift is a Species of Special Concern in California.

*Nesting habitat is potential in larger trees in the forested portions of the project site. Management considerations of this species would be centered on maintenance of healthy forest habitats and maintaining or enhancing wetland areas preferred for feeding.*

**Willow Flycatcher (*Empidonax trailii*)**

The Willow Flycatcher was listed as an endangered species by the State of California in 1990. Due to its rarity in northwestern California and the lack of breeding records, little attention has been paid to characteristics of nesting habitat in our region. The first record of possible nesting Willow Flycatchers historically was of egg sets taken along the Eel River near Miranda and Burlington in the southern part of Humboldt County. These egg sets were apparently taken in "typical" Willow Flycatcher habitat, described by Grinnel and Miller (1944) as:

"In breeding season, strikingly restricted to thickets of willows, whether along streams in broad valleys, in canyon bottoms, around mountain-side seepages, or at the margins of ponds or lakes. The interiors of these thickets, through the annual period when full-foliaged, afford this species of flycatcher all the requirements of its existence; nest sites, perching and roosting places, abundant insect food, and short-radius air-ways are all there within a few cubic yards."

The only other confirmed nesting of this species in Humboldt County is a record from "atypical habitat" in northern Humboldt in the summer of 1998 (Fix pers. comm.). This record, along with observations of nesting Willow Flycatchers in Oregon and other anecdotal sightings during the breeding season, suggests that the species may use young second growth coniferous habitats and prompted an interest in the possible occurrence of the species elsewhere on the north coast.

*Although Willow Flycatchers are not expected to use the project area for nesting it should not be disregarded. It is likely that this species could occur in the alder/willow habitats along the Eel River during migration. Management recommendations include maintaining healthy riparian habitat along the Eel River.*

**California Horned Lark (*Eremophila alpestris actia*)**

The Horned Lark is a small ground-loving gregarious bird of open country. Horned Larks nest on the ground in shallow depressions lined with grass, plant fibers and roots. The California Department of Fish and Game designated this species as a Special Concern species which are in decline or vulnerable to extinction. The breeding range of the California Horned Lark is along the California coast north to Humboldt Bay. Locally, the only known breeding sites are along Bear River Ridge, in short-grass meadows, south of Humboldt Bay.

*This species is not expected at the assessed site due to lack of suitable habitat.*

**Purple Martin (*Progne subis*)**

The Purple Martin is a large swallow, uncommon to rare and locally distributed in northern California. It feeds and nests in a wide variety of habitats, including Douglas-fir forests. It nests in cavities (usually old woodpecker holes) in tall trees, often near water. The Purple Martin is a Species of Special Concern in California, largely due to loss of riparian habitat, removal of snags, and competition for nest cavities from Eurasian Starlings and House Sparrows.

*No Purple Martins were detected during the assessment visit, but this species would be expected to use the assessed site for feeding and could potentially nest in nearby forests with snags and large trees. Management recommendations include avoiding disturbance of dead and dying trees (which form the snags for nesting sites) and preserving wetlands (which provide feeding habitat).*

**Bank Swallow (*Riparia riparia*)**

The Bank Swallow is a scarce and local summer visitor to California. Although it is more widespread during migration, nesting localities are restricted to a few places, especially along riparian habitats. Bank Swallows excavate their own nesting holes in a dirt or sand bank. Nests are typically, but not always, in a colony and near water. Nesting requirements include vertical banks with soft-textured soil suitable for burrow excavation. The Bank Swallow is listed as Threatened in California.

*Only two colonies of Bank Swallows are known in northwestern California – both in Del Norte County. Bank Swallows could rarely forage over the open fields near the project site, especially during migration. No suitable nesting sites were noted at the assessed site.*

**Black-capped Chickadee (*Parus atricapillus*)**

The Black-capped Chickadee is possibly the most abundant and best-known chickadee in North America. In California it is found almost exclusively in willow/cottonwood habitats along the immediate north coast south to the vicinity of Ferndale, as well as a locally inland along the larger streams and rivers. The Black-capped Chickadee is a Species of Special Concern in California due to its restricted range in the state. The Black-capped Chickadee is a common species in the willow habitats of extreme northwestern California but is not known to occur south of Ferndale.

*This species is not expected to occur at the project site.*

**California Yellow Warbler (*Dendroica petechia*)**

Found throughout North America, the Yellow Warbler has been declining as a breeding bird in California due to habitat destruction and brood parasitization by the Brown-headed Cowbird. Its breeding habitat is in riparian deciduous forests of almost any size. The Yellow Warbler is a Species of Special Concern in California. Yellow Warblers are uncommon breeding birds of the coastal riparian habitats.

*Occasional breeding birds could be expected in the alder/willow habitats at the project site. Management recommendations consist of maintaining healthy riparian woodlands and reducing the impact from cowbirds. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

**Yellow-breasted Chat (*Icteria virens*)**

Found throughout North America, the Yellow-breasted Chat has been declining as a breeding bird in California due to habitat destruction. Its breeding habitat is in riparian deciduous forests of moderate or larger size. The Yellow-breasted Chat is a Species of Special Concern in California.

*Occasional breeding birds could be expected in dense blackberry/willow habitats at the assessment site. Management recommendations consist of maintaining healthy riparian woodlands and reducing the impact from cowbirds. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

**Tricolored Blackbird (*Agelaius tricolor*)**

The Tricolored Blackbird is very closely related to the well-known Red-winged Blackbird but has a much more restricted range. With the exception of small scattered populations in southern Oregon, Washington and Baja California, its distribution is limited to California. Their decline is largely attributed to the draining of productive marsh lands for agriculture. A disjunct breeding population of less than 100 adults was discovered near Fortuna in blackberry brambles in 1992, but has not been documented since 1999. Occasionally, individuals are detected in mixed blackbird flocks.

*Tricolored Blackbirds are not likely to use the project site for breeding due to the lack of developed freshwater marshes with open water, their typical breeding habitat.*

**Pallid Bat (*Antozous pallidus*)**



Throughout California the pallid bat is usually found in low to middle elevation habitats below 6000 ft., however, the species has been found up to 10,000 ft. in the Sierra Nevada. Populations have declined in California within desert areas, in areas of urban expansion, and where oak woodlands have been lost. This species, like many other bats, is extremely sensitive to disturbance at roosting and nesting sites.

A variety of habitats are used, including grasslands, shrublands, woodlands, and coniferous forests. Pallid bats are most common in open, dry habitats that contain rocky areas for roosting. They are a yearlong resident in most of their range and hibernate in winter near their summer roost. Occasional forays may be made in winter for food and water. Pallid bats are unusual in that most of their food consists of large insects captured on the ground

Day roosts may vary but are commonly found in rock crevices and tree hollows; and have been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Cavities in broken branches of black oak are very important and there is a strong association with black oak for roosting. The site must protect bats from high temperatures, as this species is intolerant of roosts in excess of 104 degrees Fahrenheit. Night roosts are usually more open sites and may include open buildings, porches, mines, caves, and under bridges. The pallid bat is a California Species of Special Concern.

*There is suitable habitat for the pallid bat within the project area. Specific management strategies for this species would depend on the nature and extent of proposed projects.*

#### **Townsend's Big-eared Bat (*Plecotus townsendii townsendii*)**

The Townsend's Big-eared Bat is widespread in California. Small moths are its principal food. The flight is slow and maneuverable; this species is capable of hovering. It feeds in flight and by gleaning from foliage. Townsend's Big-eared Bats are most abundant in mesic habitats. They roost in caves, mines, tunnels, and buildings, feeding along habitat edges. They are extremely sensitive to disturbance of roosting sites. All known sites in limestone caves in California have been abandoned. The Townsend's Big-eared Bat is a California Species of Special Concern.

*This species could occur at the project site. Management recommendations include maintaining the integrity of the existing forest and wetland areas. Buildings suitable for roosting might occur on the assessed site.*

#### **California Red Tree Vole (*Arborimus pomo*)**

The Red Tree Vole is a little-known rodent of the coastal fog belt in California from Sonoma County north. It occurs in old growth and other Douglas-fir and redwood forests. Its diet is almost exclusively needles of Douglas-fir and grand fir. Nests are built of Douglas-fir needles in trees, sometimes at considerable heights. The Red Tree Vole is a Species of Special Concern in California.

*This species could occur at the project site in the forested habitats. Appropriate surveys should be conducted prior to habitat altering activities in the forested portions of the project site.*

## **VI. Results & Management Recommendations**

The lands assessed in this document contain a wealth of diverse flora and fauna. Portions of the properties have been degraded as a result of previous management activities but would naturally rebound if given adequate time and protection. Responsible management of these lands would contribute to the conservation of the species that occur there. A variety of special status species may occur on these lands; hence an opportunity to manage for the preservation of associated habitats is strongly warranted. We recommend low impact use of all habitats, with special consideration and added sensitivity to wetlands and riparian areas. Cattle especially, should be controlled near all streams and other wet areas to prevent the degradation of these watercourses. The forested areas, if allowed to continue maturing would become even more suitable for threatened and endangered species such as the marbled murrelet and spotted owl. Under proper management, the open grasslands would continue to offer prime habitat for many species, especially predators. As

development projects are identified and proposed, seasonally appropriate surveys will need to be conducted for the special status plant and wildlife species potentially affected habitats.

The following section summarizes the sensitive flora and fauna that have the potential to occur in each of the plant communities and habitat types identified based on the field visits to the Southern Humboldt Community Park and database queries described above. The rare lichen, *Usnea longissima* was encountered on the property (refer to Appendix 4). These two occurrences are characterized, and this species' special status is addressed below.

There are no documented occurrence records for any additional special species within the study area. However, suitable habitat for some sensitive species is present at the site and some of the listed species are known from adjacent properties. A complete list of plant and wildlife species encountered is included in Appendices 2 and 3 (respectively). Since the appearance of many species is dependent on the season, this list should not be considered complete. It is, however, very useful for characterizing the site.

### **California annual grassland series**

The California annual grassland habitat found on the site is potentially suitable for beaked tracyina, *Tracyina rostrata* (CNPS list 1B). The maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B), and Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2) could occur in the transitional areas between California annual grassland and Palustrine emergent wetlands (wet meadows). Streamside daisy, *Erigeron bioletti* (CNPS List 3) could also be found in this habitat. Great Egret (CDF Sensitive) and Great Blue Heron (CDF Sensitive) might occasionally use this habitat for foraging, however, only nesting and roosting habitats are listed as "sensitive" by the California Department of Forestry CDF.

### **Redwood series**

The redwood series found on the property has suitable habitat for the coast fawn lily, *Erythronium revolutum* (CNPS List 2), primarily along forested stream banks and drainages. The forested edges and disturbed areas within this habitat are potentially suitable for Humboldt milk-vetch, *Astragalus agnicidus*, (state endangered, CNPS List 1B) and maple-leaved checkerbloom, *Sidalcea malachroides*, (CNPS List 1B). Vernal wet or moist depressions in this habitat could be suitable for Howell's montia, *Montia howellii*, (federal species of concern, state special status species, CNPS List 2). The dissected-leaved toothwort, *Cardamine pachystigma* var. *dissectifolia* (CNPS List 3) could also be found in this plant community.

This habitat could potentially support nesting Cooper's Hawk, Northern Goshawk, Sharp-shinned Hawk, Bald Eagle, White-tailed Kite, Osprey, Northern Spotted Owl, Vaux's Swift, Purple Martin, Pallid Bat, Townsend's Western Big-eared Bat, and California Red Tree Vole.

### **California bay series**

The California bay series found on the property provides suitable habitat for the coast fawn lily, *Erythronium revolutum*, (CNPS List 2) primarily along forested stream banks and drainages. Vernal wet or moist depressions in this habitat could also be suitable for Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2). Sensitive wildlife species that could utilize this habitat include Cooper's Hawk, Sharp-shinned Hawk, and Northern Spotted Owl.

### **Black oak series**

The black oak habitat found on the site is potentially suitable for the beaked tracyina, *Tracyina rostrata* (CNPS list 1B), oval-leaved viburnum, *Viburnum ellipticum* (CNPS List 2), and robust monardella, *Monardella villosa* ssp. *globosa* (CNPS List 1B), especially in areas where there is a greater abundance of oak species. The latter species prefers openings and areas with less canopy cover. The coast fawn lily, *Erythronium revolutum* (CNPS List 2) could potentially be found in forested areas near drainages and streams

that drain this habitat type. The streamside daisy, *Erigeron biolettii* (CNPS List 3) appears to have a more broad habitat tolerance and could be found throughout this habitat type. The maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B) might inhabit disturbed areas and openings in the black oak series. Vernal wet or moist depressions in this habitat could be suitable for Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2). The dissected-leaved toothwort, *Cardamine pachystigma* var. *dissectifolia* (CNPS List 3) could also be found in this plant community. Sensitive wildlife species that could utilize this habitat include Sharp-shinned Hawk, Cooper's Hawk, and Northern Spotted Owl.

Two occurrences of the rare lichen *Usnea longissima* were encountered on the property (refer to Appendix 4). Each occurrence was confined to a few isolated trees. One host tree was a young Douglas-fir (*Pseudotsuga menziesii*) and the other was an Oregon white oak (*Quercus garryana*). The former tree supported only a few individual strands of the lichen and appears to be a recently colonized tree. The Oregon white oak hosts a substantial sub-population and represents an important source for the dispersal of the species throughout the forested landscape. In light of the dispersal mechanisms (refer to Appendix 1) for this species it is possible that other source populations exist further up slope.

The California Lichenologist Society has *Usnea longissima* on the Lichen Red List and recommends that the species be afforded the status of a California Native Plant Society list 1B species with a R-E-D code of 2-2-2. In the California Department of Fish and Game's *Special Vascular Plants, Bryophytes, and Lichens List* (2002), *Usnea longissima* is awarded a Global Rank of "G3". A Global Rank is a reflection of the overall condition of a species throughout its global range. A Global Rank of G3 is defined as having 21-100 occurrences; or 3,000-10,000 individuals; or occupying 10,000-50,000 acres. *U. longissima* has also been awarded a State Rank of "S2.1". The State Rank is similar to the Global Rank, but includes a threat designation. A State Rank of S2.1 is defined as having 6-20 occurrences; or 1,000-3,000 individuals; or occupying 2,000-10,000 acres, and is considered "Very Threatened". This species is considered to be threatened throughout a significant portion of its range and requires consideration under the California Environmental Quality Act (CEQA) sections 15206 & 15380.

Disturbances to the two occurrences of the rare lichen *Usnea longissima* should be avoided in any future land management decisions. Forest edges effectively create a dispersal barrier to species such as *Usnea longissima* that extend their populations throughout the forest landscape via heavy propagules such as thallus fragments. Where feasible, connections between these occurrences with contiguous "dispersal corridors" of intact forest should be maintained in order to enable these populations to disperse throughout the forested landscape. Additional detailed information regarding the biology and distribution of this species can be found in Appendix 1.

### **Douglas-fir series**

The more open areas of the Douglas-fir habitat found on the site are potentially suitable for the beaked tracyina, *Tracyina rostrata*, (CNPS list 1B), and robust monardella, *Monardella villosa* ssp. *globosa* (CNPS List 1B), especially in areas where there is a greater abundance of oak species. The oval-leaved viburnum, *Viburnum ellipticum* (CNPS List 2) has the potential to inhabit this habitat type, especially along north-facing slopes in areas that are more densely forested. The coast fawn lily, *Erythronium revolutum* (CNPS List 2) has the potential to occur in forested areas near drainages and streams that drain this habitat type. The streamside daisy, *Erigeron biolettii* (CNPS List 3) appears to have a more broad habitat tolerance and could be found throughout this habitat type. The more disturbed areas (e.g. areas with canopy gaps, etc.) might possibly support the Humboldt milk-vetch, *Astragalus agnicidus* (state endangered, CNPS List 1B) and the maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B). Vernal wet or moist depressions in this habitat are potentially suitable for Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2). The dissected-leaved toothwort, *Cardamine pachystigma* var. *dissectifolia* (CNPS List 3) could also be found in this plant community.

This habitat has the most potential for hosting nests of Cooper's Hawk, Sharp-shinned Hawk, Northern Spotted Owl, Osprey, Golden Eagle, Bald Eagle, Vaux's Swift, Purple Martin, Pallid Bat, Townsend's Western Big-eared Bat, and California Red Tree Vole.

### **Douglas-fir—tanoak series**

Open areas of the Douglas-fir—tanoak habitat found on the site are potentially suitable for the beaked tracyina, *Tracyina rostrata* (CNPS list 1B), and robust monardella, *Monardella villosa* ssp. *globosa* (CNPS List 1B), especially in areas where there is a greater abundance of oak species. The oval-leaved viburnum, *Viburnum ellipticum* (CNPS List 2) has the potential to inhabit this habitat type, especially on north-facing slopes in areas that are more densely forested. The coast fawn lily, *Erythronium revolutum* (CNPS List 2) might occur near drainages and streams that drain this habitat type. The streamside daisy, *Erigeron biolettii* (CNPS List 3) appears to have a more broad habitat tolerance and could be found throughout this habitat type. Though no serpentine soils were encountered during the field visits, exposed rocky substrate found along the top of the slope above the Eel River where gravel extraction occurs, and the exposed ridge in the extreme southeast of the property could be considered potential habitat for Kellogg's buckwheat, *Eriogonum kelloggii* (federal candidate species, state endangered, CNPS List 1B), McDonald's rock cress, *Arabis macdonaldiana* (federal endangered, state endangered, CNPS List 1B), Red Mountain stonecrop, *Sedum eastwoodiae* (federal candidate species, CNPS List 1B), Sonoma manzanita, *Arctostaphylos canescens* ssp. *sonomensis* (CNPS 1B), dissected-leaved toothwort, *Cardamine pachystigma* var. *dissecifolia* (CNPS List 3), and Raiche's manzanita, *Arctostaphylos stanfordiana* ssp. *raichei* (CNPS List 1B). Disturbed areas within this habitat type could host the maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B). Vernal wet or moist depressions in this habitat are potentially suitable for Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2). Sensitive wildlife that could occur here includes Cooper's Hawk, Sharp-shinned Hawk, Northern Spotted Owl, and California Red Tree Vole.

### **Coyote brush series**

It is unlikely that any sensitive species exist in this plant community due to the significant amount of natural and human induced disturbance in this habitat. Yellow-breasted Chat could occur in the dense thickets along the river banks. Northern Red-legged Frog, Foothill Yellow-legged Frog, and Northwestern Pond Turtle could occur along the edge of the river.

### **Palustrine emergent wetlands**

The Maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B) and Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2) could occur in transitional areas between the Palustrine emergent wetlands (wet meadow) and California annual grasslands. The Northern Red-legged Frog could potentially utilize this habitat type.

### **Palustrine scrub—shrub wetlands**

The Maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B) and Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2) could occur in the Palustrine scrub-shrub wetlands. Yellow Warbler and Yellow Breasted Chat are likely breeders in this habitat. Willow Flycatcher is a possible breeder but is more likely to occur during migration. Northern Red-legged Frog could also be found in this habitat.

### **Palustrine forested wetlands**

The Maple-leaved checkerbloom, *Sidalcea malachroides* (CNPS List 1B) and Howell's montia, *Montia howellii* (federal species of concern, state special status species, CNPS List 2) could occur in the Palustrine forested wetlands. Sensitive wildlife species in this habitat could include Cooper's Hawk, Sharp-shinned Hawk, White-tailed Kite, Yellow Warbler, Yellow-breasted Chat, and Northern Red-legged Frog.

### **Upper Perennial Riverine System — Unconsolidated Shore**

It is unlikely that any sensitive species exist in this plant community due to the significant amount of natural and human induced disturbance in this habitat. Northern Red-legged Frog and Foothill Yellow-legged frog likely use this habitat.

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## Appendix 1. Biology of the Rare, Epiphytic Lichen, *Usnea longissima*.

### **Species Description**

*Usnea longissima* (Ach.) is an epiphytic, pendulous chlorolichen (lichens with a green alga as the primary photosynthetic component) that can reach lengths in excess of 2 meters. It is known to have an eroding cortex on the main axis that typically has very few points of branching. The diagnostic characteristic of this species is a violet-blue staining of the central cord in the presence of potassium iodide.

### **Reproduction and Dispersal**

*Usnea longissima* has apparently all but lost the means to reproduce sexually and relies upon asexual means of reproduction. There are only two reports of specimens with apothecia (sexual, reproductive structures found in ascomycetous fungi) in Europe (Krempelhuber 1853; Harmand 1905) and recently one from the Oregon Coast Range (Keon 2001). Asexual reproduction occurs via propagules that contain both components of the symbiotic composite organism, the mycobiont and the photobiont. “Mycobiont” refers to the fungal component of the lichen, whereas “photobiont” refers to the photosynthetic partner. In *Usnea longissima*, these are fragments of the lichen thallus and soredia. Soredia are minute, powdery, decorticate structures containing both partners of the symbiosis. *U. longissima* reproduces primarily by thallus fragments that are born by wind and occasionally birds (Becking pers. comm.) and, to a lesser extent, soredia.

The physical nature of these asexual propagules has a dramatic effect on the dispersal abilities of this species throughout the landscape. The lighter the propagule, the greater the distance it can be dispersed. Thallus fragments are relatively heavy propagules, and dispersal via fragmentation is thought to be ineffective over 35 meters for alectoroid lichens in some forests in the Pacific Northwest (Peck & McCune 1997). Other studies from Scandinavia report similar dispersal distances for thallus fragments of *Alectoria sarmentosa* and *Bryoria* spp. (Dettki et al. 2000; Dettki 1998; Esseen et al. 1996), and Esseen (1984) suggests that *Usnea longissima* thallus fragments disperse over shorter distances than *A. sarmentosa* and *Bryoria* spp.. Although soredia are more effective than thallus fragments at long range dispersal and are produced in much greater quantities, sorediate populations appear to be uncommon in Europe and rare here on the Pacific coast of North America. Only one sorediate population is known from California (Ellyson pers. comm.; California Lichenologist Society). In light of these limitations, species such as *U. longissima* that rely on thallus fragmentation as a means of dispersal are at a significant disadvantage in dispersing across the forested landscape.

### **Forest Stand-Level Distribution**

This species appears to flourish in environments with ample sunlight and increased relative humidity (Gauslaa et al. 1998; Renhorn & Esseen 1995; Esseen et al. 1981). Gauslaa et al. (1998) found the highest abundance of *U. longissima* in the lower crown and towards the tips of *Picea abies* branches in Norway. One hypothesis that has emerged from the literature asserts that the stand and tree-level distribution of this species is primarily a result of its microclimatic requirements. Results from a recent study in the Oregon Coast Range seem to contradict the idea that microclimatic factors alone are responsible for the stand and crown-level distribution of this species (Keon 2001). Keon found that transplanted thalli of *Usnea longissima* grew equally well in habitat thought to be the most suitable for the species (i.e. old-growth forests) and in habitat thought to be unsuitable (i.e. clear-cuts). The author mentions, however, that his results do not address the microclimatic factors that could be acting on the establishment phase of this species, nor can these results necessarily be extrapolated to other forest types. The patchy and clumped distribution of *U. longissima* is indicative that dispersal limitations are a major factor driving such distribution patterns (Esseen et al. 1981; Esseen & Ericson 1982; Tønsberg 1996). *U. longissima*'s lower canopy stratum distribution is likely due to a combination of factors related to both microclimate and the dispersal limitations associated with this species.

### **Range and Distribution**

*Usnea longissima* is mostly restricted to coastal regions that receive substantial amounts of precipitation in the form of fog and rain (Esseen et al. 1981; Ahti 1977). In California, occurrences of *U. longissima* are known to be restricted largely to forests along the coast dominated by redwood (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*), and Sitka spruce (*Picea sitchensis*), but occasionally do occur further inland along riparian corridors and drainages that receive sufficient fog from large river systems. *U. longissima*'s original distribution was circumboreal including much of Europe and the Pacific Northwest. *U. longissima* is now primarily restricted to Norway and Sweden in Europe and in North America is still found from southern Alaska to northern California. The species' decline has been attributed primarily to timber harvest activities and, to a lesser degree, air pollution and development (Thor 1998; McCune & Geiser 1997; Kuusinen et al. 1995). Clerc et al. (1992) described the species as being threatened throughout Europe and it has been added to the European Red List as a "vulnerable species" (Tønsberg et al. 1996). "Vulnerable species" are those that have suffered drastic declines in known localities in the last few decades.

Appendix 2. Preliminary Compiled Plant Species List  
The Southern Humboldt Community Park, May/October 2001

The following list includes all species encountered within the assessed area. It should be noted that although this list is necessarily incomplete owing to the limited number of site visits and seasonal constraints, it could serve as a baseline for further studies.

<b>Species Name</b>	<b>Common Name</b>	<b>Family</b>
<b>Shrubs</b>		
<i>Baccharis pilularis</i>	coyote brush	Rhamnaceae
<i>Ceanothus</i> sp.	California lilac	Rhamnaceae
<i>Corylus cornuta</i>	hazelnut	Betulaceae
<i>Cytisus scoparius</i>	Scotch broom	Fabaceae
<i>Rosa</i> sp.	rosa sp.	Rosaceae
<i>Rubus discolor</i>	Himalayan blackberry	Rosaceae
<i>Rubus leucodermis</i>	blackcap raspberry	Rosaceae
<i>Salix</i> sp.	willow sp.	Salicaceae
<i>Toxocodendron diversilobum</i>	poison oak	Anacardiaceae
<b>Herbs</b>		
<i>Achillea millefolium</i>	yarrow	Asteraceae
<i>Adenocaulum bicolor</i>	trail plant	Asteraceae
<i>Adiantum aleuticum</i>	five-finger fern	Pteridaceae
<i>Agrostis capillaris</i>	colonial bent	Poaceae
<i>Agrostis stolonifera</i>	creeping bent	Poaceae
<i>Aira caryophylla</i>	silver European hair grass	Poaceae
<i>Anaphalis margaritacea</i>	pearly everlasting	Asteraceae
<i>Anthoxanthum odoratum</i>	sweet vernal grass	Poaceae
<i>Artemisia</i> sp.	mugwort sp.	Asteraceae
<i>Bellis perenne</i>	English daisy	Asteraceae
<i>Brassica nigra</i>	black mustard	Brassicaceae
<i>Briza maxima</i>	quaking grass	Poaceae
<i>Bromus</i> sp.	brome sp.	Poaceae
<i>Calypso bulbosa</i>	calypso orchid	Orchidaceae
<i>Cardamine</i> sp.	bitter-cress, toothwort	Brassicaceae
<i>Carex</i> sp.	sedge sp.	Cyperaceae
<i>Cerastium glomeratum</i>	mouse-ear chickweed	Caryophyllaceae
<i>Chenopodium</i> sp.	pigweed, goosefoot	Chenopodiaceae
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	soap plant	Liliaceae
<i>Cirsium vulgare</i>	bull thistle	Asteraceae
<i>Cirsium</i> sp.	thistle sp.	Asteraceae
<i>Claytonia perfoliata</i>	miner's lettuce	Portulacaceae
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	soap plant, amole	Liliaceae
<i>Collomia heterophylla</i>	collomia	Polemoniaceae
<i>Cynoglossum grande</i>	hound's tongue	Boraginaceae
<i>Cynosurus echinatus</i>	hedgehog dogtail	Poaceae

<b>Species Name</b>	<b>Common Name</b>	<b>Family</b>
<i>Dactylis glomerata</i>	orchard grass	Poaceae
<i>Daucus carota</i>	Queen Anne's lace	Apiaceae
<i>Delphinium</i> sp.	larkspur sp.	Ranunculaceae
<i>Disporum hookeri</i>	Disporum	Liliaceae
<i>Dodecatheon</i> sp.	shooting star	Primulaceae
<i>Dryopteris arguta</i>	wood fern	Dryopteridaceae
<i>Epilobium</i> sp.	fireweed, willow herb	Onagraceae
<i>Eschscholzia californica</i>	California poppy	Papaveraceae
<i>Fragaria vesca</i>	wood strawberry	Rosaceae
<i>Galium aparine</i>	goose grass	Rubiaceae
<i>Geranium molle</i>	cranesbill, geranium	Geraniaceae
<i>Gnaphalium</i> sp.	cudweed sp.	Asteraceae
<i>Heracleum lanatum</i>	cow parsnip	Apiaceae
<i>Hieracium albiflorum</i>	hawkweed	Asteraceae
<i>Hypochaeris radicata</i>	hairy cat's ear	Asteraceae
<i>Juncus</i> sp.	rush	Juncaceae
<i>Lathyrus</i> sp.	pea sp. (exotic)	Fabaceae
<i>Linanthus grandiflorus</i>	large flowered linanthus	Polemoniaceae
<i>Lithophragma (parviflorum)</i>	woodland star	Saxifragaceae
<i>Lonicera ciliosa</i>	honeysuckle	Caprifoliaceae
<i>Lonicera hispidula</i>	honeysuckle	Caprifoliaceae
<i>Madia</i> sp.	tarweed sp.	Asteraceae
<i>Marah</i> sp.	wild cucumber	Cucurbitaceae
<i>Melilotus alba</i>	white sweet clover	Fabaceae
<i>Mentha pulegium</i>	pennyroyal	Lamiaceae
<i>Mimulus aurantiacus</i>	monkeyflower	Scrophulariaceae
<i>Osmorhiza</i> sp.	sweet cicely	Apiaceae
<i>Pedicularis densiflora</i>	Indian warrior	Scrophulariaceae
<i>Pentagramma triangularis</i>	goldback fern	Pteridaceae
<i>Perideridia</i>	yampah	Apiaceae
<i>Phalaris aquatica</i>	harding grass	Poaceae
<i>Phleum pratense</i>	cultivated timothy	Poaceae
<i>Plantago coronopsis</i>	plantain	Plantaginaceae
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae
<i>Polygonum</i> sp.	knotweed sp.	Polygonaceae
<i>Polypodium glycyrrhiza</i>	licorice fern	Polypodiaceae
<i>Prunella vulgaris</i>	self-heal	Lamiaceae
<i>Polystichum munitum</i>	sword fern	Dryopteridaceae
<i>Raphanus sativus</i>	wild radish	Brassicaceae
<i>Rosa</i> sp.	rose	Rosaceae
<i>Ranunculus</i> sp.	buttercup	Ranunculaceae
<i>Rumex acetosella</i>	sheep sorrel	Polygonaceae
<i>Rumex crispus</i>	curly dock	Polygonaceae
<i>Sanicula</i> sp.	sanicle	Apiaceae
<i>Satureja douglasii</i>	yerba buena	Lamiaceae
<i>Saxifraga californica</i>	saxifrage	Saxifragaceae
<i>Scirpus microcarpus</i>	small-flowering bulrush	Cyperaceae
<i>Silybum marianum</i>	milk thistle	Asteraceae

<b>Species Name</b>	<b>Common Name</b>	<b>Family</b>
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<i>Stachys</i> sp.	hedge nettle	Laminaceae
<i>Stellaria</i> sp.	chickweed, starwort sp.	Caryophyllaceae
<i>Trientalis latifolia</i>	starflower	Primulaceae
<i>Trifolium</i> sp.	clover	Fabaceae
<i>Trifolium dubium</i>	little hop clover	Fabaceae
<i>Verbascum blattaria</i>	moth mullein	Scrophulariaceae
<i>Vinca major</i>	greater periwinkle	Apocynaceae
<i>Vicia</i> sp.	vetch	Fabaceae

**Lichens**

*\*Usnea longissima\**

### Appendix 3. Wildlife Species detected during the field visit March 27, 2001.

The following list includes all species detected on the field visit March 27, 2001. This list is not intended to be a complete list of species occurring on the site, but can be useful for characterizing habitat.

#### **Amphibians**

Pacific Tree Frog

#### **Reptiles**

Western Fence Swift

#### **Birds**

Common Merganser

Turkey Vulture

Osprey

White-tailed Kite

Sharp-shinned Hawk

Red-shouldered Hawk

American Kestrel

Wild Turkey

Allen's Hummingbird

Northern Flicker

Red-breasted Sapsucker

Tree Swallow

Violet-green Swallow

Steller's Jay

Scrub Jay

American Crow

Common Raven

Red-breasted Nuthatch

Brown Creeper

#### **Birds (cont.)**

Chestnut-backed Chickadee

Bewick's Wren

Winter Wren

Golden-crowned Kinglet

Ruby-crowned Kinglet

Wrentit

Hutton's Vireo

Orange-crowned Warbler

Black-throated Gray Warbler

Spotted Towhee

California Towhee

Song Sparrow

Hermit Thrush

Oregon Junco

Western Meadowlark

Lesser Goldfinch

#### **Mammals**

Vole sp. (cf. California)

Bottae Pocket Gopher

Western Gray Squirrel

Black-tailed Deer

Gray Fox (scat)

## Appendix 4. Southern Humboldt Community Park Habitat Map.





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# **BOTANICAL SURVEY, WETLAND DELINEATION, AND STREAM ASSESMENT RESULTS**

SOUTHERN HUMBOLDT COMMUNITY PARK  
HUMBOLDT COUNTY, CALIFORNIA

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Garberville, CA

October 2011

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## 1.0. INTRODUCTION

This report presents the results of a botanical survey, wetland delineation, and stream assessment on a 186 acre portion of the Southern Humboldt Community Park (SHCP) near Garberville, California (Figure 1). The purpose of the study was to identify special status plants and natural communities, wetlands, streams, and riparian habitat that will constrain future development on the property. The SHCP proposes to change land use designations and zoning on portions of the park to accommodate recreation activities and development.

The Study Area includes portions of two parcels, APN 22209114 and APN 22224109. Both parcels are currently zoned Agricultural Exclusive. The land use designation on both parcels is proposed to be changed to Public Recreation. APN 22224109 will remain in Agricultural Exclusive zoning. A zoning change to Public Facilities is proposed on 96 acres and a change to Residential Multi-family is proposed for 3.5 acres on APN 22209114 (Appendix A).

The Study Area includes the areas proposed for zoning changes in addition to areas that could be used as alternative sites for future development. The Study Area excludes portions of the park where no future development or zoning changes are currently being considered, such as the Garberville Community Farm and upslope forested areas.

## 2.0. DEFINITIONS

### 2.1. Special Status Plants and Natural Communities

Special status plants include taxa that meet one or more of the following criteria:

- Plants listed or proposed for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) or candidates for possible future listing.
- Plants listed or candidates for listing by the state of California as threatened or endangered under the California Endangered Species Act (CESA).
- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA). This includes:
  - Species considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California. This includes plants on CNPS lists 1A, 1B, and 2.
  - Species that may warrant consideration on the basis of local significance or recent biological information.
  - Some species included on the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List*.

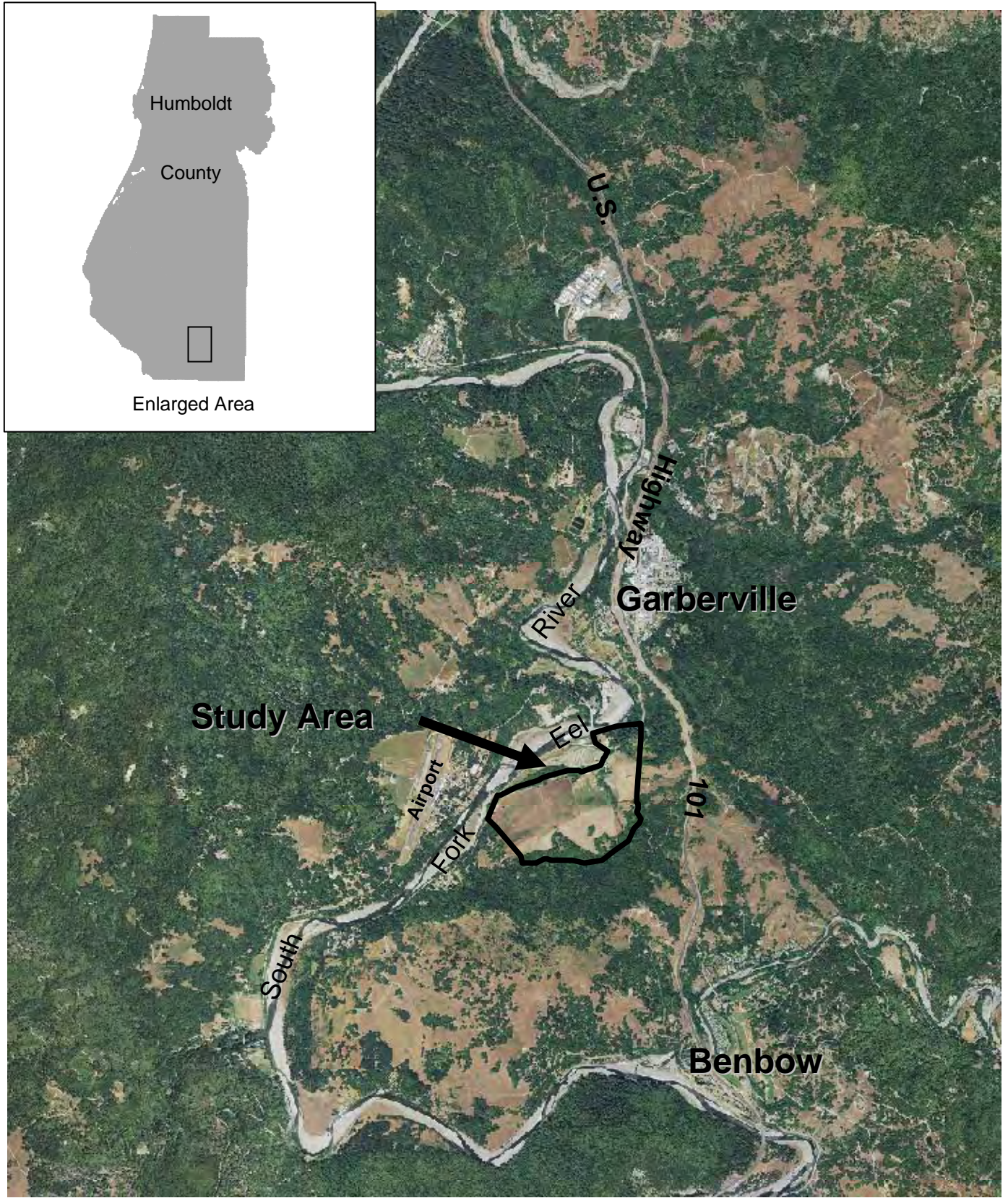


Figure 1. Study Area Location Map.



Southern Humboldt Community Park  
Garberville, California

Special status natural communities are communities with limited distribution that may be vulnerable to environmental impacts. There are several sources of information on California natural communities and their rarity status including:

- The *CNDDDB*, which includes plant communities and their Global (G) and State (S) rankings and is based on the Holland (1986) vegetation classification.
- The *List of California Vegetation Alliances* (DFG 2009a) includes vegetation alliances in California and their G and S ranks and is based on the most recent vegetation classification in *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009). This new classification has not yet been developed to the association level and does not include rare associations within more common vegetation alliances.

For the purposes of this report, special status natural communities are those with G or S ranks of 2 or lower.

## **2.2. Wetlands, Rivers, and Streams**

Wetlands, rivers, and streams are regulated by the Army Corps of Engineers (ACOE), the State Water Resource Control Board, and the California Department of Fish and Game (CDFG).

The ACOE uses a three parameter approach to identifying wetlands and defines wetlands as:

“...areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

With this approach, an area must have a minimum of one indicator from each of the three wetlands parameters: hydrophytic vegetation, hydric soil, and wetland hydrology to make a positive wetland determination.

CDFG currently uses the USFWS wetland definition:

“...wetlands must have one or more of the following attributes: (1) at least periodically, the land supports predominantly hydrophytes (plants specifically adapted to live in wetlands); (2) the substrate is predominantly undrained hydric (wetland) soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.”

Using this one parameter approach, wetlands are identified by positive indicators from one or more of the three wetland parameters. Areas dominated by facultative plants that do not have hydric soil or wetland hydrology are generally not wetlands.

ACOE jurisdiction of rivers and streams includes area below the ordinary high water mark, which is the line on the bank established by fluctuations of water that leave physical characteristics such as distinct line on the bank, shelving, destruction of terrestrial vegetation, and presence of debris. CDFG and Humboldt County recognize the boundary of stream or river to be top of the bank or the edge the riparian vegetation, whichever is most landward.

### 3.0. STUDY AREA DESCRIPTION

#### 3.1. Vegetation

Several vegetation types occur in the Study Area and are described below. Vegetation alliances, where provided, are according to *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009). Global (G) and State (S) rarity rankings are provided for native vegetation alliances.

##### Non-native grasslands

The grasslands occupying a majority of the Study Area are dominated by non-native grasses such as orchard grass (*Dactylis glomerata*), soft chess (*Bromus hordeaceus*), sweet vernal grass (*Anthoxanthum odoratum*), Italian ryegrass (*Lolium multiflorum*), rat's tail fescue (*Vulpia myuros*), harding grass (*Phalaris aquatica*), wild oat grass (*Avena fatua*), and colonial bent grass (*Agrostis capillaris*).

##### Western rush marsh (*Juncus patens* Provisional Alliance) [G4?S4?]

These marshes are dominated by western rush (*Juncus patens*). Other associated species include harding grass, and pennyroyal (*Mentha pulegium*).

##### Slough sedge swards (*Carex obnupta* Herbaceous Alliance) [G4 S3]

These areas are dominated by slough sedge. Western rush, diffuse rush (*Juncus effusus*), and California blackberry (*Rubus ursinus*) are common associated species. A portion of the study area includes stands of slough sedge that are under a canopy of Oregon ash (*Fraxinus latifolia*), redwood (*Sequoia sempervirens*), and other trees.

##### Riparian Vegetation

Riparian habitat along the South Fork Eel River includes a canopy of black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), and willows (*Salix* spp.). Understory species include California wild grape (*Vitis californica*) and Himalayan blackberry (*Rubus discolor*). This area is classified as Black cottonwood forest (*Populus trichocarpa* Forest Alliance [G5 S3]). The riparian canopy along the seasonal streams is often not well developed, but stands of willows and Oregon ash (*Fraxinus latifolia*) are present. Stands of willows and Oregon ash are also associated with portions of wetlands on the parcel.

##### California Bay Forest (*Umbellularia californica* Forest Alliance) [G4 S3]

The southern portion and the northern edge of the Study Area include forests dominated by California bay (*Umbellularia californica*). Black oak (*Quercus kelloggii*) and madrone (*Arbutus menziesii*) are also common. The understory is often relatively sparse; common

associated species include poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus discolor*), trail plant (*Adenocaulon bicolor*), and mountain sweet cicely (*Osmorhiza chilensis*).

Redwood Forest (*Sequoia sempervirens* Forests Alliance) [G3 S3.2].

The forest at Tooby Park is dominated by redwood (*Sequoia sempervirens*). Characteristic understory species include sword fern (*Polystichum munitum*), redwood sorrel (*Oxalis oreghana*), and Hooker's fairy bells (*Disproum hookeri*).

Himalayan black berry brambles (*Rubus americanus* Semi-Natural Shrubland Stands)

These areas are characterized by near monotypic stands of Himalayan blackberry and are present throughout the Study Area.

### **3.2. Topography and Hydrology**

The Study Area is on the Garberville USGS quadrangle. The majority of the Study Area is relatively flat and is located on a terrace in the lower portion of an approximately 565 acre watershed that drains through the Study Area into the South Fork Eel River (Appendix B). The watershed includes approximately 3,500 feet of U.S. Highway 101 upslope from the Study Area. The elevation ranges from approximately 320 to 500 feet above sea level. The Study Area is influenced by both ground water and surface water from ponding and several seasonal streams. Freshwater emergent wetlands and forested/shrub wetlands are identified within the Study Area in the National Wetland Inventory (USFWS 2011).

### **3.3. Soils**

Recent draft data from the Natural Resource Conservation Service (NRCS November 2, 2009) identifies five soil types in the Study Area:

Gschwend-Frenchman complex

This well drained soil type underlies the California bay forests in the southern portion of the Study Area and redwood forest at Tooby Park. It is typically associated with stream terraces and is composed of alluvium derived from sandstone.

Parkland-Garberville complex

This soil type is moderately well drained and occurs in a band in the field north of the California bay forest. It is associated with river valleys and is composed of alluvium derived from sedimentary rock.

Garberville-Parkland complex

This well drained soil occurs in the field in the western portion of the Study Area. It is associated with alluvial fan terraces and is composed of alluvium derived from sedimentary rock.

Grannycreek-Parkland complex

This poorly drained soil underlies much of the fields south and southeast of the residential area. It is associated with alluvial fan terraces and is composed of alluvium derived from sedimentary rock.

### Conklin

This soil type is well drained and occurs under portions of field in the northwest section of the Study Area. It is associated with terraces and is composed of alluvium derived from sedimentary rock.

### **3.4. Land Use History**

The SHCP has been a working ranch for over 135 years and was once part of a larger 10,000 acre holding. It was used as a cattle and sheep ranch until it was acquired by SHCP in 2000. Since its acquisition, the park has been utilized for recreational activities and agriculture. The Study Area is currently used for hiking, mountain biking, Frisbee golf and special events. Portions of the Study Area are used for raising livestock and hay production. The Study Area also includes the caretaker residences, barns and other outbuildings, and a playground at Tooby Park.

### **3.5. Summary of Previous Studies**

Previous studies that have been conducted at the SHCP related to natural resources of the park include:

- *Southern Humboldt Park Feasibility Study* (Mad River Biologists 2002). The document provides descriptions of vegetation and habitat types, descriptions of wetlands, assessments for special status plants and wildlife, lists of plants and wildlife encountered on the park, and management recommendations.
- A hydrogeology study (Winzler & Kelly, April 13, 2001). The study includes a summary of the hydrogeology of the park and vicinity, information on ground water and potential well drilling locations, a geologic map of the park, and a map of fault zones in the Garberville area.
- A plant list for the SHCP prepared by Rose Madrone (Madrone 2009). The list provides the native/non-native status and other information for the majority of plants that occur in the park.

## **4.0. METHODS**

### **4.1. Botanical Surveys**

A scoping list of special status plants that could potentially occur in the Study Area was generated by consulting the *California Natural Diversity Database* (DFG 2011) and the CNPS *Inventories of Rare and Endangered Plants* (CNPS 2011). The list includes all special status plants with documented occurrences on the Garberville USGS quadrangle or adjacent quadrangles in addition to other taxa for which the Study Area includes suitable habitat and is within or near the known range of the species (Appendix C).

A list of survey target taxa that occur in coniferous forest habitat similar to the Study Area was compiled from the initial scoping list and was used to determine seasonally appropriate



survey dates for the Study Area. The target taxa list excludes plants that occur in habitats not present on the Study Area, including coastal dunes, coastal prairie, coastal scrub, higher elevation montane forests, grasslands, oak woodlands, and chaparral in addition to species that occur on serpentine soil.

Table 1. Survey Target Taxa for the SHCP.

<b>Taxon</b>	<b>Common Name</b>	<b>Listing Status</b>	<b>Blooming Period</b>
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	CE, 1B.1	Apr-Sep
<i>Carex arcta</i>	northern clustered sedge	2.2	Jun-Sept
<i>Carex praticola</i>	northern meadow sedge	2.2	May-Jul
<i>Carex viridula</i> var. <i>viridula</i>	green yellow sedge	2.3	(Jun), Jul-Sep(Nov)
<i>Didymodon norrisii</i>	Norris' beard moss	2.2	
<i>Erythronium oregonum</i>	giant fawn lily	2.2	Mar-Jun(Jul)
<i>Erythronium revolutum</i>	coast fawn lily	2.2	Mar-Jul(Aug)
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	1B.2	Apr-Aug
<i>Glyceria grandis</i>	American manna grass	2.3	Jun-aug
<i>Kopsiopsis hookeri</i>	small groundcone	2.3	Apr-Aug
<i>Montia howellii</i>	Howell's montia	2.2	Mar-May
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	2.2	(Jan), (Feb),(Apr), May-Jul
<i>Piperia candida</i>	white-flowered rein orchid	B.2	May-Sep
<i>Sanguisorba officinalis</i>	great brunet	2.2	Jun-Oct
<i>Monardella villosa</i> ssp. <i>globosa</i>	robust monardella	1B.2	Jun-Jul(Aug),
<i>Tracyina rostrata</i>	beaked tracyina	1B.2	May-Jun
<i>Viburnum ellipticum</i>	oval-leaved viburnum	2.3	May-Jun

The botanical surveys were conducted by Kyle Wear. The surveyor's qualifications are provided in Appendix D. The surveys were floristic in nature and followed methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Surveys were conducted on April 21, May 13, 23, 24, & 29, July 8, and August 14 & 25, 2011 in conjunction with delineation and mapping of wetlands and streams on the parcel. The parcel was traversed extensively during the course of the study. Survey coverage was approximately 90% of the Study Area.

Surveys coincided with the blooming periods of all species identified during project scoping with moderate to high potential to occur in the Study Area. All species encountered in the Study Area were identified to the taxonomic level necessary to determine whether they are special status. Taxonomy generally follows the *Jepson Manual* (Hickman 1993); in some cases more recent name changes are used.

## 4.2. Wetlands

Wetlands in the Study Area were delineated using methods described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Western Mountains, Valleys, and Coast Region (Version 2.0)* (ACOE 2010) and the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) on the dates listed in Section 4.1.

Twenty six sample plots were evaluated for hydrophytic vegetation, hydric soil, and wetland hydrology in the Study Area. The sample plots were along transects crossing wetland boundaries and consisted of 2 to 3 data points per transect.

### Hydrophytic Vegetation

The wetland indicator status of each plant species in the sample plots was determined using the *National List of Plants that Occur in Wetlands; 1988 National Summary* (Reed 1988).

The indicator status of plants is based on the estimated probability of the species occurring in wetlands. The indicator status categories are:

Obligate Wetland Plants (OBL)	Almost always occur in wetlands	>99% frequency
Facultative Wetland Plants (FACW)	Usually occur in wetlands	67%-99%
Facultative Plants (FAC)	Equally occur wetlands and non-wetlands	33%-67%
Facultative Upland Plants (FACU)	Sometimes occur in wetlands	1%-33%
Obligate Upland Plants (UPL)	Rarely occur in wetlands	<1%

If more than 50% of the dominant plants are OBL, FACW, or FAC, the vegetation is considered to be hydrophytic. Dominance of plants within the plots was determined using the “50/20” rule.

### Hydric Soil

Indicators of hydric soil include, but are not limited to, a strong hydrogen sulfide (rotten egg) odor, redox concentrations, depleted matrix, and high organic matter content. Soil colors were determined by using a standard Munsell soil color chart (Gretag Macbeth 2000).

### Wetland Hydrology

Indicators of wetland hydrology include, but are not limited to, standing surface water, high water table, soil saturation, sediment deposits, soil cracks, and oxidized root channels along living roots. Wetland hydrology criteria is met if surface water or ground water within 12 inches of the surface is present for 14 or more consecutive days during the growing season.

## 4.3. Seasonal Streams and South Fork Eel River

All seasonal streams and the portion of the South Fork Eel River in the Study Area were delineated from the top of the bank or edge of the riparian vegetation, which ever was most landward.

## 5.0. RESULTS

### 5.1. Botanical Surveys

No special status plants were encountered in the Study Area. An uncommon lichen, long beard lichen (*Usnea longissima*) was encountered in vegetation along a seasonal stream. A list of all 225 plants encountered in the Study Area is provided in Appendix E.

### 5.2. Wetlands

A total of 48.6 acres of wetlands were identified in the Study Area (Figure 2). This included 47.1 acres of Freshwater Emergent Wetlands and 1.5 acres of Forested/Shrub wetlands. The wetland determination data forms are provided in Appendix F. The wetlands are predominately 3 parameter wetlands. Some of the data points were in areas that did not meet the hydrophytic vegetation criteria, but had indicators of hydric soil and wetland hydrology. These areas meet the CDFG wetland definition and were included in the wetland boundary. Once representative data points were established on each transect in upland and wetland areas, a series of soil pits was dug between them. The wetland boundary was marked at that point where all indicators of hydrophytic vegetation, hydric soil and wetland hydrology were no longer present. This process was repeated numerous times between sample plot transects to identify the wetland boundary.

The wetland boundary was mapped with a GPS receiver. Accuracy is approximately 1-3 meters. The number of acres within the wetland boundary was calculated with ArcView GIS software.

#### Hydrophytic Vegetation

The lower elevations in the wetlands are often dominated by western rush (*Juncus patens*), and pennyroyal (*Mentha pulegium*). There is often a zone of non-native grassland between these areas and the upland was dominated by FAC and FACW non-native grasses including, harding grass (*Phalaris aquatica*), Italian ryegrass, (*Lolium multiflorum*), and rough bluegrass (*Poa trivialis*). The upland grasslands are dominated by FAC, FACU, UPL grasses including orchard grass (*Dactylis glomerata*), soft chess (*Bromus hordeaceus*), sweet vernal grass (*Anthoxanthum odoratum*), Italian ryegrass (*Lolium multiflorum*), rat's tail fescue (*Vulpia myuros*), harding grass, and colonial bent grass (*Agrostis capillaris*).

The forested/shrub wetlands generally have an understory dominated by slough sedge (*Carex obnupta*), and a canopy of Oregon ash (*Fraxinus latifolia*) or willows (*Salix* spp.)

#### Hydric Soils

The majority of the wetlands identified in the Study Area are associated with the poorly drained Grannycreek-Parkland complex soil type shown on the draft NRCS soil map (NRCS November 2, 2009). The lower elevation areas in the wetlands often meet hydric soil indicator F3 (Depleted matrix). The soil is generally 10yr 4/1 with 7.5yr 4/6 prominent redox concentrations. The majority of the soil in the wetlands meets hydric soil indicator F6 (Redox dark surface). The soils are generally 10yr 3/1 or 10yr 2/2 with prominent 7.5yr 4/6 prominent redox concentrations. Upland soils were 10yr 3/1, 10yr 3/2, or 10yr 2/2 with no redox concentrations.

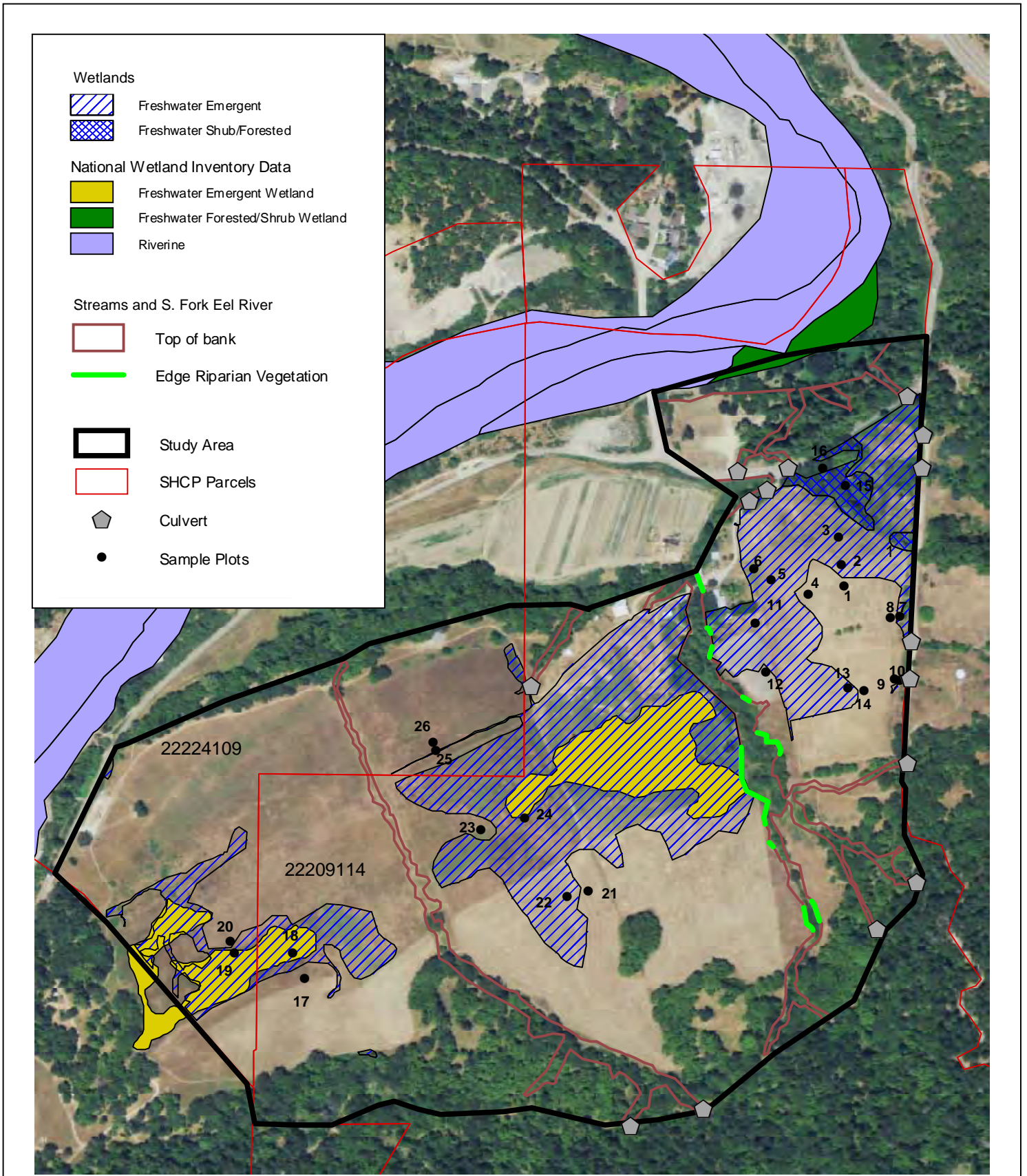
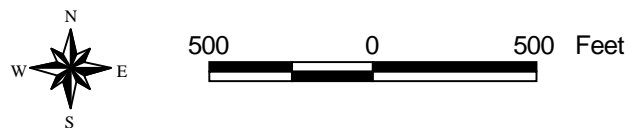


Figure 2. Wetland Delineation Map.



Southern Humboldt Community Park  
Humboldt County, CA

### Wetland Hydrology

The wetlands in the Study Area are primarily influenced by ground water. There is evidence of surface water in drainage ditches and other concave areas. The most common wetland hydrology indicator observed was the presence of oxidized rhizospheres along living roots. Other indicators included surface soil cracks and sediment deposits.

### **5.3. Seasonal Streams and South Fork Eel River**

A total of 13.4 acres of the Study Area are within riparian vegetation or below the top of the bank of seasonal streams or the South Fork Eel River (Figure 2).

## **6.0. RECOMMENDATIONS**

### **Buffers**

The *Humboldt County General Plan* requires a 50-foot buffer for intermittent streams and wetlands and a 100-foot buffer for perennial streams and wetlands (Streamside Management Areas) in areas outside of Urban Development and Expansion Areas. However, in an October 21, 2010 letter from CDFG to the Humboldt County Planning Department, CDFG recommends 100-foot buffer for all streams and wetlands and a 150-foot buffer for the South Fork Eel River at the SHCP (CDFG October 21, 2010).

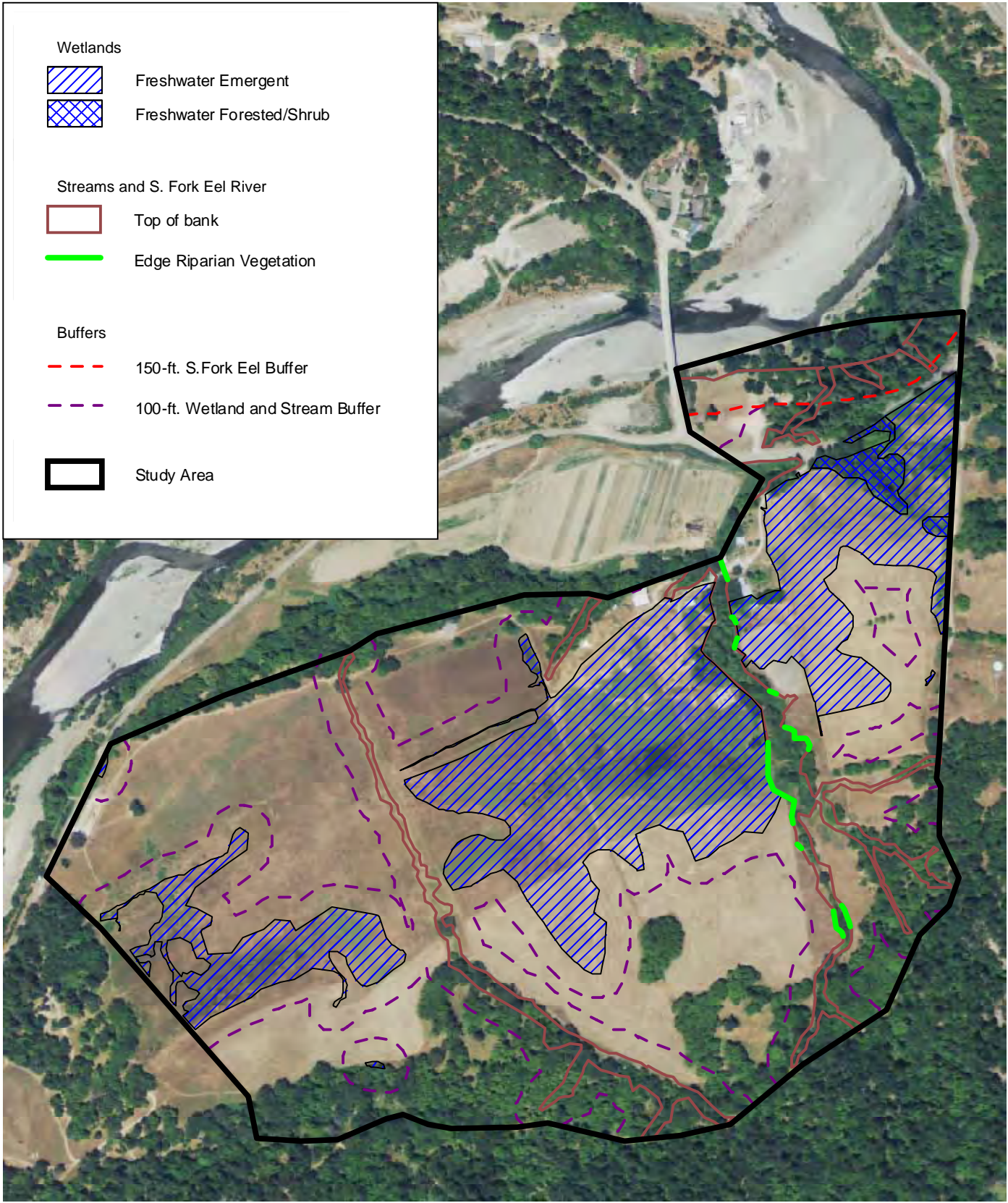
The CDFG recommended wetland, stream, and South Fork Eel River buffers area shown in Figure 3. If there is no feasible alternative to building within the recommended buffers, a reduced buffer may be appropriate if mitigation measures are taken to eliminate or minimize impacts. Mitigation measures would need to be developed based on assessment of potential impacts to wetlands, streams, native vegetation, and wildlife of specific development plans.

### **Marking of Wetlands, Streams, and Buffers**

Because of the extent wetlands and streams in the Study Area, it was not feasible to mark them in the field. All wetlands, streams, and their buffers that are adjacent to future development shall be clearly marked in the field with stakes or other suitable material so they can be avoided during construction. It may be necessary for these boundaries to be mapped by a land surveyor.

### **Consider Alternative Building Areas**

The extent of wetlands and streams in areas for proposed for zoning changes to Public Facilities and Multi-family Residential will significantly constrain development in those areas. The area currently being considered for Multi-family housing is almost entirely wetland. Development in the larger upland areas identified in the Study Area may be a more feasible alternative.

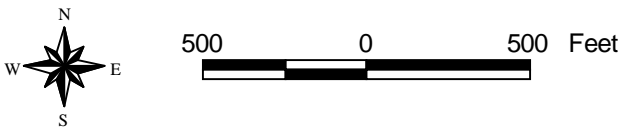


Scale: 1:6,800

Base Map: 2009 NAIP

Figure 3. Wetland, Stream, and S. Fork Eel River Buffer Map.

Southern Humboldt Community Park  
Humboldt County, CA



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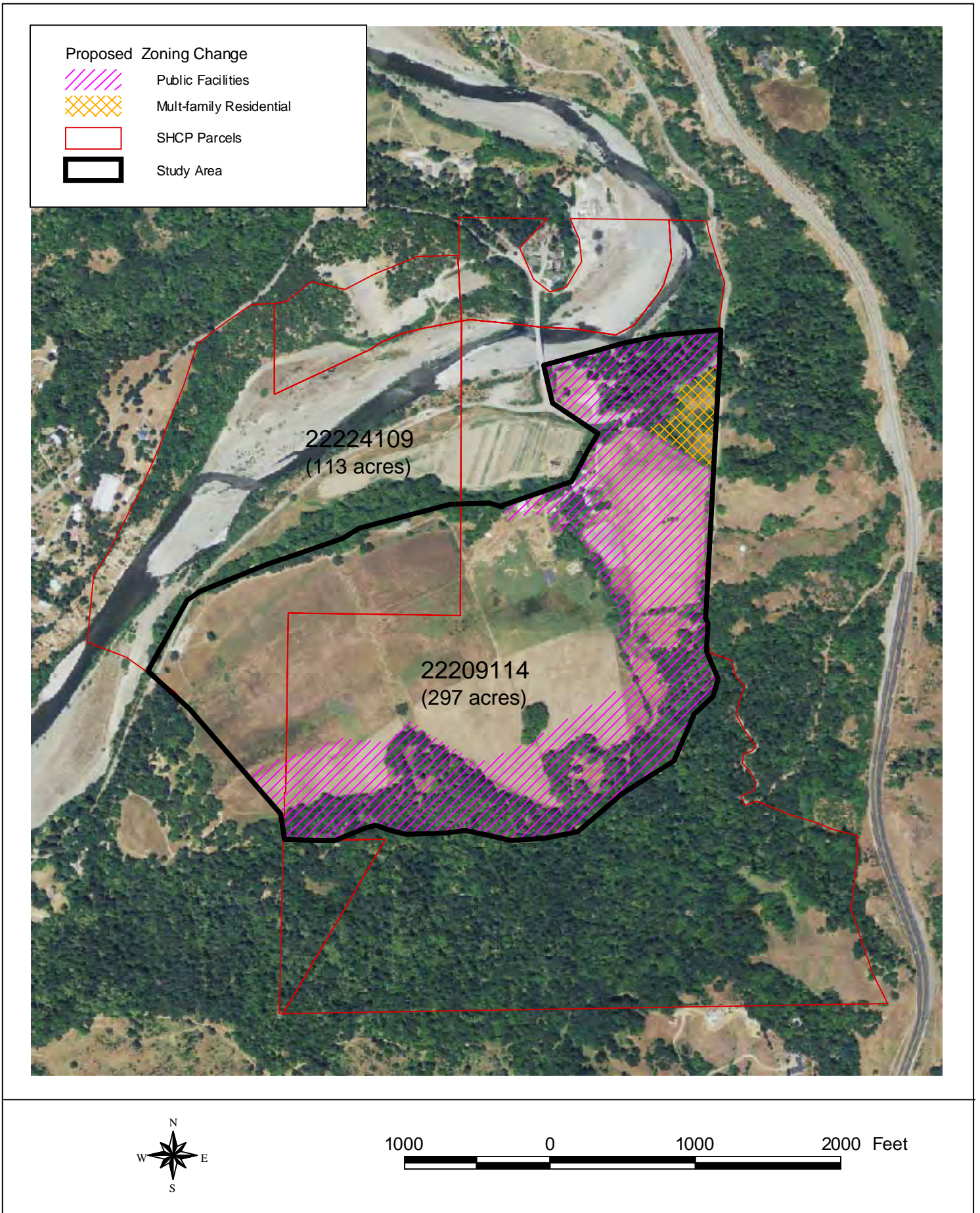
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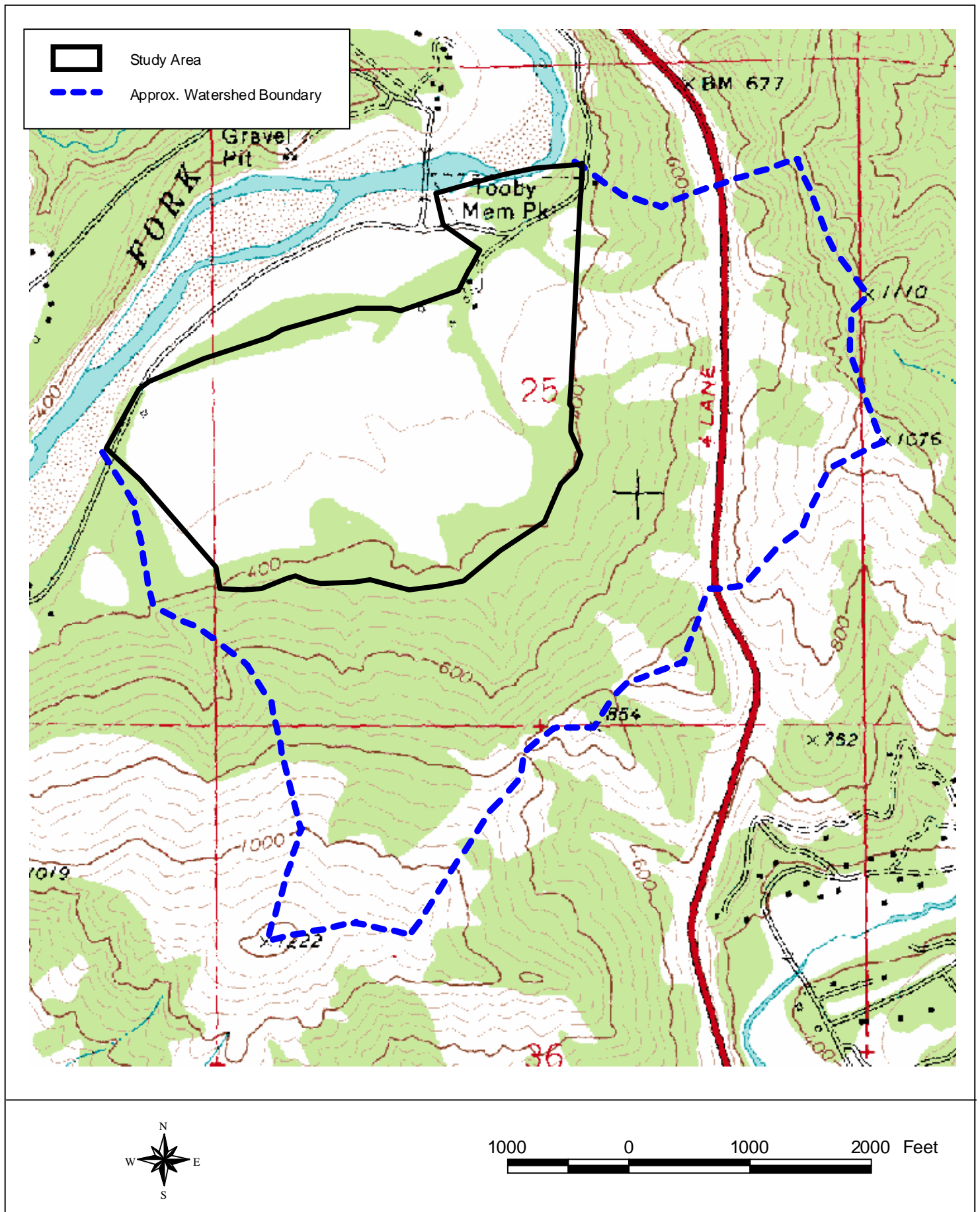
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Appendix A. Proposed Zoning Change Map.



Appendix B. SHCP Watershed Boundary Map.



APPENDIX C. Special Status Plant Scoping List.

Taxon	Common Name	Listing Status	Habitat (Elevation [m])	Blooms	Potential to Occur in Study Area
<i>Arabis mcdonaldiana</i>	McDonald's rock cress	FE, CE, 1B.1	Lower montane coniferous forest, Upper montane coniferous forest/serpentinite (135-1800)	May-Jul	Low. Study area does not contain serpentine habitat.
<i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i>	Sonoma canescent manzanita	1B.2	Chaparral, Lower montane coniferous forest/sometimes serpentinite(180-1675)	Jan-Jun	Low. Study area does not contain chaparral or lower montane coniferous forest.
<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	1B.1	Chaparral, Lower montane coniferous forest(openings)/rocky, often serpentinite (450-1000)	Feb-Apr	Low. Study area does not contain chaparral or lower montane coniferous forest.
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	CE, 1B.1	Broadleafed upland forest, North Coast coniferous forest/openings, disturbed areas, sometimes roadsides (180-800)	Apr-Sep	Moderate. Potential habitat along roads & disturbed areas.
<i>Carex arcta</i>	northern clustered sedge	2.2	Bogs and fens, North Coast coniferous forest (mesic) (60-1400)	Jun-Sept	Moderate. Potential habitat in forested wetlands. Study area is south of current known distribution in CA.
<i>Carex praticola</i>	northern meadow sedge	2.2	Meadows and seeps (mesic) (0-3200)	May-Jul	Moderate. Potential habitat in wetlands. Study area is south of current know distribution in CA.
<i>Carex viridula</i> var. <i>viridula</i>	green yellow sedge	2.3	Bogs and fens, Marshes and swamps, North Coast coniferous forest (mesic)	(Jun), Jul-Sep(Nov)	Moderate. Potential habitat in forested wetlands.
<i>Castilleja affinis</i> ssp. <i>litoralis</i>	Oregon coast paintbrush	2.2	Coastal bluff scrub, Coastal dunes, Coastal scrub/sandy (15-100)	Jun	Low. Plant occurs in coastal habitats.
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	1B.2	Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub (0-160)	Apr-Aug	Low. Plant occurs in coastal habitats.
<i>Didymodon norrisii</i>	Norris' beard moss	2.2	Cismontane woodland, Lower montane coniferous forest/intermittently mesic, rock (600-1973)		Moderate. Potential habitat in bay forest.
<i>Eriogonum kelloggii</i>	Kellogg's buckwheat	CE, FE, 1B.2	Lower montane coniferous forest(rocky, serpentinite) (579-1250)	(May),Jun-Aug	Low. Study areas does not contain serpentine habitat.

APPENDIX C (Cont.). Special Status Plant Scoping List.

<b>Taxon</b>	<b>Common Name</b>	<b>Listing Status</b>	<b>Habitat (Elevation [m])</b>	<b>Blooms</b>	<b>Potential to Occur in Study Area</b>
<i>Erythronium oregonum</i>	giant fawn lily	2.2	Cismontane woodland, Meadows and seeps, sometimes serpentine, rocky, openings(100-1150)	Mar-Jun(Jul)	Moderate. Potential habitat in bay forest along streams.
<i>Erythronium revolutum</i>	coast fawn lily	2.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest/Mesic, streambanks (0-1350)	Mar-Jul(Aug),	High. Good habitat in bay forest along streams.
<i>Gentiana setigera</i>	Mendocino gentian	1B.2	Lower montane coniferous forest, Meadows and seeps/mesic (490-1065)	Aug-Sep	Low. Study areas does not contain lower montane coniferous forest, plant occurs at higher elevations.
<i>Gilia capitata ssp. pacifica</i>	Pacific gilia	1B.2	Coastal bluff scrub, Chaparral(openings), Coastal prairie, Valley and foothill grassland (5-869)	Apr-Aug	Moderate - Low. Some potential habitat in grasslands.
<i>Glyceria grandis</i>	American manna grass	2.3	Bogs and fens, Meadows and seeps, Marshes and swamps (streambanks and lake margins) (15-1980)	Jun-aug	High. Good habitat in wetlands.
<i>Kopsiopsis hookeri</i>	small groundcone	2.3	North Coast coniferous forest (90-885)	Apr-Aug	Moderate. Some habitat in bay forest, assoc w/ madrone.
<i>Montia howellii</i>	Howell's montia	2.2	Meadows and seeps, North Coast coniferous forest, Vernal pools/vernally mesic, sometimes roadsides (0-730)	Mar-May	High. Good habitat along roads, trails, & disturbed areas.
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	2.2	Coastal scrub, North Coast coniferous forest/Sometimes roadsides (30-650)	(Jan), (Feb)	Moderate. Potential habitat along roads, trails, forest openings.
<i>Piperia candida</i>	white-flowered rein orchid	1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest/sometimes serpentine (30-1310)	May-Sep	High. Good habitat in bay and redwood forests.
<i>Sanguisorba officinalis</i>	great brunet	2.2	Bogs and fens, Broadleafed upland forest, Meadows and seeps, Marshes and swamps, North Coast coniferous forest, Riparian forest/often serpentine	Jun-Oct	Moderate. Potential habitat in wetlands.

APPENDIX C (Cont.). Special Status Plant Scoping List.

Taxon	Common Name	Listing Status	Habitat (Elevation [m])	Blooms	Potential to Occur in Study Area
<i>Sedum laxum</i> ssp. <i>eastwoodiae</i>	Red Mountain stonecrop	FC, 1B.2	Lower montane coniferous forest(serpentine) (600-1200)	May-Jul	Low. Study area does not contain serpentine habitat.
<i>Monardella villosa</i> ssp. <i>globosa</i>	robust monardella	1B.2	Broadleafed upland forest(openings), Chaparral(openings), Cismontane woodland, Coastal scrub, Valley and foothill grassland (100-915)	Jun-Jul(Aug),	High. Good habitat in/along margins of bay forest
<i>Tracyina rostrata</i>	beaked tracyina	1B.2	Cismontane woodland, Valley and foothill grassland	May-Jun	Moderate. Potential habitat along margins of bay forest.
<i>Viburnum ellipticum</i>	oval-leaved viburnum	2.3	Chaparral, Cismontane woodland, Lower montane coniferous forest	May-Jun	Moderate. Potential habitat in bay forest.

**Listing Status Codes:**

**California Native Plant Society (CNPS)**

- 1A. Presumed extinct in California
- 1B. Rare or Endangered in California and elsewhere
- 2. Rare or Endangered in California, more common elsewhere
- 3. Plants for which we need more information - Review list
- 4. Plants of limited distribution - Watch list

**Threat Code extensions:**

- .1 = seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat)
- .2 = fairly endangered in California (20-80% of occurrences threatened)
- .3 = not very endangered in California (<20% of occurrences threatened or no current threats known)

**Federal:** Includes species of concern (FC), rare (FR), threatened (FT), or endangered (FE)

**State:** State of California status includes rare (CR), threatened (CT), or endangered (CE)

#### APPENDIX D. Relevant Surveyor Qualifications.

The botanical surveys and wetland delineation were carried out by Kyle Wear. Mr. Wear has a M.A. in Biology and a B.S. in Environmental Biology with a minor in Botany from Humboldt State University. Mr. Wear has seventeen years of experience conducting rare plant surveys and other botanical work in northern California for a variety of projects including timber harvest plans, development projects, coastal dune restoration projects, salmonid habitat restoration projects, and rare plant research and monitoring projects. Mr. Wear completed a wetland delineation training course from the Wetland Training Institute and has been conducting wetland delineations for the past six years.

APPENDIX E. List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<b>Trees</b>	
<i>Acer macrophyllum</i>	bigleaf maple
<i>Aesculus californica</i>	California buckeye
<i>Alnus rubra</i>	red alder
<i>Arbutus menziesii</i>	Pacific madrone
<i>Cedrus deodora</i>	Deadora cedar (planted)
<i>Fraxinus latifolia</i>	Oregon ash
<i>Lithocarpus densiflorus</i> var. <i>densiflorus</i>	tanoak
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Populus trichocarpa</i>	black cottonwood
<i>Quercus garryana</i>	Oregon white oak
<i>Quercus kelloggii</i>	California black oak
<i>Quercus wizlizeni</i>	interior live oak
<i>Salix lasiolepis</i>	arroyo willow
<i>Salix lucida</i> ssp. <i>lasiandra</i>	shining willow
<i>Salix sitchensis</i>	Sitka willow
<i>Sequoia sempervirens</i>	coast redwood
<i>Umbellularia californica</i>	California-bay
<b>Shrubs</b>	
<i>Arctostaphylos columbiana</i>	hairy manzanita
<i>Baccharis pilularis</i>	coyote brush
<i>Ceanothus thyrsiflorus</i>	blue blossom
<i>Corylus cornuta</i> var. <i>californica</i>	California hazelnut
<i>Cytisus scoparius</i>	Scotch broom
<i>Gaultheria shallon</i>	salal
<i>Heteromeles arbutifolia</i>	toyon
<i>Mimulus aurantiacus</i>	orange bush monkey-flower
<i>Philadelphus lewisii</i>	wild mock-orange
<i>Ribes sanguinuem</i> var. <i>glutinosum</i>	pink-flowering currant
<i>Rosa gymnocarpa</i>	wood rose
<i>Rubus discolor</i>	Himalayan blackberry
<i>Rubus leucodermis</i>	white-stemmed raspberry
<i>Rubus parviflorus</i>	thimbleberry
<i>Sambucus racemosa</i> var. <i>racemosa</i>	red elderberry
<i>Symphoricarpos</i> sp.	snowberry
<i>Toxicodendron diversilobum</i>	poison-oak
<i>Vaccinium ovatum</i>	evergreen huckleberry
<b>Herbs</b>	
<i>Achillea millefolium</i>	common yarrow
<i>Adenocaulon bicolor</i>	trail plant

APPENDIX E (Cont.). List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<i>Adiantum aleuticum</i>	five-fingered fern
<i>Adiantum jordanii</i>	California maidenhair fern
<i>Agrostis capillaris</i>	colonial bentgrass
<i>Agrostis stolonifera</i>	creeping bent-grass
<i>Aira caryophyllea</i>	European hairgrass
<i>Allium triquetrum</i>	escaped ornamental onion
<i>Alopecurus pratense</i>	meadow foxtail
<i>Anagallis arvensis</i>	scarlet pimpernel
<i>Anthoxanthum odoratum</i>	sweet vernal grass
<i>Aquilegia formosa</i>	crimson columbine
<i>Artemisia douglasiana</i>	mugwort
<i>Asarum caudatum</i>	wild ginger
<i>Asclepias fascicularis</i>	Mexican whorled milkweed
<i>Athyrium filix-femina</i>	lady fern
<i>Avena fatua</i>	wild oat grass
<i>Avena sativa</i>	wild oat grass
<i>Baccharis douglasii</i>	marsh baccharis
<i>Bellis perennis</i>	English daisy
<i>Blechnum spicant</i>	deer fern
<i>Brassica nigra</i>	black mustard
<i>Briza maxima</i>	rattlesnake grass
<i>Briza minor</i>	small rattlesnake grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	ripgut grass
<i>Bromus hordeaceus</i>	soft chess
<i>Bromus laevipes</i>	woodland brome
<i>Bromus vulgaris</i>	narrow-flowered brome
<i>Calochortus tolmiei</i>	pussy ears
<i>Calypso bulbosa</i>	calypso orchid or fairy slipper orchid
<i>Calystegia sp.</i>	Morning Glory
<i>Camissonia ovata</i>	coast sun cups
<i>Cardamine californica</i>	milk maids
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Carex deweyana</i> ssp. <i>leptopoda</i>	short-scaled sedge
<i>Carex gynodynamis</i>	Olney's hairy sedge
<i>Carex obnupta</i>	slough sedge
<i>Carex subfusca</i>	rusty sedge
<i>Cerastium glomeratum</i>	mouse ear chickweed
<i>Chlorogalum sp.</i>	soap plant
<i>Cichorium intybus</i>	chicory
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull thistle



APPENDIX E (Cont.). List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<i>Claytonia perfoliata</i>	miner's lettuce
<i>Collomia heterophylla</i>	varied-leaf collomia
<i>Convolvulus arvensis</i>	field bindweed
<i>Cynodan dactylon</i>	Bermuda grass
<i>Cynoglossum grande</i>	hound's-tongue
<i>Cynosurus echinatus</i>	hedgehog dogtail grass
<i>Cyperus eragrostis</i>	nut-grass
<i>Dactylis glomerata</i>	orchard grass
<i>Danthonia californica</i>	California oatgrass
<i>Danthonia pilosa</i>	hairy oatgrass
<i>Daucus carota</i>	wild carrot or Queen Anne's lace
<i>Dichelostemma capitatum</i>	blue dicks
<i>Dichelostemma ida-maia</i>	firecracker flower
<i>Disporum hookeri</i>	Hooker's fairy bells
<i>Dryopteris expansa</i>	wood fern
<i>Eleocharis macrostachya</i>	creeping spike-rush
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye
<i>Epilobium ciliatum</i>	northern willow herb
<i>Equisetum hyemale</i> ssp. <i>affine</i>	scouring rush
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail
<i>Erechtites minima</i>	coast fireweed
<i>Eremocarpus setigerus</i>	dove weed
<i>Erodium botrys</i>	long-beaked storksbill
<i>Erodium cicutarium</i>	red-stemmed filaree or common stork's bill
<i>Erodium</i> sp.	stork's-bill
<i>Eschscholzia californica</i>	California poppy
<i>Festuca arundinacea</i>	tall fescue
<i>Filago gallica</i>	narrow-leaved filago
<i>Foeniculum vulgare</i>	fennel
<i>Fragaria vesca</i>	wood strawberry
<i>Galium aparine</i>	goose grass
<i>Galium</i> sp.	bedstraw
<i>Geranium dissectum</i>	cut-leaved geranium
<i>Geranium molle</i>	dovefoot geranium
<i>Gnaphalium luteo-album</i>	weedy cudweed
<i>Goodyera oblongifolia</i>	rattlesnake plantain
<i>Hedera helix</i>	English ivy
<i>Heuchera micrantha</i>	small-flowered alumroot
<i>Hierochloa occidentalis</i>	vanilla grass
<i>Holcus lanatus</i>	common velvet grass
<i>Hordeum brachyantherum</i>	meadow barley
<i>Hordeum jubatum</i>	foxtail barley

APPENDIX E (Cont.). List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<i>Hordeum marinum</i>	Mediterranean barley
<i>Horkelia californica</i>	horkelia
<i>Hypericum perforatum</i>	Klamath weed or common St. John's-wort
<i>Hypochaeris radicata</i>	hairy cat's-ear
<i>Iris douglasiana</i>	Douglas iris
<i>Iris purdyi</i>	Purdy's iris
<i>Juncus bufonius</i>	common toad rush
<i>Juncus effusus</i>	common rush
<i>Juncus patens</i>	spreading rush
<i>Juncus tenuis</i>	slender rush
<i>Kniphofia uvaria</i>	redhot poker
<i>Lactuca</i> sp.	wild lettuce
<i>Lathyrus polyphyllus</i>	Oregon pea
<i>Lathyrus sulfureus</i>	sulphur pea
<i>Lathyrus vestitus</i>	wood pea
<i>Leontodon taraxacoides</i>	hawkbit
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Limnanthes douglasii</i>	Douglas' meadowfoam
<i>Linum bienne</i>	western blue flax
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Lonicera hispidula</i>	hairy honeysuckle
<i>Lotus corniculatus</i>	birdfoot trefoil
<i>Lotus purshianus</i>	spanish lotus
<i>Lupinus rivularis</i>	riverbank lupine
<i>Luzula parviflora</i>	small-flowered wood rush
<i>Madia madioides</i>	woodland madia
<i>Medicago</i> sp.	bur clover
<i>Melica sublata</i>	Alaska oniongrass
<i>Melilotus alba</i>	white sweetclover
<i>Mentha pulegium</i>	pennyroyal
<i>Navarretia squarrosa</i>	skunkweed
<i>Nemophila parviflora</i>	small-flowered nemophila
<i>Osmorhiza chilensis</i>	mountain sweet-cicely
<i>Oxalis oregana</i>	redwood sorrel
<i>Paspalum dilatatum</i>	dallis grass
<i>Pedicularis densiflora</i>	Indian warrior
<i>Pentagramma triangularis</i> ssp. <i>triangularis</i>	goldback fern
<i>Phacelia bolanderi</i>	Bolander's phacelia
<i>Phalaris aquatica</i>	harding grass
<i>Phleum pratense</i>	timothy grass
<i>Phorodendron villosum</i>	oak mistletoe
<i>Picris echioides</i>	bristly ox-tongue

APPENDIX E (Cont.). List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<i>Plantago coronopus</i>	cut-leaved plantain
<i>Plantago lanceolata</i>	English plantain
<i>Plantago major</i>	common plantain
<i>Plectritis brachystemon</i>	pink plectritis
<i>Poa annua</i>	annual bluegrass
<i>Poa trivialis</i>	rough bluegrass
<i>Polygala californica</i>	California milkwort
<i>Polygonum aviculare</i>	prostrate knotweed
<i>Polypodium glycyrrhiza</i>	licorice fern
<i>Polystichum munitum</i>	sword fern
<i>Prunella vulgaris</i>	self-heal
<i>Psilocarphus</i> sp.	woolly-heads
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern
<i>Ranunculus muricatus</i>	prickly-fruit buttercup
<i>Ranunculus occidentalis</i>	western buttercup
<i>Ranunculus repens</i>	creeping buttercup
<i>Raphanus sativus</i>	wild radish
<i>Rorippa nasturtium-aquaticum</i>	water cress
<i>Rubus ursinus</i>	California blackberry
<i>Rumex acetosella</i>	sheep sorrel
<i>Rumex crispus</i>	curly dock
<i>Rumex pulcher</i>	fiddle dock
<i>Rumex salicifolius</i>	willow dock
<i>Sanicula crassicaulis</i>	Pacific snakeroot
<i>Satureja douglasii</i>	yerba buena
<i>Scirpus microcarpus</i>	small-flowered bulrush
<i>Scoliopus bigelovii</i>	slink-pod
<i>Scrophularia californica</i>	coast figwort
<i>Silybum marianum</i>	milk thistle
<i>Sisyrinchium bellum</i>	blue-eyed-grass
<i>Smilacina racemosa</i>	branched Solomon's seal
<i>Sonchus oleraceus</i>	common sow thistle
<i>Spergularia rubra</i>	purple sand spurry
<i>Stachys ajugoides</i>	hedge nettle
<i>Stellaria media</i>	common chickweed
<i>Taraxacum officinale</i>	dandelion
<i>Tellima grandiflora</i>	fringe cups
<i>Thalictrum fendleri</i> var. <i>polycarpum</i>	meadow rue
<i>Tiarella trifoliata</i> var. <i>unifoliata</i>	sugar scoop or lace flower
<i>Trientalis latifolia</i>	Pacific star flower
<i>Trifolium dubium</i>	little hop clover
<i>Trifolium glomeratum</i>	clustered clover

APPENDIX E (Cont.). List of Plants Encountered in the Study Area.

<b>TAXON</b>	<b>COMMON NAME</b>
<i>Trifolium repens</i>	white clover
<i>Trifolium subterraneum</i>	subterranean clover
<i>Trillium chloropetalum</i>	giant trillium
<i>Trillium ovatum</i>	western trillium
<i>Trisetum cernuum</i>	nodding trisetum
<i>Triteleia laxa</i>	Ithuriel's spear
<i>Urtica dioica</i> ssp. <i>holosericea</i>	stinging nettle
<i>Usnea longissima</i>	long beard lichen
<i>Verbascum blattaria</i>	moth mullein
<i>Vicia hirsuta</i>	hairy vetch
<i>Vicia sativa</i>	vetch
<i>Vicia villosa</i>	hairy vetch
<i>Vinca major</i>	greater periwinkle
<i>Viola glabella</i>	stream violet
<i>Viola ocellata</i>	two-eyed violet or western heart's ease
<i>Viola sempervirens</i>	evergreen violet
<i>Vitis californica</i>	California wild grape
<i>Vulpia myuros</i>	Rat's Tail Fescue
<i>Whipplea modesta</i>	modesty
<i>Woodwardia fimbriata</i>	giant chain fern

## APPENDIX F. Wetland Determination Field Data Forms

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: SHCP State: CA Sampling Point: DPI  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): ± none Slope (%): 45%  
 Subregion (LRR): A Lat: See remarks Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Granny Creek - Parkland Complex NW classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>UTM N 4437810.03</u> <u>E 432153.35</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
= Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
= Total Cover					
Herb Stratum (Plot size: <u>10'-rad</u> )					
1. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Phalaris aquatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Taraxacum subterminan</u>	<u>20</u>	<u>Y</u>	<u>NI</u>		
4. <u>Juncus tenuis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
5. <u>Rumex acetosella</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
6. <u>Lolium multiflorum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
7. <u>Poa trivialis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

**SOIL**

Sampling Point: DP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr3/1	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present?	Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present?	Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <u>X</u>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: SHCP State: CA Sampling Point: DP2  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ≠ none Slope (%): 45%  
 Subregion (LRR): A Lat: See remarks Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Granny Creek Parkland NW classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>utm N 4437810.03 E 432153.35</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)			
1. _____	_____	_____	_____		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____		
2. _____	_____	_____	_____				
3. _____	_____	_____	_____				
4. _____	_____	_____	_____				
= Total Cover							
Sapling/Shrub Stratum (Plot size: _____)							
1. _____							
2. _____							
3. _____							
4. _____							
= Total Cover							
Herb Stratum (Plot size: <u>10' rad.</u> )	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.						
1. <u>Phalaris aquatica</u>					<u>20</u>	<u>Y</u>	<u>FAC</u>
2. <u>Vulpia myuros</u>					<u>20</u>	<u>Y</u>	<u>FACW</u>
3. <u>Lolium multiflorum</u>					<u>20</u>	<u>Y</u>	<u>FAC</u>
4. <u>Trifolium subterraneum</u>					<u>20</u>	<u>Y</u>	<u>NI</u>
5. <u>Poa trivialis</u>					<u>20</u>	<u>Y</u>	<u>FACW</u>
6. <u>Briza maxima</u>					<u>2</u>	<u>N</u>	<u>NI</u>
7. _____					_____	_____	_____
8. _____					_____	_____	_____
9. _____					_____	_____	_____
10. _____					_____	_____	_____
11. _____	_____	_____	_____				
<u>100</u> = Total Cover							
Woody Vine Stratum (Plot size: _____)							
1. _____							
2. _____							
= Total Cover							
% Bare Ground in Herb Stratum _____							
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____							

Remarks:



**SOIL**

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10Yr3/1	90	7.5Yr4/4	10	C	M	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP3  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 4.5%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Grannycreek - Parkland NW classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>UTM N 4437846.54</u> <u>E 432149.98</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
= Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)					OBL species _____ x 1 = _____
1. _____	_____	_____	_____		FACW species _____ x 2 = _____
2. _____	_____	_____	_____		FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Carex subfusca</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
2. <u>Juncus patens</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
3. <u>Trifolium repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. <u>Poa trivialis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
5. <u>Festuca arundinacea</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6. <u>Mentha pelagicum</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. <u>Juncus tenuis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
8. <u>Picris?</u>	<u>5</u>	<u>N</u>	<u>?</u>		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DP3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10yr 4/1	90	7.5yr 4/6	10	C	M	✓	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP4  
 Investigator(s): Kyle Wear Section, Township, Range: Ser. 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 45%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Granny Creek - Parkland NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks:	<u>UTM N 4437772.27 E 432102.70</u>		

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____	_____	_____	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
_____ = Total Cover				UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10'-rad.</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Vulpia myuros</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Poa trivialis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	___ 2 - Dominance Test is >50%	
3. <u>Trifolium subterranean</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Lolium multiflorum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Avena fatua</u>	<u>2</u>	<u>N</u>	<u>NI</u>	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. <u>Cynodon dactylon</u>	<u>2</u>	<u>N</u>	<u>NI</u>	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. <u>Bromus hordeaceus</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Cerastium dissectum</u>	<u>2</u>	<u>N</u>	<u>NI</u>		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>100</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>	
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

**SOIL**

Sampling Point: DP4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/1	100						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP5  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T43 R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): + none Slope (%): < 5%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Darkland? NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: ① considered wetland based on soil and hydrology UTM N 4437789.39 E 432058.59			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	OBL species <u>0</u> x 1 = _____
1. _____	_____	_____	_____	FACW species <u>25</u> x 2 = <u>50</u>
2. _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
3. _____	_____	_____	_____	FACU species <u>20</u> x 4 = <u>80</u>
4. _____	_____	_____	_____	UPL species <u>24</u> x 5 = <u>120</u>
5. _____	_____	_____	_____	Column Totals: <u>94</u> (A) <u>325</u> (B)
= Total Cover				Prevalence Index = B/A = <u>3.46</u>
Herb Stratum (Plot size: <u>10'-rad</u> )	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Bromus hordeaceus</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	
3. <u>Poa trivialis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Juncus tenuis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Lolium multiflorum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
6. <u>Arena sativa</u>	<u>2</u>	<u>N</u>	<u>NI</u>	
7. <u>Briza maxima</u>	<u>2</u>	<u>N</u>	<u>NI</u>	
8. <u>Phalaris aquatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> ②
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: ② May meet hydro. veg. criteria later in season when Vulpia dries up

**SOIL**

Sampling Point: DPS

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/1	90	7.5yr 4/6	10	c	m	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p>___ Histosol (A1)                      ___ Sandy Redox (S5)</p> <p>___ Histic Epipedon (A2)            ___ Stripped Matrix (S6)</p> <p>___ Black Histic (A3)                 ___ Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p>___ Hydrogen Sulfide (A4)           ___ Loamy Gleyed Matrix (F2)</p> <p>___ Depleted Below Dark Surface (A11) ___ Depleted Matrix (F3)</p> <p>___ Thick Dark Surface (A12)        <input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p>___ Sandy Mucky Mineral (S1)        ___ Depleted Dark Surface (F7)</p> <p>___ Sandy Gleyed Matrix (S4)        ___ Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p>___ 2 cm Muck (A10)</p> <p>___ Red Parent Material (TF2)</p> <p>___ Very Shallow Dark Surface (TF12)</p> <p>___ Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p>___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)</p> <p>___ High Water Table (A2)                      ___ Salt Crust (B11)</p> <p>___ Saturation (A3)                              ___ Aquatic Invertebrates (B13)</p> <p>___ Water Marks (B1)                            ___ Hydrogen Sulfide Odor (C1)</p> <p>___ Sediment Deposits (B2)                   <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p>___ Drift Deposits (B3)                         ___ Presence of Reduced Iron (C4)</p> <p>___ Algal Mat or Crust (B4)                     ___ Recent Iron Reduction in Tilled Soils (C6)</p> <p>___ Iron Deposits (B5)                         ___ Stunted or Stressed Plants (D1) (LRR A)</p> <p>___ Surface Soil Cracks (B6)                   ___ Other (Explain in Remarks)</p> <p>___ Inundation Visible on Aerial Imagery (B7)</p> <p>___ Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p>___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p>___ Drainage Patterns (B10)</p> <p>___ Dry-Season Water Table (C2)</p> <p>___ Saturation Visible on Aerial Imagery (C9)</p> <p>___ Geomorphic Position (D2)</p> <p>___ Shallow Aquitard (D3)</p> <p>___ FAC-Neutral Test (D5)</p> <p>___ Raised Ant Mounds (D6) (LRR A)</p> <p>___ Frost-Heave Hummocks (D7)</p>
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**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present? Yes  No \_\_\_\_\_**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP6  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 45%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Gardenville-Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>utm N 4437802.90</u> <u>E 432036.40</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
= Total Cover				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10' x 10'</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Cyperus eragrostis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Eleocharis macrostachya</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Poa trivialis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Vulpa murys</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. <u>Hordeum marinum</u>	<u>5</u>	<u>N</u>	<u>NI</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. <u>Alopecurus aequalis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Carex subfusca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
9. <u>Trifolium dubium</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
10. <u>Phalaris aquatica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
11. _____	_____	_____	_____		
= Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					



**SOIL**

Sampling Point: DP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								Remarks
Depth (inches)	Matrix		Redox Features			Texture		
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10Yr4/1	90	7.5Yr4/6	10	C	M	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-11-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 7  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): in ditch Slope (%): 45%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Granncreek - Parkland NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>UTM N 4437738.52</u> <u>E 432232.87</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____				OBL species _____ x 1 = _____	
2. _____				FACW species _____ x 2 = _____	
3. _____				FAC species _____ x 3 = _____	
4. _____				FACU species _____ x 4 = _____	
5. _____				UPL species _____ x 5 = _____	
_____ = Total Cover				Column Totals: _____ (A) _____ (B)	
<b>Herb Stratum</b> (Plot size: <u>10x5'</u> )				Prevalence Index = B/A = _____	
1. <u>Juncus patens</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Mentha pelugiolum</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Silybum marianum</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
4. <u>Geranium dissectum</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
5. <u>Briza maxima</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
6. <u>Phalaris aquatica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
7. <u>Vicia sativa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
8. _____					
9. _____					
10. _____					
_____ = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b>	
1. _____				Yes <input checked="" type="checkbox"/>	No _____
2. _____					
_____ = Total Cover					
<b>% Bare Ground in Herb Stratum</b> _____					

Remarks: ① Plot is drainage ditch parallel to banks

**SOIL**

Sampling Point: DP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)									
Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-12	10Yr3/1	95	7.5Yr4/6	5	C	m	L		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
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**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP8  
 Investigator(s): Kyle Wear Section, Township, Range: Sec 25 T4S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 45%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek-Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>UTM N 4437737.92</u> <u>E 432720.35</u>	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10'-rad</u> )				
1. <u>Phalaris aquatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Dactylis glomerata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Geranium dissectum</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
4. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
5. <u>Vicia sativa</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6. <u>Trifolium subterranean</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
7. <u>Aira Caryophylla</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
8. <u>Hypochaeris radicata</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
9. <u>Trifolium dubium</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
10. <u>Anthoxanthum odoratum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DP8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR3/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Hydrology Present? Yes \_\_\_\_\_ No

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 9  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 25%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Grannycreek Parkland NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>UTM N 4437654.14</u> <u>E 432229.88</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>			
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)		
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)		
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40</u> (A/B)		
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>			
= Total Cover							
Sapling/Shrub Stratum (Plot size: _____)							
1. _____	_____	_____	_____			Total % Cover of:	Multiply by:
2. _____	_____	_____	_____			OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____			
4. _____	_____	_____	_____	FAC species _____ x 3 = _____			
5. _____	_____	_____	_____	FACU species _____ x 4 = _____			
= Total Cover				UPL species _____ x 5 = _____			
Herb Stratum (Plot size: <u>10'-rad</u> )				Column Totals: _____ (A) _____ (B)			
1. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b>			
2. <u>Arena latus</u>	<u>20</u>	<u>Y</u>	<u>NI</u>				
3. <u>Trifolium subterranean</u>	<u>15</u>	<u>Y</u>	<u>NI</u>				
4. <u>Bromus hordeaceus</u>	<u>15</u>	<u>Y</u>	<u>NI</u>				
5. <u>Geranium dissectum</u>	<u>2</u>	<u>N</u>	<u>NI</u>				
6. <u>Poa trivialis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>				
7. <u>Lolium multiflorum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>				
8. <u>Juncus tenuis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>				
9. _____	_____	_____	_____				
10. _____	_____	_____	_____				
11. _____	_____	_____	_____				
= Total Cover				Prevalence Index = B/A = _____			
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>			
1. _____	_____	_____	_____				
2. _____	_____	_____	_____				
= Total Cover							
% Bare Ground in Herb Stratum _____							

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DP9

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_

(includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP10  
 Investigator(s): Kyle Wear Section, Township, Range: Sec. 25 T4 S R3E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 45  
 Subregion (LRR): A: Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>UTM N 4437653.29</u> <u>E 432232.72</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				<b>Prevalence Index worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>5-rad</u> )				Column Totals:	_____ (A) _____ (B)
1. <u>Juncus patens</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = _____	
2. <u>Poa trivialis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b>	
3. <u>Phalaris aquatica</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Vicia sativa</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	___ 2 - Dominance Test is >50%	
5. _____	_____	_____	_____	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
6. _____	_____	_____	_____	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
8. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
9. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	_____	_____	_____	= Total Cover	
11. _____	_____	_____	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b>	
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____	
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: Plot in patch of Juncus below culvert



**SOIL**

Sampling Point: DP10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/1	95	7.5yr 4/6	5	C	m	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>		<p>Secondary Indicators (2 or more required)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	
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**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SITCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP11  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 45  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>UTM N 4437730.93</u> <u>E 432036.33</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____)	1. <u>Phalaris aquatica</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
	2. <u>Lolium multiflorum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
	3. <u>Vulpia myuros</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
	4. <u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
	5. <u>Poa trivialis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
	6. <u>Hypochaeris radicata</u>	<u>5</u>	<u>N</u>	<u>NI</u>
	7. <u>Cardium maritimum</u>	<u>5</u>	<u>N</u>	<u>NI</u>
	8. <u>Cyperus eragrostis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
	9. <u>Juncus tenuis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
	10. _____	_____	_____	_____
	11. _____	_____	_____	_____
= Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DP11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR3/1	85	7.5YR4/6	15	C	M	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input checked="" type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7)</p>
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**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SACP City/County: Humboldt Sampling Date: DP12 2  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 5-13-11  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 25%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No _____	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No _____		
Wetland Hydrology Present?	Yes _____ No _____		
Remarks:	<u>utm N 4437670.29 E 443049.98</u>		

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>10' - rad</u> )				Column Totals:	_____ (A) _____ (B)
1. <u><i>Vulpia myuros</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = _____	
2. <u><i>Avena sativa</i></u>	<u>5</u>	<u>N</u>	<u>NI</u>	Hydrophytic Vegetation Indicators:	
3. <u><i>Trifolium dubium</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
4. <u><i>Hordeum marinum</i></u>	<u>5</u>	<u>N</u>	<u>NI</u>	___ 2 - Dominance Test is >50%	
5. <u><i>Poa trivialis</i></u>	<u>3</u>	<u>N</u>	<u>FACW</u>	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
6. <u><i>Phalaris aquatica</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7. <u><i>Lolium multiflorum</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
8. <u><i>Trifolium subterranean</i></u>	<u>10</u>	<u>Y</u>	<u>NI</u>	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
9. <u><i>Briza maxima</i></u>	<u>10</u>	<u>Y</u>	<u>NI</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present?	
11. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>	
= Total Cover				_____	
Woody Vine Stratum (Plot size: _____)				_____	
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
= Total Cover				_____	
% Bare Ground in Herb Stratum _____				_____	
Remarks:					

**SOIL**

Sampling Point: DP12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	99	7.5YR 4/6	1	C	M	CL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_

(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SITCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 13  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 25  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> <sup>①</sup> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks: <u>determination based on soil &amp; hydrology</u> <u>UTM N 4437642.13 E 432163.51</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>50</u> x 5 = <u>500</u> Column Totals: <u>100</u> (A) <u>660</u> (B)  Prevalence Index = B/A = <u>6.6</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>10'-rad.</u> )				
1. <u>Trifolium subterranean</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	
2. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Juncus tenuis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Lolium multiflorum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Conyza arvensis</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
6. <u>Hordeum marinum</u>	<u>10</u>	<u>N</u>	<u>NI</u>	
7. <u>Poa trivialis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u>Bromus hordeaceus</u>	<u>10</u>	<u>N</u>	<u>NI</u>	
9. <u>Avena fatua</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks: Area may meet hyd. veg criteria later in season as Vulpia & Trifolium dry up

**SOIL**

Sampling Point: DP13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR3/1	98	7.5YR4/6	2	C	M	i	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-13-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP14  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 25%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: <u>UTM N 4437639.65</u> <u>E 432177.46</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____	_____	_____	_____		
_____ = Total Cover				<b>Prevalence Index worksheet:</b>	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	_____	_____	_____	OBL species _____ x 1 = _____	
2. _____	_____	_____	_____	FACW species _____ x 2 = _____	
3. _____	_____	_____	_____	FAC species _____ x 3 = _____	
4. _____	_____	_____	_____	FACU species _____ x 4 = _____	
5. _____	_____	_____	_____	UPL species _____ x 5 = _____	
_____ = Total Cover				Column Totals: _____ (A) _____ (B)	
Herb Stratum (Plot size: <u>10' radi</u> )				Prevalence Index = B/A = _____	
1. <u>Vulpia myuros</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Triticum subterranean</u>	<u>30</u>	<u>Y</u>	<u>NI</u>		
3. <u>Bromus hordeaceus</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
4. <u>Arena fatua</u>	<u>20</u>	<u>Y</u>	<u>NI</u>		
5. <u>Conyza arvensis</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks:



**SOIL**

Sampling Point: DPI4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/1	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

**Field Observations:**

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-23-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 15  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 25%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:	<u>utm N 4437918.06 E 432160.03</u>		

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Fraxinus latifolia</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
<u>10</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
				Column Totals:	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Carex obovata</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Juncus patches</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	2 - Dominance Test is >50%	
3. <u>Rubus discolor</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Rubus ursinus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>100</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____
1. _____					
2. _____					
% Bare Ground in Herb Stratum _____					
Remarks:					

**SOIL**

Sampling Point: DP15

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-6	10Yr3/1	80	7.5Yr4/6	20	C	m	L

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?    Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?    Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 5-23-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 16  
 Investigator(s): Ryle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 4.5%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Granny Creek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <u>UTM N 4437931.98</u> <u>E 432135.59</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>Gen Habitat</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Quercus kelloggii</u>	<u>40</u>	<u>Y</u>	<u>NI</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>Umbellularia californica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40</u> (A/B)
4. _____					
<u>80</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
				Column Totals:	_____ (A) _____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10'-rad</u> )				Hydrophytic Vegetation Indicators:	
1. <u>Melica subulata</u>	<u>15</u>	<u>Y</u>	<u>NI</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Sanicula crassicaulis</u>	<u>5</u>		<u>NI</u>	2 - Dominance Test is >50%	
3. <u>Osmorhiza chilensis</u>	<u>5</u>		<u>NI</u>	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Lonicera hispidula</u>	<u>5</u>		<u>NI</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Rubus discolor</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. <u>Taraxacum officinale</u>	<u>5</u>		<u>NI</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. <u>Polystichum munitum</u>	<u>5</u>		<u>NI</u>		
8. <u>Stachys arvensis</u>	<u>5</u>		<u>OBL</u>		
9. <u>Lathyrus vestitus</u>	<u>15</u>	<u>Y</u>	<u>NI</u>		
10. _____					
11. _____					
<u>80</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____				Yes _____ No <input checked="" type="checkbox"/>	
2. _____					
<u>20</u> = Total Cover					
Remarks:					

**SOIL**

Sampling Point: DP16

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR2/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 7-8-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP17  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 45%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Parkland-Gardenville NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>utm N 4437247.08</u> <u>E 431426.07</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b>	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____				OBL species _____ x 1 = _____	
2. _____				FACW species _____ x 2 = _____	
3. _____				FAC species _____ x 3 = _____	
4. _____				FACU species _____ x 4 = _____	
5. _____				UPL species _____ x 5 = _____	
_____ = Total Cover				Column Totals:	_____ (A) _____ (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____	
1. <u>Anthoxanthum odoratum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Erechtoscholzia cal.</u>	<u>20</u>	<u>Y</u>	<u>NI</u>		
3. <u>Rumex acetosella</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
4. <u>Dactylis glomerata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Aira canyophyllea</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
6. <u>Arena fatua</u>	<u>20</u>	<u>Y</u>	<u>NI</u>		
7. <u>Convolvulus arvensis</u>	<u>2</u>	<u>N</u>	<u>NI</u>		
8. <u>Bromus diandrus</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
9. <u>Bromus hordeaceus</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
10. <u>Trifolium laxa</u>	<u>2</u>	<u>N</u>	<u>NI</u>		
11. _____					
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b>	
1. _____				Yes _____	No <input checked="" type="checkbox"/>
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks:

**SOIL**

Sampling Point: DP17

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 2/2	100					CL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)   | <input type="checkbox"/> Drainage Patterns (B10)                           |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                              | <input type="checkbox"/> Dry-Season Water Table (C2)                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                               | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)         |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)            | <input type="checkbox"/> Geomorphic Position (D2)                          |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                            | <input type="checkbox"/> Shallow Aquitard (D3)                             |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)               | <input type="checkbox"/> FAC-Neutral Test (D5)                             |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)                  | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)                    |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)                               | <input type="checkbox"/> Frost-Heave Hummocks (D7)                         |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |   |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |   |  |

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 7-8-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP18  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): < 5%  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Parkland Garberville NWI classification: Freshwater Emergent  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>utm N 4437282.31</u> <u>E 431408.71</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b>	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____				OBL species _____	x 1 = _____
2. _____				FACW species _____	x 2 = _____
3. _____				FAC species _____	x 3 = _____
4. _____				FACU species _____	x 4 = _____
5. _____				UPL species _____	x 5 = _____
_____ = Total Cover				Column Totals:	_____ (A) _____ (B)
Herb Stratum (Plot size: <u>10' - rad</u> )				Prevalence Index = B/A = _____	
1. <u>Juncus patens</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Carex subfusca</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Limnathes douglesi</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>		
4. <u>Mentha pelugium</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
5. <u>Anthoxanthum odoratum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
6. <u>Agrostis tenuis</u>	<u>10</u>	<u>N</u>	<u>NI</u>		
7. <u>Rhalaris aquatics</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
8. _____					
9. _____					
10. _____					
11. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: \_\_\_\_\_



**SOIL**

Sampling Point: DP18

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10yr 2/2	90	75yr 5/6	10	C	M	CL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (2 or more required)</b>
<u>Primary Indicators (minimum of one required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 7-8-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 19  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ± none Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Parkland-Garderville NWI classification: Freshwater Emerg.  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>UTM W 4937282.66</u> <u>E 431330.63</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
= Total Cover					
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				Total % Cover of: _____ Multiply by: _____	
1. _____	_____	_____	_____	OBL species _____	x 1 = _____
2. _____	_____	_____	_____	FACW species _____	x 2 = _____
3. _____	_____	_____	_____	FAC species _____	x 3 = _____
4. _____	_____	_____	_____	FACU species _____	x 4 = _____
5. _____	_____	_____	_____	UPL species _____	x 5 = _____
= Total Cover				Column Totals: _____	(A) _____ (B) _____
<b>Herb Stratum (Plot size: <u>10' x 10'</u>)</b>				Prevalence Index = B/A = _____	
1. <u>Phalaris aquatica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2. <u>Mentha pulegium</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Anthoxanthum odoratum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
4. <u>Juncus tenuis</u>	<u>10</u>	_____	<u>FACW</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____	1 - Rapid Test for Hydrophytic Vegetation	
7. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
8. _____	_____	_____	_____	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
9. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
10. _____	_____	_____	_____	5 - Wetland Non-Vascular Plants <sup>1</sup>	
11. _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<u>100</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Woody Vine Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Present?</b>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
<b>% Bare Ground in Herb Stratum _____</b>					
Remarks: _____					

**SOIL**

Sampling Point: DP19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-8	10-r3/1	80	7.5-r4/6	20	C	m	L		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches): \_\_\_\_\_

Water Table Present?    Yes     No     Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe)    Yes     No     Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?**    Yes     No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 7-8-11  
 Applicant/Owner: SHCP State: CA Sampling Point: DP20  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Parkland - Garberville NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <u>UTM N 4437298.88</u> <u>E 431324.02</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>25</u> (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
				OBL species _____	x 1 = _____
				FACW species _____	x 2 = _____
				FAC species _____	x 3 = _____
				FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
				Column Totals:	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
= Total Cover				Hydrophytic Vegetation Indicators:	
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ = Total Cover				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Herb Stratum (Plot size: <u>10' x 10'</u> ) 1. <u>Dactylis glomerata</u> 20 Y FACW 2. <u>Anthoxanthum odoratum</u> 20 Y FACW 3. <u>Agrostis capillaris</u> 20 Y NI 4. <u>Hordeum marinum</u> 10 NI 5. <u>Vulpia myuros</u> 10 FACW 6. <u>Dantharia californica</u> 20 Y FACW 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ = Total Cover				<input type="checkbox"/> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
% Bare Ground in Herb Stratum _____					
Remarks: _____					

**SOIL**

Sampling Point: DPZO

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								Remarks
Depth (inches)	Matrix		Redox Features			Texture		
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10yr 3/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_ (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP21  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NA083  
 Soil Map Unit Name: Grannycreek - Parkland NW classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation , Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>?</u>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>Area recently mowed for hay</u> <u>utm N 4437365.76 E 431810.05</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
4. _____	_____	_____	_____		
= Total Cover					
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
= Total Cover				UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Eschscholia calif</u>	_____	_____	<u>NI</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Rubus ursinus</u>	_____	_____	<u>FAC</u>	___ 2 - Dominance Test is >50%	
3. <u>Arenaria litua</u>	_____	_____	<u>NI</u>	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. _____	_____	_____	_____	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____ No <u>0</u>	
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: Area recently mowed most plants not IDable

**SOIL**

Sampling Point: DP 21

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2	100						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (2 or more required)</b>
<u>Primary Indicators (minimum of one required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP22  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation , Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks:	<u>UTM N 4437360.04</u> <u>E 431781.43</u>				

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Herb Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. <u>Mentha perfoliata</u>	_____	_____	<u>OBL</u>	
2. <u>Convolvulus arvensis</u>	_____	_____	<u>NI</u>	
3. <u>Phalaris aquatica</u>	_____	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum _____				

Remarks: Area recently mowed for hay. Most plants not IDable.



**SOIL**

Sampling Point: DP 22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-7	10Yr 3/1	90	7.5Yr 4/6	10	-	m	L

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 23  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): \_\_\_\_\_  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD83  
 Soil Map Unit Name: Grannycreek Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>UTM N 4437439.06</u> <u>E 431665.23</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>33</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>10' rad</u> )				Column Totals:	_____ (A) _____ (B)
1. <u>Dactylis glomeratum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = _____	
2. <u>Phalaris aquatica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3. <u>Agralis capillaris</u>	<u>10</u>	_____	<u>MI</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Vulpia myuros</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	___ 2 - Dominance Test is >50%	
5. <u>Briqa minor</u>	<u>10</u>	_____	<u>FACW</u>	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
6. <u>Hypericum perforatum</u>	<u>0</u>	_____	<u>MI</u>	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
8. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
9. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks: _____					

**SOIL**

Sampling Point: DP23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10y13/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 2 cm Muck (A10)		
		<input type="checkbox"/> Rec Parent Material (TF2)
		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No \_\_\_\_\_    Depth (inches): \_\_\_\_\_

Water Table Present?    Yes \_\_\_\_\_    No \_\_\_\_\_    Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe)    Yes \_\_\_\_\_    No \_\_\_\_\_    Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?**    Yes \_\_\_\_\_    No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SACP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 24  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Granny Creek - Parkland NW classification: Freshwater Emerg.  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>utm N 4437465.85</u> <u>E 431724.11</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66</u> (A/B)
4. _____					
= Total Cover					
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____					
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
				Column Totals:	_____ (A) _____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10' rad</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Phalaris aquatica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>		
2. <u>Agralis capillaris</u>	<u>20</u>	<u>Y</u>	<u>NI</u>		
3. <u>Juncus patens</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
4. <u>Bromus hordeaceus</u>	<u>2</u>				
5. <u>Briza minor</u>	<u>2</u>				
6. <u>Rumex pulcher</u>	<u>2</u>				
7. <u>Hypochaeris radicata</u>	<u>2</u>				
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____					
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DP 24

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10yr3/1	90	7.5yr4/6	10	C	M	LL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_

(includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SITCP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: DP 25  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): ditch Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Garderville - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks:	<u>utm N 4437559.38</u> <u>E 431602.56</u>				

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals:	_____ (A) _____ (B)
1. <u>Mentha palugium</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index = B/A = _____	
2. <u>Convolvulus arvensis</u>	<u>5</u>		<u>NI</u>	Hydrophytic Vegetation Indicators:	
3. _____	_____	_____	_____	1 - Rapid Test for Hydrophytic Vegetation	
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5. _____	_____	_____	_____	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
6. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7. _____	_____	_____	_____	5 - Wetland Non-Vascular Plants <sup>1</sup>	
8. _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
9. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present?	
11. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____	
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>5</u>					
Remarks:					

**SOIL**

Sampling Point: DP25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10yr3/1	90	10yr4/6	10	C	M	L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: SHCP City/County: Humboldt Sampling Date: 8-25-11  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: 26  
 Investigator(s): Kyle Wear Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Grassy-creek - Parkland NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>UTM N 4,437,567.74</u> <u>E 431,600.00</u>					

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover				Total % Cover of: _____ Multiply by:	
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Dactylis glomerata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Agrostis capillaris</u>	<u>30</u>	<u>Y</u>	<u>NI</u>	___ 2 - Dominance Test is >50%	
3. <u>Phalaris aquatica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	___ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Hordium marinum</u>	<u>10</u>	_____	<u>NI</u>	___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks: \_\_\_\_\_



**SOIL**

Sampling Point: 26

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10yr 3/2	100						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



# **Special-Status Wildlife Survey Report**

Southern Humboldt Community Park

Humboldt County, California

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*Submitted: December 3, 2012*

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## Summary

The Southern Humboldt Community Park is in the process of developing an Environmental Impact Report in support of proposed changes to pertinent zoning classifications and amendments to the Humboldt County Plan land use designations to allow for increased public use and limited, phased development at the site. Wildlife surveys were conducted by J. Brett Lovelace (J. B. Lovelace & Associates) on June 1-2, 2012, to identify the presence of Special-Status wildlife species that may occur on the property in question and address relevant conservation issues. Eight (8) Special-Status wildlife species were observed utilizing various grassland and forested habitats on the property. Suitable habitat exists within the study area for an additional twenty (20) Special-Status wildlife species which were not observed during this fieldwork, but that have a high likelihood to occur based on habitat characteristics and local species occurrence data. No state or federally listed Threatened or Endangered species were encountered during this effort.

## 1.0 Introduction

The Southern Humboldt Community Park (SHCP) is developing an Environmental Impact Report (EIR) as part of their proposal to amend the Humboldt County General Plan to change current land use designations and zoning classifications of portions of the property, and to allow for limited physical development of the site. The proposed changes would allow for a more diverse public, private, and non-profit utilization of the Park, and would also provide for the on-going maintenance of existing facilities as well as the creation and/or expansion of new infrastructure.

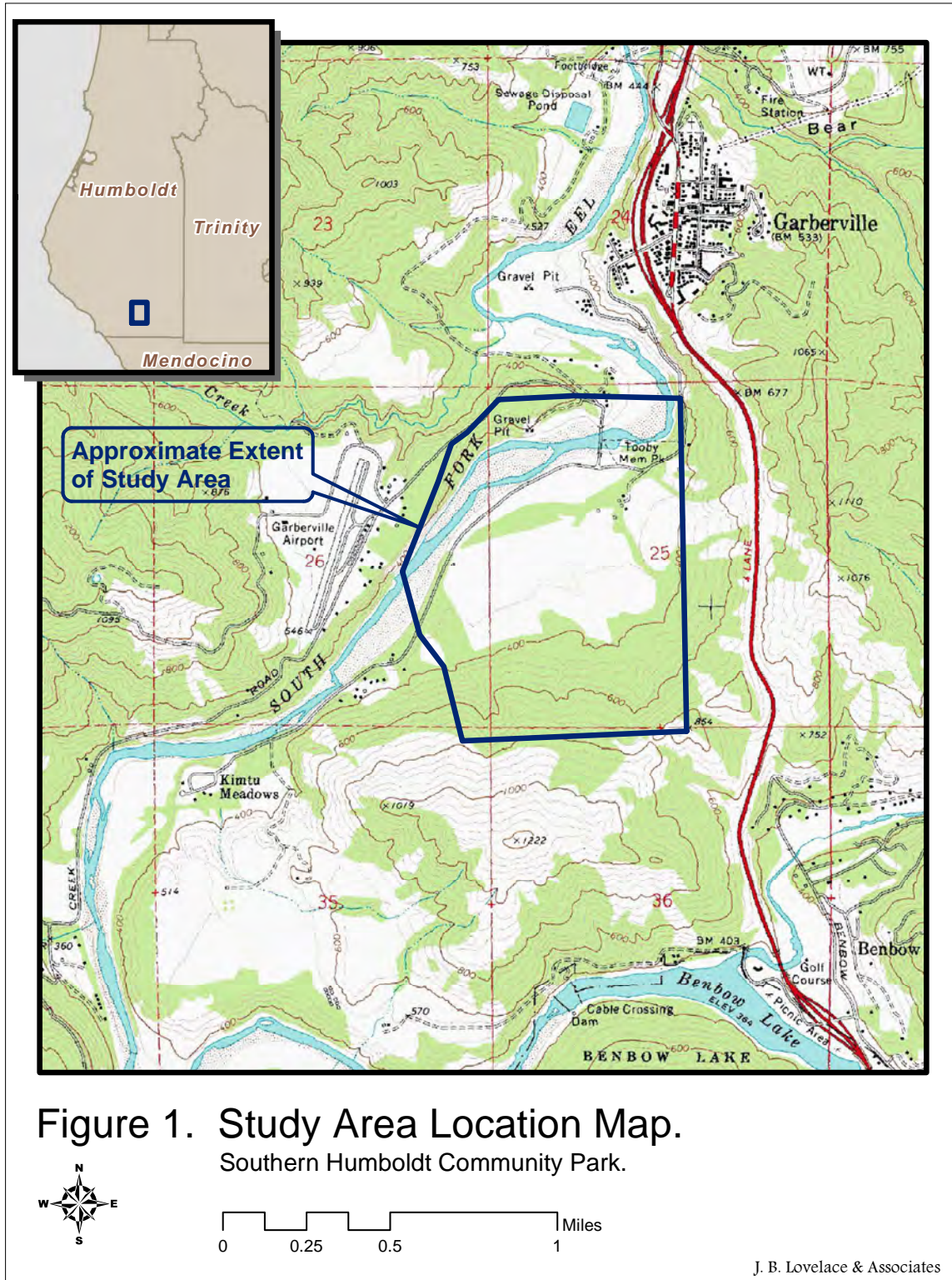
Specific proposed amendments to the Humboldt County General Plan land use designations include the conversion of some portions of the Park currently designated as Agricultural Lands (AL) and Agricultural Rural (AR) to Public Recreation (PR). Additional modifications to pertinent zoning classifications would change portions of the property zoned as Agricultural Exclusive (AE) to Public Facilities (PF). Proposals also include the acquisition of Conditional Use and Special Use Permits for specific activities associated with various community events to be held within areas of the Park to be designated as Public Facilities (PF). A more detailed project description, including specific locations and quantifications of areas subject to these proposed changes can be found in SHCP's Environmental Impact Report (GHD in prep.).

In 2002, Mad River Biologists conducted a feasibility study, which characterized the biological resources on the property and included a general assessment of the range of sensitive botanical and wildlife concerns at the site (Lovelace et al. 2002). This document also addressed associated biological constraints important for consideration in future land management decisions. More recently, a botanical survey, wetland delineation, and stream assessment was conducted to more thoroughly document sensitive botanical, wetland, and riparian resources within the study area (Wear 2011). To further guide future management decisions for the Park, SHCP retained the services of J. B. Lovelace & Associates to conduct field surveys to document the current presence of Special-Status wildlife species, and assess their potential utilization of the property. This report documents that effort, the results of the field surveys, and provides recommendations to avoid and/or minimize disturbances to Special Status wildlife species encountered, and/or that have the potential to occur at the site.

## 2.0 Site Description

### **2.1 Study Area Location**

The Southern Humboldt Community Park (Figure 1) consists of 405.7 acres, and is located between the communities of Garberville and Benbow in southern Humboldt County, California; in portions of Sections 25 and 26, T4S, R3E (Humboldt Base Meridian), in the Garberville U.S. Geological Survey



[USGS] Quadrangle. The Park is accessed by Sprowl Creek Road and Kimtu Road, and the South Fork of the Eel River flows through much of the western and northern portions of the property.

Elevation at the Park ranges from approximately 320-400 feet (97-122 meters) in the valley bottom along the South Fork of the Eel River, to ~1,000 feet (3,300 meters) at the highest locations on adjacent forested slopes. All zoning and land-use designation changes are proposed for portions of the property in the valley bottom and a short distance (< 350 feet) up the forested slope.

## 2.2 Historic & Current Land Use

The Southern Humboldt Community Park was formerly part of the larger 10,000-acre "Tooby Ranch," which was historically operated as a sheep and beef cattle ranch. Since its acquisition, the SHCP has sought to providing recreational opportunities to the public, in addition to continuing to dedicate some of the property to agricultural production. Current recreational use includes hiking, mountain biking, equestrian access, Frisbee-golf, a skate park, picnicking, river access at Tooby Memorial Park, and special events. The Park is also frequented by the public for bird-watching opportunities and wildlife viewing, and has been identified as a local birding "hotspot" owing to the diversity of bird species known to utilize various habitats associated with the property (eBird 2012).

Portions of the grassland-dominated valley bottom continue to be utilized for agricultural purposes such as organic row-crop production, hay production, and limited livestock grazing. Existing buildings and infrastructure include a caretaker residence, along with barns and associated outbuildings.

## 2.3 Vegetation & Habitat Characteristics

Vegetation in the study area was most recently described by Wear (2011), using the current vegetation classification system provided in *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009). Wear's (2011) description of the vegetation alliances is included below (some modifications to Wear's treatment reflect recent taxonomical reorganization introduced with the updated *The Jepson Manual: Vascular Plants of California, Second Edition* [Baldwin et al. 2012]).

### Non-native Grasslands

The grasslands occupying a majority of the study area are dominated by non-native grasses such as orchard grass (*Dactylis glomerata*), soft chess (*Bromus hordeaceus*), sweet vernal grass (*Anthoxanthum odoratum*), Italian ryegrass (*Festuca perennis*), rat's tail fescue (*Festuca myuros*), Harding grass (*Phalaris aquatica*), wild oat grass (*Avena fatua*), and colonial bent grass (*Agrostis capillaris*).

### Western Rush Marsh (*Juncus patens* Provisional Alliance)

These marshes are dominated by western rush (*Juncus patens*). Other associated species include Harding grass (*Phalaris aquatica*), and pennyroyal (*Mentha pulegium*).

### Slough Sedge Swards (*Carex obnupta* Herbaceous Alliance)

These areas are dominated by slough sedge (*Carex obnupta*). Western rush (*Juncus patens*), diffuse rush (*Juncus effusus*), and California blackberry (*Rubus ursinus*) are common associated species. A portion of the study area includes stands of slough sedge that are under a canopy of Oregon ash (*Fraxinus latifolia*), coast redwood (*Sequoia sempervirens*), and other trees.

### Riparian Vegetation

Riparian habitat along the South Fork Eel River includes a canopy of black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), and willows (*Salix* spp.). Understory species include California wild grape (*Vitis californica*) and Himalayan blackberry (*Rubus armeniacus*). This area is classified as Black cottonwood forest (*Populus trichocarpa* Forest Alliance). The riparian canopy along the seasonal streams is often not well developed, but stands of willows (*Salix* spp.) and Oregon ash (*Fraxinus*

*latifolia*) are present. Stands of willows (*Salix* spp.) and Oregon ash (*Fraxinus latifolia*) are also associated with other wetland habitats on the property.

#### California Bay Forest (*Umbellularia californica* Forest Alliance)

The southern portion and the northern edge of the Study Area include forests dominated by California bay (*Umbellularia californica*). Black oak (*Quercus kelloggii*) and madrone (*Arbutus menziesii*) are also common. The sparse understory in these areas includes species such as poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*), trail plant (*Adenocaulon bicolor*), and mountain sweet cicely (*Osmorhiza berteroi*).

#### Redwood Forest (*Sequoia sempervirens* Forests Alliance)

The forest at Tooby Memorial Park is dominated by coast redwood (*Sequoia sempervirens*). Characteristic understory species include sword fern (*Polystichum munitum*), redwood sorrel (*Oxalis oregana*), and Hooker's fairy bells (*Disporum hookeri*).

#### Himalayan Blackberry Brambles (*Rubus armeniacus* Semi-Natural Shrubland Stands)

These areas are characterized by mostly monotypic stands of Himalayan blackberry (*Rubus armeniacus*) and occur throughout the study area.

#### Mixed Douglas-fir and Hardwood Forests

In addition to the vegetation alliances described by Wear (2011), are the forested slopes with a predominantly north or northwesterly aspect in the southern portion of the study area. California Black Oak Forests (*Quercus kelloggii* Forest Alliance) occurs along the lower to middle slopes in this portion of the property. It is characterized by a mixed species composition including black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), Pacific madrone (*Arbutus menziesii*), and Douglas-fir (*Pseudotsuga menziesii*). The understory is fairly open with low shrub cover made up primarily of hazelnut (*Corylus cornuta*) and poison oak (*Toxicodendron diversilobum*). Herbaceous cover in the understory consists of various woodland species such as wood strawberry (*Fragaria vesca*), sanicle (*Sanicula crassicaulis*), mountain sweet cicely (*Osmorhiza berteroi*), honeysuckle (*Lonicera hispidula*), trail plant (*Adenocaulon bicolor*), yerba buena (*Satureja douglasii*), sword fern (*Polystichum munitum*), and wood fern (*Dryopteris arguta*).

Beginning a short distance up the slope, the California Black Oak Forest transitions into Douglas-Fir Forests (*Pseudotsuga menziesii* Forest Alliance), which is the dominant forest type encountered in this part of the study area. This habitat type occurs on the middle to upper slopes in the southern, and south-eastern portion of the property. Douglas-fir (*Pseudotsuga menziesii*) is the dominant tree species of this alliance, though it does coexist with other associates such as black oak (*Quercus kelloggii*), California bay (*Umbellularia californica*), canyon live-oak (*Quercus chrysolepis*), tan oak (*Notholithocarpus densiflorus*), Pacific madrone (*Arbutus menziesii*), and big leaf maple (*Acer macrophyllum*). The density of the understory varies, and is composed of California hazel (*Corylus cornuta*), canyon live-oak (*Quercus chrysolepis*), poison oak (*Toxicodendron diversilobum*), manzanita (*Arctostaphylos* sp.), toyon (*Heteromeles arbutifolia*), sword fern (*Polystichum munitum*), wood fern (*Dryopteris arguta*), and California blackberry (*Rubus ursinus*).

Some portions of this forested slope include stands with an increase in the dominance and frequency of mature Douglas-fir trees. These locations exhibit some late-seral and/or old-growth characteristics, including a multi-layered canopy with frequent gaps, broken-top trees, and snags, all of which provide a greater degree of stand structural complexity.



### 3.0 Methodology

#### **3.1 Preliminary Research**

The potential for the occurrence of Special-Status wildlife species at Southern Humboldt Community Park was evaluated using available database information, consultation with local resource agency personnel (Van Hattem pers. comm.), review of aerial photography, and site reconnaissance. Preliminary investigations included a query of the California Department of Fish & Game's Natural Diversity Database (CNDDDB) occurrence records within the Garberville, and eight surrounding USGS quadrangles (CNDDDB 2012), the U.S. Fish & Wildlife Service's (USFWS) list for special-status species for Humboldt County (USFWS 2012), the *Atlas of the Breeding Birds of Humboldt County, California* (Hunter et al. 2005), and occurrence data obtained from the Cornell Lab of Ornithology & the National Audubon Society's eBird online database (eBird 2012). A treatment of species' conservation status definitions and regulatory background is provided in Appendix A.

Using the results of this initial research, a comprehensive "target list" of Special-Status species identified for the study area was refined based on information obtained through site visits, the review of species account data, and correspondence with local experts. Some species resulting from database queries were omitted from the refined target list based on a lack of suitable habitat within the study area, or due to other relevant criteria that warranted their dismissal. Alternatively, some additional species were included based on distribution information in combination with known utilization of habitats similar to those found within the study area. The list of species generated from the aforementioned database queries is included as Appendix B.

#### **3.2 Fieldwork**

Focused wildlife field surveys were performed by J. Brett Lovelace, M.A. (J.B. Lovelace & Associates) on June 1 & 2, 2012 to assess the current suitability of habitat within the study area to support Special-Status wildlife species and to document the presence of any such species encountered. These focused wildlife surveys involved an intuitive, meandering transect (on foot) throughout each distinct habitat type found throughout the study area. Wildlife species were located and identified based on direct, visual and auditory (e.g., calls and songs) observations, as well as indirect observations of tracks, scat, feathers, etc. Binoculars were used to assist in visual identification. Surveys were conducted during the late afternoon and evening hours on June 1, and from early morning to mid-afternoon on June 2, 2012.

### 4.0 Results

No federal or state listed Threatened or Endangered species were encountered during this effort. Eight (8) Special-Status wildlife species were observed at Southern Humboldt Community Park during the field surveys (Table 1, Appendix D), as were a variety of migratory bird species protected under the Migratory Bird Treaty Act (refer to Appendix A). A complete list of wildlife species observed during the field surveys is included as Appendix C. Suitable habitat also exists within the study area for an additional twenty (20) Special-Status wildlife species (Table 1) that were not observed during the fieldwork, but that are determined to have a high likelihood of occurrence based on habitat characteristics at the site in combination with local species occurrence data.

Each of these species is briefly described in the species accounts below. Included in these accounts is a discussion of the species' occurrence, or potential for occurrence, specific to the study area, along with management recommendations for avoiding impacts to each (if applicable). Species accounts are arranged taxonomically: by class, order, family, genus, and species.

**Table 1.** Special-Status Wildlife Species Table. Included are Special-Status wildlife species observed at Southern Humboldt Community Park during June 1-2, 2012 fieldwork, or that were *not observed*, but *are likely to occur* based on the presence of suitable habitat within the study area. Species are arranged primarily by taxonomic class and secondarily by decreasing conservation status.

Common Name	Species	Conservation Status	Suitable Habitat
<b>OBSERVED DURING JUNE 1-2, 2012 FIELDWORK</b>			
<b>Amphibians</b>			
Foothill Yellow-legged Frog	<i>Rana boylei</i>	DFG:SSC	Exposed, slow-moving, shallow water and gravel/cobble substrata
<b>Birds</b>			
White-tailed Kite	<i>Elanus leucurus</i>	DFG:FP	Trees near forest/meadow edges, and water
Vaux's Swift	<i>Chaetura vauxi</i>	DFG:SSC	Hollow tree cavities and snags
Yellow-breasted Chat	<i>Icteria virens</i>	DFG:SSC	Riparian forest/thickets
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	DFG:SSC	Grassland
Osprey	<i>Pandion haliaetus</i>	DFG:WL	Large mature trees/emergent platforms near water
Sharp-shinned Hawk	<i>Accipiter striatus</i>	DFG:WL	Coniferous-hardwood forest
Black-capped Chickadee	<i>Poecile atricapillus</i>	DFG:WL	Riparian forest/thickets
<b>NOT OBSERVED, BUT LIKELY TO OCCUR BASED ON HABITAT SUITABILITY &amp; OCCURRENCE DATA</b>			
<b>Amphibians</b>			
Northern Red-legged Frog	<i>Rana aurora</i>	DFG:SSC	Freshwater wetlands (inundated/ponds)
<b>Reptiles</b>			
Western Pond Turtle	<i>Emys marmorata</i>	DFG:SSC	Exposed riparian and wetland habitat with emergent vegetation and basking surfaces
<b>Birds</b>			
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	FT/DFG:SSC	Mature coniferous forest
Willow Flycatcher	<i>Empidonax traillii</i>	SE	Riparian forest/thickets
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SE	Large mature trees/emergent platforms near water
Golden Eagle	<i>Aquila chrysaetos</i>	DFG:FP	Canyons/tall trees (breeding)/hunts in grasslands
Peregrine Falcon	<i>Falco peregrinus</i>	DFG:FP	Grassland and wetlands with emergent vegetation
Northern Harrier	<i>Circus cyaneus</i>	DFG:SSC	Grassland and wetlands with emergent vegetation
Merlin	<i>Falco columbarius</i>	DFG:SSC	Winters in area, likely forages in the study area
Olive-sided Flycatcher	<i>Contopus cooperi</i>	DFG:SSC	Forest edges and other ecotones, emergent trees
Purple Martin	<i>Progne subis</i>	DFG:SSC	Snags and cavities, forages over wetlands
Yellow Warbler	<i>Setophaga petechia</i>	DFG:SSC	Riparian forests/thickets
Cooper's Hawk	<i>Accipiter cooperii</i>	DFG:WL	Coniferous-hardwood forest
Great Blue Heron	<i>Ardea herodias</i>	Nesting Colony	Forages in riparian corridors and wetlands
Great Egret	<i>Ardea alba</i>	Nesting Colony	Forages in riparian corridors and wetlands
Snowy Egret	<i>Egretta thula</i>	Nesting Colony	Forages in riparian corridors and wetlands
<b>Mammals</b>			
Pacific Fisher	<i>Martes pennanti pacifica</i> DPS	FC, DFG:SSC	Mature coniferous forest (outside redwood zone)
Sonoma Red Tree Vole	<i>Arborimus pomo</i>	DFG:SSC	Mid-seral/late-seral forests with Douglas-fir
Pallid Bat	<i>Antrozous pallidus</i>	DFG:SSC	Sheltered crevices, cavities, etc./hunts in wetlands
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	DFG:SSC	Sheltered crevices, cavities, etc./hunts in wetlands
<b>Conservation Status Codes Definitions - Refer to Appendix A for additional explanation.</b>			
FT - Federal Threatened			
FE - Federal Endangered			
FCE/T- Federal Candidate Endangered/Threatened			
ST - California State Threatened			
SE - California State Endangered			
SCE/T- Federal Candidate Endangered/Threatened			
DFG:FP - California Dept. Fish & Game Fully Protected			
DFG:SSC - California Dept. Fish & Game Species of Special Concern			
DFG:WL - California Dept. Fish & Game Watch List			
Nesting Colony - California Dept. Fish & Game protected nesting colonies			

## 4.1 Special-Status Wildlife Species Accounts & Associated Management Recommendations

### Amphibians (Amphibia)

#### **Northern Red-legged Frog (*Rana aurora*)**

Northern Red-legged Frog is a Species of Special Concern in California that typically breeds in ponds or in pools in slow-moving streams, with emergent vegetation. Adjacent wetland and upland habitats are often used for temporary foraging, refugia, and dispersal. In northern California, Northern Red-legged Frog breeding occurs in late winter and early spring. At lower elevations, most larvae are completely metamorphosed by late-spring. When not breeding, this species wanders widely in damp riparian and coniferous forests.

The diet of Red-legged Frogs consists primarily of insects captured near water. Factors contributing to the decline of Northern Red-legged Frog include loss of habitat, disease resulting from introduced fungal pathogens (e.g., chitridiomycosis, etc.), and predation by introduced Bullfrogs (*Rana catesbeiana*).

Although this species was not observed during recent field surveys, it is likely that the Northern Red-legged Frog inhabits wetland habitats within the study area. Avoiding substantial disturbances to, and otherwise maintaining the integrity of, the existing wetland habitats on the property will help avoid and/or minimize impacts to this species.

#### **Foothill Yellow-legged Frog (*Rana boylei*)**

The Foothill Yellow-legged Frog is a California Species of Special Concern, and is found in northern California at inland locations along exposed streams and rivers with a significant gravel or cobble component. When disturbed, Foothill Yellow-legged Frog escapes into the water and relies on its cryptic coloration, hiding among vegetation or other substrate along the bottom. It is less likely for this species to travel far from the immediate riparian corridor, though it can occasionally be found along small, sheltered streams.

Breeding typically takes place in late spring, after high water flows have subsided. Eggs are laid in a mass of up to 1,000, and are attached to rocks in shallow, slow-moving water, and larvae transform into adult frogs during early-mid summer. Primary causes for the decline of this species in California are habitat loss, reduced stream-flows, and predation by the introduced Bullfrog (*Rana catesbeiana*).

Foothill Yellow-legged Frog was observed during recent field surveys along the gravel bar of the South Fork of the Eel River (Appendix D). It is likely that this species occurs elsewhere along the South Fork of the Eel River and the smaller riparian corridors within the study area. Avoiding disturbance to riparian habitats, particularly during the species' breeding season will minimize adverse impacts to the Foothill Yellow-legged Frog. Any gravel-extraction activities should occur sufficiently far from the water's edge to prevent introduction of sediment into the river and/or other watercourses.

### Reptiles (Reptilia)

#### **Western Pond Turtle (*Emys marmorata*)**

The Western Pond Turtle is a Species of Special Concern in California, and is the only native aquatic turtle in California. It is primarily found west of the Cascade and Sierra Nevada Mountains, where it occurs in, or near, slow-moving waters such as ponds, small lakes, reservoirs, and quiet streams or rivers. Individuals can be found basking on rocks, logs or on the bank near concealing aquatic or emergent vegetation. Such basking perches are an important component of their habitat needs. Along the north coast of California, Western Pond Turtles are sparsely distributed, and found primarily at inland ponds or along rivers outside of the coastal fog belt, due to their thermoregulatory requirements.

Females lay a clutch of 5-11 eggs between April and August in burrows excavated from sandy or silty substrate (typically in a south-facing slope), and sometimes at surprising distance from their home water. The diet of Western Pond Turtles consists of aquatic plants, fish, invertebrates, and carrion.

No Western Pond Turtles were observed during recent field surveys, though it is highly likely that this species occurs within the study area, along the South Fork of the Eel River. This species has been documented further south (~6.5 miles) along the South Fork of the Eel River (CNDDDB 2012). Avoidance of significant habitat alteration to wetland and riparian habitats where the species might nest, particularly during the summer breeding season should minimize disturbance and adverse impacts to this species.

### Birds (Aves)

#### **Great Blue Heron (*Ardea herodias*)**

Great Blue Herons are colonial nesters, and fairly conspicuous birds. For this reason, nest-site selection often includes isolating factors making nests difficult to access by predators (e.g., trees on islands, isolated branches high above the ground, other forms of concealment, etc.). This species has historically suffered from extensive over-hunting in their nesting areas, and though in some instances some populations may be recovering (due to enforced protection of nesting sites), their current or historic declining trend, combined with their vulnerability during the breeding season warrant continued protection of nesting sites or “rookeries.”

Great Blue Herons were not observed during the field surveys, but are occasionally observed inland along the Eel River and in adjacent wetland habitats. Although confirmed nesting has been reported from the vicinity (Hunter et al. 2005), no nesting or roosting sites are known from the immediate study area. In the unlikely event that a nesting or roosting site be established within the study area, disturbances near such sites should be avoided.

#### **Great Egret (*Ardea alba*)**

Great Egret is a large wading bird with striking plumage. Suffering massive over-hunting in North America around the turn of the twentieth century, this species has made a dramatic comeback. Though in some instances some populations may be recovering (due to enforced protection of nesting sites), their current or historic declining trend, combined with their vulnerability during the breeding season warrant continued protection of nesting sites or “rookeries.” These nesting sites or “rookeries” are typically found in the tops of tall trees or those with few branches in the lower canopy to avoid predation by mammalian predators.

Great Egrets were not observed during the field surveys, but are occasionally observed inland along the Eel River and in adjacent wetland habitats. No nesting or roosting sites are known near the study area. In the unlikely event that a nesting or roosting site be established within the study area, disturbances at such sites should be avoided.

#### **Snowy Egret (*Egretta thula*)**

Snowy Egret is a medium-sized wading bird with striking plumage. Suffering massive over-hunting in North America around the turn of the twentieth century, this species has made a dramatic comeback. Snowy Egret is a gregarious bird and colonial nester. Although in some instances some populations of Snowy Egret may be recovering (due to enforced protection of nesting sites), their current or historic declining trend, combined with their vulnerability during the breeding season warrant on-going protection of nesting sites or “rookeries.” These nesting sites or “rookeries” are typically found in the

tops of tall trees or those with few branches in the lower canopy to avoid predation by mammalian predators.

Snowy Egrets were not observed during the field surveys, but are occasionally observed inland along the Eel River and in adjacent wetland habitats. No nesting or roosting sites are known near the study area. In the unlikely event that a nesting or roosting site be established within the study area, disturbances at such sites should be avoided.

### **Northern Harrier (*Circus cyaneus*)**

The Northern Harrier (*Circus cyaneus*) has declined throughout North America in recent history. Losses have been attributed to hunting, habitat loss resulting from urbanization, and pesticide exposure. In northwestern California this species is a common migrant and winter visitor, but uncommon as a breeder and summer resident, although breeding records do exist near Humboldt Bay. In addition to being a California Species of Special Concern, breeding Northern Harriers are further protected under Section 3503.5 of the California Fish & Game Code (“CDFG Code”).

The Northern Harrier hunts while flying low across fields, meadows, and marshes, utilizing sound as well as sight to locate prey. They typically nest on the ground in shrubs or other emergent vegetation, and in northern California, their breeding season extends from April 15 – September 15.

Northern Harrier was not observed during the field surveys, but has regularly been reported foraging over the open, grassland-dominated habitats in the study area (eBird 2012, SHCP staff pers. com.). While this species is expected to utilize these habitats for foraging purposes, no nests are known from the vicinity. Management recommendations include the maintenance of open grasslands within the study area to provide for habitat for prey species, and pre-disturbance surveys early in the nesting season to assess the presence of breeding birds in these areas if any significant modification to breeding habitat will occur during the nesting period.

### **White-tailed Kite (*Elanus leucurus*)**

This raptor is an occasional resident in much of northwestern California, favoring coastal lowlands, river bottoms, medium-intensity agricultural lands, and oak savannah. The White-tailed Kite hunts by hovering or “kiting,” and then diving to catch its prey. They nest and roost in trees or tall shrubs, often near the ecotone between forests and grasslands. On the brink of extinction early in the twentieth century, the species now appears to be expanding its range. White-tailed Kites are currently considered to be moderately uncommon throughout northern California, and are most likely encountered where open fields provide habitat for voles, their primary prey. White-tailed Kite is a “Fully Protected” species in California.

A pair of White-tailed Kites was observed on both days during recent field surveys, foraging in the grassland habitats near the forest edge in the southern portion of the property and roosting at a mid-slope location in the adjacent Douglas-fir forest (Appendix D). Although no nest was located during the fieldwork, the persistent presence of an interacting pair of birds during the breeding season indicates that they are probably breeding within the suitable forested habitat along the forest/grassland edge. In addition to being a Fully Protected species in California, Section 3503.5 of the California Department of Fish & Game Code affords additional protection for nesting raptors. To minimize the risk of disturbance to breeding White-tailed Kites, significant disturbances should be avoided during the nesting period for the species (March 1 – August 15) in the vicinity of coniferous-forested habitats.

In the event that significant disturbances must take place during this time period, pre-disturbance surveys are recommended to assess the breeding status of White-tailed Kites within the study area. Such surveys should be conducted in all areas of suitable habitat early in the breeding season, and prior to any disturbance.

### **Cooper's Hawk (*Accipiter cooperii*)**

The Cooper's Hawk occurs throughout North America. It is found in a wide variety of forested and shrub habitats where it preys primarily on songbirds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of its major prey: songbirds. Locally, the Cooper's Hawk is an uncommon winter resident and rare summer breeder. In addition to being on CDFG's Watch List, breeding Cooper's Hawks are further protected under Section 3503.5 of the CDFG Code.

In at least one investigation, Cooper's Hawks in northern California have been found to select nest sites in mixed, mid-late successional conifer forests, usually on north-facing slopes, and in close proximity to water (Nelson 2002). In this same study, more than half of documented nests occurred in grand fir (*Abies grandis*), even though this tree species was relatively uncommon in the stands.

At least seventeen nest sites have been reported from southern Humboldt County (Bradley *in* Harris 2006). Although no Cooper's Hawks were observed during recent field surveys, suitable breeding habitat, representative of that described by Nelson (2002) occurs within the study area along the forested slope adjacent to the grasslands. Significant disturbance to this species' breeding habitat should be avoided during the nesting season (March 1 – August 15) to avoid possible impacts to breeding pairs. If such disturbances must take place during the nesting period, pre-disturbance surveys are recommended early in the breeding season to assess the breeding status of this species. Additional management recommendations for this species include the protection and enhancement of riparian habitats to benefit prey (i.e., songbird) populations.

### **Sharp-shinned Hawk (*Accipiter striatus*)**

A close relative of the Cooper's Hawk, the Sharp-shinned Hawk occurs throughout North America. It is found in a wide variety of forested and shrub habitats where it preys primarily on songbirds. Populations in North America have declined due to pesticide residues, habitat destruction, and the general decline of its major prey: songbirds. Locally, the Sharp-shinned Hawk is an uncommon winter resident and rare summer breeder. In addition to being on CDFG's Watch List, breeding Sharp-shinned Hawks are further protected under Section 3503.5 of the CDFG Code.

One study suggests that Sharp-shinned hawks in northern California select nest sites in young- to mid-seral conifer forests with a prominent hardwood component, moderate canopy closure, and in close proximity to water (Nelson 2002). Other references cite a preference for coniferous forests with a significant pine (*Pinus* spp.) and/or spruce (*Picea* spp.) component (Platt 1976, Snyder & Wiley 1976, Quinn 1991). At least seven Sharp-shinned Hawk nest sites have been reported from southern Humboldt County (Bradley *in* Harris 2006), and one has been confirmed within 3 miles of the study area (Hunter et al. 2005).

A single Sharp-shinned Hawk was observed during recent field surveys, flying above the forest--grassland edge along the base of the forested slopes in the southern portion of the study area (Appendix D). Although no nests of this species were observed during recent field surveys, suitable breeding habitat, representative of that described by Nelson (2002) occurs within the study area along the forested slope adjacent to the grasslands. Significant disturbance to this species' breeding habitat

should be avoided during the nesting season (March 15 – August 15) to avoid possible impacts to breeding Sharp-shinned Hawks. If such disturbances must take place during the nesting period, pre-disturbance surveys are recommended early in the breeding season to assess the breeding status of this species. Additional management recommendations for this species include the protection and enhancement of riparian habitats to benefit prey (i.e., songbird) populations.

### **Osprey (*Pandion haliaetus*)**

The Osprey is a well-known fish-eating raptor found throughout the world. Locally, it is a common nesting bird along all major river systems, bays and lakes. Once considered in danger of extinction in North America due in large part to pesticide-related eggshell thinning, it has made an impressive comeback since the decline in use of DDT. In addition to being on CDFG's Watch List, breeding Osprey is further protected under Section 3503.5 of the CDFG Code. A single Osprey was observed flying over the South Fork of the Eel River during recent field surveys (Appendix D), and this species is expected to utilize the study area for foraging and roosting.

No Osprey nests were observed within the study area during this fieldwork, but nests have been reported elsewhere along the South Fork of the Eel River (Hunter et al. 2005), one of which is within 1.5 miles of the Southern Humboldt Community Park near Benbow (CNDDDB 2012). Although no Osprey nests are known to occur within the immediate study area, they could establish a nest in the tall coniferous forests at the site, and significant disturbance to this species' breeding habitat should be avoided during the nesting season (March 1 – August 15) to avoid possible impacts to breeding pairs. If such disturbances must take place during the nesting period, pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds.

### **Golden Eagle (*Aquila chrysaetos*)**

Golden Eagles are large raptors found in various geographical areas throughout the northern hemisphere, usually in regions with expansive views and at least some amount of open habitat (e.g., desert, meadows, prairie, etc.). This "Fully Protected" species is locally uncommon, and is afforded additional protection under the Bald and Golden Eagle Protection Act.

Having exceptional eyesight, these birds usually identify prey from great distances while perching or soaring at significant height. Although capable of taking much larger prey, their diet typically consists of smaller animals such as rabbit, ground squirrels, prairie dogs, turkey, fox, and snakes. Golden Eagles have also been observed consuming carrion such as road-killed black-tail deer (pers. obs.).

The breeding season for Golden Eagle extends from March 15 - September 1. Nest sites characteristically have commanding views, and have been documented from cliffs and tall trees, as well as human-created structures such as bridges, transmission towers, etc. Although no Golden Eagles were observed during recent field surveys, this species has been reported from the immediate vicinity (eBird 2012), and it is possible that individuals occasionally feed from the open grassland habitats within the study area. Records of known and suspected Golden Eagle nests exist within 5 miles of the Southern Humboldt Community Park (Hunter et al. 2005). Typical nesting sites were not observed during the fieldwork, although it is possible that a nest could be established in the forested portion of the site. Management recommendations include the maintenance of open grasslands within the study area to provide for habitat for prey species, and pre-disturbance surveys early in the nesting season to assess the presence of breeding birds in these areas if any significant modification to breeding habitat (e.g. timber harvest, road construction, clearing, or other significant disturbances) will occur during the nesting period.

### **Bald Eagle (*Haliaeetus leucocephalus*)**

Although the Bald Eagle was de-listed in 2007 by the U.S. Fish & Wildlife Service, it remains on the California Endangered Species list, and is a “Fully Protected” species in California. Additional protection is also afforded this species under the Bald and Golden Eagle Protection Act.

The Bald Eagle is found throughout North America and occurs widely in California. Concentrations of Bald Eagles are found where their preferred food is abundant (i.e., in waterfowl wintering areas, and along major salmon streams and rivers with adjacent snags for perching). Large stick nests are usually built near the tops of living or dead trees. Eggs can be laid as early as January, and typical incubation periods range from 30-45 days. Young take their first flight approximately 2.5 months after hatching. Prey typically consists of fish that they catch themselves, or that they steal from Ospreys. Bald Eagles also feed upon a wide variety of small mammals, aquatic birds, and even carrion.

An increase in the local population has been attributed to increased winter sightings (Harris 1996). The closest known nest site of the Bald Eagle was reported in May of 2012 one mile south of the study area, along the South Fork of the Eel River, near Benbow (eBird 2012). Bald Eagles would be expected to occur along the South Fork of the Eel River during the winter, and individuals from the nearby nest likely forage and roost within the study area during the rest of the year. Although no nests were observed within the study area it is conceivable that Bald Eagles could establish a nest in the tall coniferous forests at the Southern Humboldt Community Park in the future.

Significant disturbance to this species' breeding habitat should be avoided during the nesting season (February 15 – September 1) to avoid possible impacts to breeding pairs. If such disturbances must take place during the nesting period, pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds.

### **Merlin (*Falco columbarius*)**

The Merlin is a Species of Special Concern in California. This small falcon is found throughout North America, in a wide variety of open habitats where it preys primarily on smaller birds. Population declines have been attributed to habitat destruction, pesticide residues, and reductions in its primary prey populations (i.e., songbirds). Merlins are known to breed in more northerly latitudes; no known breeding records exist for California.

Merlins are occasionally seen in Humboldt County in the winter and have been reported at the Southern Humboldt Community Park (eBird 2012). This species likely utilizes the study area for foraging during winter months, and management recommendations for this species include the protection and enhancement of riparian habitats to benefit songbird populations.

### **Peregrine Falcon (*Falco peregrinus*)**

Although the Peregrine Falcon was removed from the federal and California Endangered Species lists in 1999 and 2008 (respectively), it remains a “Fully Protected” species in California. Breeding Peregrine Falcons are further protected under Section 3503.5 of the CDFG Code.

The Peregrine Falcon is found throughout North America, usually near aquatic habitats where it preys primarily on water birds such as shorebirds and ducks. Historically, populations in North America have declined due to pesticide residues, nest disturbances (including the illegal removing of chicks for falconry), and habitat destruction. Locally, the Peregrine Falcon is an uncommon winter resident and rare summer breeder.



Although they usually nest in cliffs, they have also been known to nest on human-created structures (e.g., very tall buildings, bridges, etc.). Peregrine Falcons were also reported nesting in large redwood snags at two locations elsewhere in Humboldt County. The breeding period for Peregrine Falcons in northern California typically extends from February 15 – September 15.

No Peregrine Falcons were observed during recent field surveys, though numerous sightings from Southern Humboldt Community Park have been reported (eBird 2012). One documented nest has been reported further downstream, near the South Fork of the Eel River (CNDDDB 2012). Peregrine Falcons are expected to utilize the study area for occasional foraging or roosting. Although some large conifer snags exist within and near the Project area, no nesting sites typically used by Peregrine Falcons (i.e., exposed cliffs) were observed during field surveys, and it is unlikely that the study area supports any Peregrine Falcon nests.

### **Northern Spotted Owl (*Strix occidentalis caurina*)**

The Northern Spotted Owl is a federally listed Threatened species and is a California Species of Special Concern. This medium-sized forest owl occurs along the Pacific Coast of North America from central California to southwestern British Columbia. It is strongly associated with late successional/old-growth coniferous forests with a multi-layered canopy, dense canopy closure, a relatively open understory suitable for sub-canopy flight and foraging, and an otherwise “decadent” stand structure (e.g., snags, broken-topped trees, large woody debris, etc.). In northern California the Northern Spotted Owl also occurs in some relatively younger forests exhibiting elevated levels of stand structural complexity, similar to that found in late-successional/old-growth forests.

The coniferous-forested habitats within the study area are marginally suitable for Northern Spotted Owl roosting and foraging, and possibly for nesting. Some of these areas provide sufficient canopy closure and forest structure for cover, flight, and roosting as well as forest edges where Northern Spotted Owls are known to hunt for Dusky-footed Wood Rats (*Neotoma fuscipes*) and other prey (Franklin et al. 2000, Sakai & Noon 1997).

Six Northern Spotted Owl activity centers have been reported from within five miles of the study area (HUM0282, HUM0477, HUM0756, HUM0757, HUM0927, and HUM 0991); the nearest (HUM0991) being approximately two miles to the west-south-west (CNDDDB 2012). Species-specific, protocol-level surveys for this species were not conducted as part of the recent fieldwork. Although some of this fieldwork did occur during the evening hours of June 1, 2012, no Northern Spotted Owls were detected.

Prior to any activities that would modify the forest habitat, (e.g. timber harvest, road construction, clearing, or other significant disturbances) protocol surveys should be carried out in consultation with the U.S. Fish & Wildlife Service to determine presence and breeding status of this species. Should Northern Spotted Owl be found to be present, appropriate seasonal and habitat modification restrictions should be implemented. Such restrictions may include avoiding disturbances during the breeding season (February 1- August 1) for this species.

### **Vaux’s Swift (*Chaetura vauxi*)**

This small, insectivorous bird breeds throughout the Pacific Northwest as well as in some parts of Mexico and Central America. In northern California however, it is largely restricted to coastal redwood forests, and coniferous forests in the Cascade Mountains. It feeds high in the air, often above the upper canopy, as well as over meadows, wetlands, open water, and other habitats. Vaux’s Swift roosts and nests in hollow trees and snags, especially those that have been burned. This species has also been

known to nest in chimneys or other human-constructed structures (Hunter et al. 2005). The availability of suitable nesting habitat likely limits this species distribution. In addition to being a California Species of Special Concern, Vaux's Swift is further protected by the Migratory Breeding Bird Treaty Act.

Vaux's Swifts were seen foraging within the study area (Appendix D). Although no nesting colonies were observed, numerous large, mature, and declining Douglas-fir and oak trees and snags were observed during field surveys. Recruitment of such habitat features throughout the landscape can be uncommon, can take extended periods of time, and should be conserved wherever possible. Confirmed nesting of Vaux's Swifts has been reported within three miles of the Southern Humboldt Community Park (Hunter et al. 2005).

To avoid impacts to breeding Vaux's Swifts, significant disturbances should be avoided in the vicinity of suitable breeding habitat during the nesting season for this species (May 1 – September 1). Pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds in areas of suitable habitat if significant disturbance must take place during the nesting period. Maintenance of healthy wetland habitats and the retention of snags and decaying and dying trees (for nesting habitat) will also serve to provide optimum foraging habitat for this insectivorous species.

### **Olive-sided Flycatcher (*Contopus cooperi*)**

Aggressive defenders of some of the largest breeding territories known for passerine birds ( $\leq 45$  ha), Olive-sided Flycatcher (*Contopus cooperi*) tends to breed in ecotonal transitions between forested and more open landscapes. Tall perches (emergent trees or snags) with unobstructed views are often used by Olive-sided Flycatcher from which to forage for insect-prey or defend breeding territory. This species has one of the longest migrations of all Nearctic migrants: breeding in western North America and wintering from southern Central America to the northern South American Andes Mountains.

Olive-sided Flycatcher populations have declined significantly in recent years, causing it to be listed as a sensitive species by a number of states and regulatory agencies. Recent research demonstrates differential responses of populations in response to varying forest management techniques. Given declines in the overall abundance of this species throughout its breeding range, it is likely that the species is most affected by factors experienced in wintering areas (or during migration). It has also been hypothesized that pesticide effects on Olive-sided Flycatcher's food supply may play an important role in the decline of this species. In addition to being a California Species of Special Concern, Olive-sided Flycatcher is further protected by the Migratory Breeding Bird Treaty Act.

No Olive-sided Flycatchers were encountered during recent field surveys, though this species has been reported from the vicinity (eBird 2012). General strategies to avoid impacting this species include avoidance of significant disturbances during the breeding season (May 1 – August 15). Pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds in areas of suitable habitat if significant disturbance must take place during the nesting period. Additional management recommendations for this species include the protection and enhancement of riparian and other wetland habitats to benefit prey (i.e., insect) populations.

### **Willow Flycatcher (*Empidonax traillii*)**

The Willow Flycatcher has been listed as an Endangered species in California since 1990. Although considered fairly abundant throughout the state as recently as 1940, population levels have dropped

precipitously since that time. This small flycatcher breeds in northern California from mid-May through mid-September, and winters in Central and South America.

Bombay et al. (2003) identify six vegetation/hydrology “types” associated with Willow Flycatcher breeding habitat throughout the range of the species. Although they recognize a wide degree of variation in habitat characteristics of known nest sites, habitat elements consistent throughout this spectrum include: open water or saturated soils within wetland habitats with a significant shrub component that is within (or near) a taller riparian-forested overstory. The main threats to this species include the degradation and loss of riparian-forested breeding habitat, alteration of hydrology at these sites, and brood-parasitism by Brown-headed Cowbird, *Molothrus ater* (which was observed within the study area during recent fieldwork).

In Humboldt County, the first nesting record of (possible) Willow Flycatchers (“Traill’s Flycatchers”) was of egg sets taken along the Eel River in the southern part of the county, near Miranda in 1930-1931 (Howatt *in* Harris 2006). Since then, very few confirmed nesting attempts of this species have been observed. Recent documented occurrences of Willow Flycatcher (eBird 2012) include riparian habitat surrounding Humboldt Bay, the Eel River Delta, and along the Mad River near Blue Lake, where, at the time of this writing, a singing male has been observed for at least six consecutive years in a row.

No Willow Flycatchers were observed during recent field surveys, though individuals have been seen elsewhere in southern Humboldt County in recent years (eBird 2012); one approximately 17 miles to the north along the main stem of the Eel River, and a more recent sighting within 5.5 miles of Southern Humboldt Community Park in late May of 2012. The nearest evidence indicating “probable breeding status” is approximately 36 miles away near the confluence of the Eel and Van Duzen Rivers (Hunter et al. 2005).

Although Willow Flycatchers are not expected to use the project area for nesting it should not be disregarded altogether. It is likely that this species could occur in the forested riparian habitats along the South Fork of the Eel River, particularly during migration. Management recommendations include the protection and enhancement of riparian and other wetland habitats for breeding and foraging purposes, and avoiding significant disturbance to riparian vegetation, particularly during the breeding season for Willow Flycatcher (May 15 – September 15). In the event that significant disturbance to forested riparian habitat must take place during this time period, protocol surveys to assess for the presence of breeding Willow Flycatchers should be conducted prior to any disturbance in all areas of suitable habitat, in consultation with the California Department of Fish & Game.

### **Purple Martin (*Progne subis*)**

The Purple Martin is a large swallow, uncommon to rare in northern California. This gregarious migratory species nests and forages in a wide variety of habitats, including mosaic Douglas-fir forest and grassland habitats. Nests are constructed in cavities (usually old woodpecker holes) in tall trees or snags, often along ridgelines and near water. Occasionally this species is known to nest in human-created structures (artificial bird houses, bridges, etc.) as well. The Purple Martin is a Species of Special Concern in California, largely due to loss of riparian habitat, removal of snags, and competition for nest cavities from Eurasian Starlings and House Sparrows.

Although Purple Martin was not observed during recent field studies, this species has been documented in the Park (eBird 2012), and is expected to use the study area for foraging purposes, particularly in the Doug-fir forests with snags and large trees. Management recommendations include retention of, and avoiding disturbance to, dead and dying trees (which form the snags which provide suitable nesting

sites), particularly within the breeding season for Purple Martin (April 15-August 15). Pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds in these areas if any removal of breeding habitat will occur during the nesting period. Additional recommendations include the protection and enhancement of riparian and other wetland habitats to benefit prey (i.e., insect) populations.

### **Black-capped Chickadee (*Poecile atricapillus*)**

The Black-capped Chickadee is abundant throughout northern North America. In California it is found almost exclusively in willow/cottonwood/alder habitats along the immediate north coast, south to the Ferndale area, as well as along the larger inland streams and rivers. Humboldt County is considered to represent the southern limit of the range of this species in California, though it has been observed recently in southern Trinity County near the North Fork of the Eel River (pers. obs. 2012). The Black-capped Chickadee was recently downgraded from a California Species of Special Concern to the CDFG's "Watch List," where its status retains an elevated level of scrutiny, largely due to its restricted range within the state.

Surprisingly, Black-capped Chickadee was observed foraging in the riparian-forested habitats within the study area during recent field surveys (Appendix D). Although no indication of breeding behavior for Black-capped Chickadee was observed during this effort, the riparian-forested habitat occurring throughout the project area may provide suitable nesting/breeding habitat for the rare breeding pair.

In the rare event that nesting Black-capped Chickadees are detected within the study area significant disturbances near riparian-forested habitats should be avoided during the breeding season for this species (April 15 – July 15). Pre-disturbance surveys are recommended early in the breeding season to assess the presence of breeding birds in these areas if any removal of breeding habitat will occur during the nesting period. Additional management recommendations for this species include the protection and enhancement of riparian and other wetland habitats for breeding and foraging purposes.

### **Yellow Warbler (*Setophaga petechia*)**

Found throughout North America, Yellow Warbler (*Setophaga petechia*) populations are declining, primarily due to habitat destruction and brood-parasitism by the Brown-headed Cowbird, *Molothrus ater* (which was observed within the study area during recent fieldwork). Yellow Warblers are uncommon breeding birds of coastal and inland riparian habitats, and breed in deciduous riparian forests of varying size. In addition to being a California Species of Special Concern, Yellow Warbler is further protected by the Migratory Breeding Bird Treaty Act.

Although not encountered during the recent field survey effort, occasional breeding Yellow Warblers can be expected in the riparian-forested habitats within the study area. Probable Yellow Warbler breeding activity has been reported at Tooby Memorial Park (Hunter et al. 2005).

To avoid impacts to breeding Yellow Warblers, significant disturbances near riparian-forested habitats should be avoided during the breeding season for this species (May 1 – August 15). Pre-construction surveys are recommended early in the breeding season to assess the presence of breeding birds in these areas if any removal of breeding habitat will occur during the nesting period. Additional management recommendations for this species include the protection and enhancement of riparian and other wetland habitats for breeding and foraging purposes.

### **Yellow-breasted Chat (*Icteria virens*)**

The Yellow-breasted Chat is a Species of Special Concern in California. Found throughout North America, Yellow-breasted Chat populations are declining, largely due to habitat destruction and brood-parasitism by the Brown-headed Cowbird, *Molothrus ater* (which was observed within the study area during recent fieldwork). Yellow-breasted Chats are very vocal and notably sing at night as well as during the day. Largest of the wood-warblers, this species feeds primarily on insects, fruits, and berries; and migrates from breeding grounds to winter in Mexico and Central America.

This riparian specialist breeds in riparian forests and thickets with a well-developed shrub layer. Vegetation typical of local breeding habitat includes white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), black cottonwood (*Populus trichocarpa*), willows (*Salix* spp.), blackberry (*Rubus* sp.), and coyote bush (*Baccharis pilularis*). Three to five eggs are laid in nests composed of grasses, leaves, and bark. Nests are usually located low in a dense and tangled understory.

Singing male Yellow-breasted Chats were observed at two locations within the study area during recent field surveys (Appendix D): along a small riparian stream course within the grassland habitat near the southeastern portion of the project area, and along the riparian forested gravel bar along the South Fork of the Eel River in the northwestern portion of the study area. Given that these males appeared to be defending territories, it can be reasonably assumed that nesting is occurring in the vicinity of these locations.

To avoid impacts to breeding Yellow-breasted Chat, significant disturbances near riparian-forested habitats should be avoided during the breeding season for this species (April 15 – August 15). Pre-construction surveys are recommended early in the breeding season to assess the presence of breeding birds in these areas if any removal of breeding habitat will occur during the nesting period. Additional management recommendations for this species include the protection and enhancement of riparian and other wetland habitats for breeding and foraging purposes.

### **Grasshopper Sparrow (*Ammodramus savannarum*)**

Grasshopper Sparrow is a California Species of Special Concern. This small, shy, plainly-colored migratory bird is soft-voiced and inhabits grasslands with both barren, exposed areas allowing for ease while foraging, and more densely vegetated areas, where it makes its nest of woven grasses and other graminoids. Locally distributed throughout its range, it is likely often overlooked due to its unobtrusive nature. Hunter et al. (2005) characterized this species as an uncommon, but locally numerous, summer resident and breeder. Throughout its range, however, Grasshopper Sparrow populations are in decline, primarily as a result of development and conversion of native grassland habitats such as prairies, and low-moderately-stocked agricultural pasturelands into intensive agricultural operations.

During the breeding season, abundant insects and other invertebrates (e.g., grasshoppers, etc.) form the bulk of this species' diet, and in winter it relies more on seeds of grasses, sedges, and other herbaceous species. In California the species generally prefers habitats with high perennial grass cover and recently (>1 year) burned areas (Collier 1994 *in* Birds of North America 2012). The effects of grazing on Grasshopper Sparrow appear to vary with geography and the level of grazing intensity. Although in more arid locations, grazing appears to be detrimental to Grasshopper Sparrow (Saab et al. 1995 *in* Poole 2005), elsewhere, in less fragile and more resilient grassland habitats, low to moderate grazing

appears to increase habitat suitability (Herker et al. 1993 in Poole 2005). Mowing, particularly in the context of hay harvesting has been implicated in dramatically reducing nest success for this (and other ground-nesting bird) species. The trend towards earlier hay harvest cuttings over the last 50-60 years has had a profoundly detrimental effect on many ground-nesting species.

Singing male Grasshopper Sparrows were observed in at least four locations within the study area during recent field surveys (Appendix D). These occurrences were somewhat widely dispersed throughout the open grassland habitats to the south and southwest of the caretaker residence and associated outbuildings. Given that these males appeared to be defending territories, it can be reasonably assumed that nesting is occurring in the vicinity of these locations. No Grasshopper Sparrows were observed in similar habitats to the east and south east of this infrastructure. However, much of this latter area had been recently mowed prior the field surveys, and it is possible that Grasshopper Sparrows may have utilized this area prior to mowing.

In order to avoid impacts to Grasshopper Sparrow, land management strategies should avoid "stand replacement level" disturbances (e.g., hay harvest, mowing, burning, etc.) to grasslands during the breeding season for this species (May 1-August 1), while still allowing for limited and conservative low-intensity disturbance (e.g., low-moderate intensity grazing, etc.) to maintain some diversity and stand complexity in herbaceous vegetation (i.e., grasslands). Additional management recommendations pertaining to Grasshopper Sparrow should focus on maintenance of the existing grassland-dominated areas at Southern Humboldt Community Park and minimizing future conversion of low-intensity pasturelands to intensively managed (i.e., row-crop, etc.) agricultural production or similar habitat alteration.

### **Migratory Breeding Birds**

A variety of migratory bird species were observed throughout the various habitats of the study area during recent field surveys. Numerous bird boxes attached to trees and fence posts hosted some of these migrants. It is reasonable to assume many of these individuals are breeding within the study area, given that their presence was observed during the general breeding season (early June).

Wherever possible, significant disturbances (e.g., habitat removal, etc.) to migratory breeding birds should occur outside the general migratory bird breeding season (February 15 – September 1) in order to avoid impacts to these species. Where avoidance of significant disturbance is not possible, pre-disturbance surveys for breeding birds is recommended. Appropriate buffers from disturbing activities will vary with the species of concern and the nature of corresponding disturbance. Additional mitigating measures could include removal of artificial bird boxes in the vicinity of the planned disturbance prior to the initiation of any breeding activity. Additional management recommendations to benefit migratory bird species include the protection and enhancement of riparian and other wetland habitats for breeding and foraging purposes.

### **Mammals (Mammalia)**

#### **Pacific Fisher (*Martes pennanti pacifica*) DPS**

The Pacific Fisher is a candidate for Federal listing and is a California Species of Special Concern. Once more numerous throughout boreal forests, this species' populations are declining, due to habitat loss as a result of timber harvesting, development, and wildfire, and more recently due to poisoning attributed to remote marijuana cultivation operations. Pacific Fisher is found from southern Canada, south to Wyoming in the Rocky Mountains, and into the southern Klamath Mountains and North Coast Ranges, and even further south into the Sierra Nevada Mountains.

Pacific Fisher is a top carnivore, and is primarily nocturnal. This species requires intact forests, typically late-seral and mature coniferous forests. Home ranges can be as large as 75 miles (diameter), and individuals can travel widely, revisiting some locations only once every 2-3 weeks. Pacific Fishers are very agile tree climbers, and are opportunistic hunters. Diet consists of porcupines, squirrels, rodents, rabbits, grouse, small birds and animals, berries, nuts, carrion, and even fungi.

Dens are made in hollow trees and logs, brush piles, and cavities beneath boulders or rock ledges. Litters of 1-4 young are born in March or April. The mother breeds again shortly after giving birth, but implanting of the embryo is delayed from some time following copulation. Young become sexually mature at about two years of age, and can begin to hunt when only three months old.

Although no Pacific Fisher were observed during recent field surveys, there is some possibility that the species could occupy the more mature coniferous forested portions of the study area. Occurrences have been reported elsewhere in southern Humboldt County (CNDDDB 2012). Appropriate surveys should be conducted prior to any habitat altering activities in the portions of the project area where suitable forested habitat exists for this species.

### **Sonoma Tree Vole (*Arborimus pomo*)**

The Sonoma Tree Vole (*Arborimus pomo*) is a Species of Special Concern in California. This species is a little-known rodent of the mature Douglas-fir forests in coastal northern California. Its range extends northward from Sonoma County to the Oregon border where its distribution overlaps with the Oregon Tree Vole (*A. longicaudus*). Sonoma Tree Vole occurs primarily in mixed, old-growth Douglas-fir (*Pseudotsuga menziesii*) and coast redwood (*Sequoia sempervirens*) forests, but can occur in younger forest with increased stand structural complexity. Its diet is almost exclusively composed of needles of Douglas-fir and sometimes grand fir (*Abies grandis*). Nests are built of Douglas-fir needles in trees, sometimes at considerable heights.

Although no Sonoma Tree Vole nests were noticed during the recent field surveys, this species could occur at the study in the forested habitats that have a significant Douglas-fir component. Appropriate protocol-level surveys should be conducted prior to any habitat altering activities in the portions of the project area where suitable forested habitat exists for this species.

### **Pallid Bat (*Antrozous pallidus*)**

The Pallid Bat is a California Species of Special Concern. This species is usually found in low to middle elevation habitats below 6,000 feet in California, however, it has been found up to 10,000 feet in the Sierra Nevada Mountains. Populations have declined in California within desert areas, in areas of urban expansion, and where oak woodlands have been lost. This species, like many other bats, is extremely sensitive to disturbance at roosting and nesting sites.

A variety of habitats are used by Pallid Bats, including grasslands, scrublands, woodlands, and coniferous forests. Pallid Bats are most common in open, dry habitats that contain rocky areas for roosting. They are a yearlong resident in most of their range and hibernate in winter near their summer roosts. Occasional forays may be made in winter for food and water. Pallid Bats are unusual in that most of their food consists of large insects captured on the ground.

Day roosts may vary but are commonly found in rock crevices and tree hollows. They have been documented in large conifer snags, inside basal hollows of coast redwoods (*Sequoia sempervirens*) and bole cavities in oaks (Fagaceae). Cavities in broken branches of black oak (*Quercus kelloggii*) appear to be very important refugia for this species and data from the literature suggest that there is a strong

association with this tree species for roosting sites. Roosts are selected to protect bats from high temperatures, as this species is intolerant of roosts in excess of 104° Fahrenheit (40°C). Night roosts are usually in more open sites and may include open buildings, porches, mines, caves, and under bridges.

Although this species was not observed during recent field surveys, suitable habitat for the Pallid Bat exists within the study area, particularly in forested stands with mature and aging coast redwood, Douglas-fir, and oak species. Buildings potentially suitable for roosting (e.g., barns, outbuildings, etc.) also occur within the study area. A documented occurrence of Pallid Bat has been reported within 4.5 miles of Southern Humboldt Community Park near the South Fork of the Eel River (CNDDDB 2012). Avoiding substantial disturbance to forested habitat, and otherwise maintaining the integrity of the existing forest and wetland areas will help avoid and/or minimize impacts to this species.

### **Townsend's Big-eared Bat (*Corynorhinus townsendii*)**

Although the Townsend's Big-eared Bat is widespread in California, its sensitivity to disturbance at nesting and roosting sites has contributed to it being listed as a California Species of Special Concern. All known occupied sites associated with limestone caves in California have been abandoned.

This species is capable of hovering, and its flight is slow and maneuverable. The principle food source for the Townsend's Big-eared Bat is small moths, and it feeds by gleaning from foliage, as well as in flight. These bats are most abundant near mesic habitats, such as wetlands and riparian areas, and frequently forage along habitat edges. Roosts are usually found in caves, mines, tunnels, and buildings.

Although this species was not observed during recent field surveys, suitable habitat for the Townsend's Big-eared Bat exists within the study area, particularly in forested stands with mature and aging coast redwood, Douglas-fir, and oak species. Buildings potentially suitable for roosting (e.g., barns, outbuildings, etc.) also occur within the study area. Avoiding substantial disturbance to forested habitat, and otherwise maintaining the integrity of the existing forest and wetland areas will help avoid and/or minimize impacts to this species.



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## **Appendix A. Species Conservation Status and Associated Regulatory Environment.**

### **Federal Level**

#### **Federal Endangered Species Act**

The federal Endangered Species Act (ESA) protects plants and wildlife that are listed as Endangered or Threatened by the U.S. Fish and Wildlife Service (USFWS). Section 9 of the ESA prohibits the take of listed fish and wildlife, where take is defined as "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct..." (50 CFR 17.3).

Under Section 7 of the ESA, consultation with the USFWS is required if actions, including permit approvals or funding, could adversely affect an Endangered species or its Critical Habitat. Formal consultations determine whether a proposed action(s) is likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated Critical Habitat.

#### **Migratory Bird Treaty Act (16 U.S.C. § 703–711)**

The Migratory Bird Treaty Act (MBTA) of 1918 protects all migratory birds, including active nests and eggs. Birds protected under the MTBA include all native waterfowl, shorebirds, hawks, eagles, owls, doves, common songbirds such as, ravens, crows, swifts, martins, swallows and others, including their body parts (feathers, plumes etc.), active nests, and eggs. A complete list of protected species can be found at 50 CFR 10.13.

#### **Bald and Golden Eagle Protection Act (16 U.S.C. § 668)**

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 specifically protects bald and golden eagles and their nests from harm or trade in parts of these species.

### **California State Level:**

#### **California Endangered Species Act**

Sections 2050-2098 of the California Fish and Game Code (CFGC) prohibit the "take" (i.e., hunt, pursue, catch, capture, or kill) of State-listed Endangered and Threatened species unless specifically authorized by the California Department of Fish and Game (CDFG). Section 2090 of CFGC requires compliance with Threatened and Endangered species protection and recovery efforts and the conservation of these species. Title 14, California Code of Regulations (Section 670.2 and 670.5) lists Threatened or Endangered animals in California.

#### **Fully Protected Species CFGC Sections 3511, 4700, 5050, and 5515**

California Fish and Game Code Sections 3511, 4700, 5050, and 5515 (Fully Protected Species) designates certain animal species as "Fully Protected" under sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Fully Protected species are species that are rare or face possible extinction, but are not listed as Threatened or Endangered and may not be taken or possessed at any time.

#### **Protection for Birds: CFGC Section 3503 et seq.**

California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3513 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

### **Special-Status Species**

The California Environmental Quality Act (CEQA §15380) requires that Special-Status species be considered in the project development and implementation process. Special-Status wildlife includes species that:

- are listed, proposed for listing, or candidates for listing as Threatened or Endangered under the federal Endangered Species Act;
- are listed or candidates for listing as Threatened or Endangered under the California Endangered Species Act;
- are designated as Species of Special Concern by the California Department of Fish & Game (CDFG);
- are otherwise listed (Fully Protected, Watch List, etc.) on the CDFG “Special Animals” list (CDFG 2011); or
- otherwise meet the definition of rare, threatened or endangered, as described in the California Environmental Quality Act (CEQA) Guidelines, §15380.

Section 15380 of the CEQA guidelines also include consideration of non-listed species, if such species can be shown to meet the following criteria:

- a species' survival and reproduction in the wild are in immediate jeopardy from one or more causes;
- a species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment deteriorates; or
- a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

### **California Species of Special Concern**

California Species of Special Concern are known to have declining populations, have limited ranges, or are otherwise vulnerable to extinction. This status is intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel, and to prevent the eventual listing of the species as Threatened or Endangered.

### **California “Watch List” Species**

Watch Listed species are monitored by the California Department of Fish & Game to determine if increased protective conservation status becomes warranted. Species on DFGS's “Watch List” are:

- “not on the current Special Concern list but were on previous lists and they have not been state listed under CESA;
- were previously state or federally listed and now are on neither list; or
- are on the list of ‘Fully Protected’ species.”

**Appendix B.** Results of Special-Status Wildlife Database Queries for Southern Humboldt Community Park (CNDDDB 2012 and USFWS 2012)\*. Additional Special-Status Wildlife Species not generated from these sources, but considered to have the potential to occur within the study area are addressed in the attached report.

Species	Status	General Habitat Description	Potential Occurrence at the Southern Humboldt Community Park
<b>Amphibians</b>			
Southern Torrent Salamander <i>Rhyacotriton variegatus</i>	SSC	Occurs locally in cool perennial streams and seeps in redwood, and lower montane coniferous forests.	Suitable habitat (perennial cold streams/seeps/etc.) does not occur within the study area.
Pacific Tailed Frog <i>Ascaphus truei</i>	SSC	Occurs locally in montane hardwood-conifer, redwood and Douglas-fir habitats. Restricted to perennial streams. Tadpoles require water below 15 degrees C°.	Suitable habitat (perennial cold streams/seeps/etc.) does not occur within the study area.
Northern Red-legged Frog <i>Rana aurora</i>	SSC	Occurs in humid forests, stream sides, and wetlands in northwestern California. Generally near permanent water, but can be found far from water in damp woods and meadows during non-breeding season.	Expected to occur in wetland habitats within the study area.
Foothill Yellow-legged Frog <i>Rana boylei</i>	SSC	Occupies exposed or partly-shaded, shallow streams and riffles with rocky substrates in a variety of habitats. Requires some cobble-sized substrates for egg-laying. Needs at least 15 weeks to metamorphose.	Suitable habitat does occur within the study area, along South Fork of the Eel River, and other riparian corridors.
<b>Reptiles*</b>			
Western Pond Turtle <i>Emys marmorata</i>	SSC	Associated with permanent or nearly permanent water in a variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water. Known to place nests in excavated burrow in soil (typically sandy) and fallen log debris.	Suitable habitat for basking, foraging, and breeding does occur within the study area, particularly along the South Fork of the Eel River, and other riparian corridors.
<b>Birds*</b>			
Bald Eagle <i>Haliaeetus leucocephalus</i>	FD, SE, FP	Nests in large trees near rivers, lakes, marshes, etc. Winter near open waters in areas with sufficient food and evening roost sites.	Some arboreal nesting habitat is present within the mature forested portions of the study area. Foraging likely occurs along the South Fork of the Eel River.
Osprey <i>Pandion haliaetus</i>	WL	Primarily along rivers, lakes, bays, and seacoasts. Nests in dead snags, living trees, utility poles, etc. usually near or above water.	Some arboreal nesting habitat is present within the mature forested portions of the study area. Foraging likely occurs along the South Fork of the Eel River.

Species	Status	General Habitat Description	Potential Occurrence at the Southern Humboldt Community Park
Sharp-shinned Hawk (nesting) <i>Accipiter striatus</i>	WL	Prefers coniferous or mixed forests for nesting. Prefers riparian areas and north-facing slopes with plucking perches. Nesting typically occurs near water.	Breeding habitat is present throughout forested portions of the study area.
Cooper's Hawk (nesting) <i>Accipiter cooperii</i>	WL	Occurs in open, interrupted, and/or marginal woodlands. Nest sites are often in riparian forests with some deciduous trees.	Breeding habitat is present throughout forested portions of the study area.
Golden Eagle (nesting and wintering) <i>Aquila chrysaetos</i>	FP, WL	Occurs locally in rolling foothills and mountain areas, nesting in cliff-walled canyons throughout most of its range and also in large trees in open areas.	Some marginal, arboreal nesting habitat is present within the mature forested portions of the study area. Foraging habitat exists in open grassland regions.
Peregrine Falcon (nesting) <i>Falco peregrinus</i>	FP, MB	Occurs locally as winter resident and an uncommon breeder. Typically nests in cliffs, escarpments, and occasionally cavities in very tall trees (coast redwoods).	Some marginal, arboreal nesting habitat is present within the mature forested portions of the study area.
Western Snowy Plover <i>Charadrius alexandrinus nivosus</i>	FT, SSC, MB	Sandy beaches, salt pond levees, shores of large alkali lakes and gravel bars.	Known to breed on along gravel bars of the lower Eel River, comparable habitat within the study area is not considered to be extensive enough this far inland to be suitable for breeding.
Marbled Murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Feeds near-shore, and in California, nests along portions of the central and north coasts. Nests are nearly always on large diameter limbs (or other similar platforms) in old-growth forests, typically < 6 miles inland.	Although mature trees with large diameter limbs/platforms do occur within forested portions of the study area, suitable breeding habitat is not considered to be present at the site due to geographical location and associated climatic conditions (i.e., >12 miles inland with no obvious, direct, dispersal corridor [river valley, etc.], combined with associated elevated breeding season temperatures).

Species	Status	General Habitat Description	Potential Occurrence at the Southern Humboldt Community Park
Western Yellow-billed Cuckoo <i>Coccyzus americanus</i>	FC, SE, MB	Nests in well-developed and extensive riparian forest along broad, lower flood-bottoms associated with larger river systems.	Nearest nesting has been recorded on the lower Eel River, and riparian habitat on site, is not extensive enough/well-developed to be considered suitable.
Northern Spotted Owl <i>Strix occidentalis caurina</i>	FT, FP, SSC	Utilizes coniferous forests with increased stand-structural-complexity for foraging and nesting. Occasionally hunts along forest edges or in small clearings.	Moderately suitable habitat does exist for this species at SHCP. Study area is not within designated Critical Habitat.
Willow Flycatcher <i>Empidonax traillii</i>	SE, MB	Breeds and forages in riparian forested habitats and forested wetlands, typically with a significant shrub-layer.	Riparian forested habitat on site provides some, moderately suitable breeding habitat for the species.
<b>Mammals*</b>			
Pacific Fisher <i>Martes pennanti pacifica</i> DPS	FC, SSC	Intermediate to large tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Suitable habitat occurs for this species in more mature portions of the forested slopes within the study area.
Sonoma Tree Vole <i>Arborimus pomo</i>	SSC	Redwood and montane coniferous and hardwood forests from the Oregon border, south to Sonoma County. Feeds almost exclusively on Douglas-fir needles, but will occasionally take needles of grand fir, hemlock, or spruce.	Suitable habitat occurs throughout the coniferous-forested portions of the study area.
Pallid Bat <i>Antrozous pallidus</i>	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Suitable breeding/roosting habitat exists within forested portions of the study area, and possibly abandoned outbuildings.

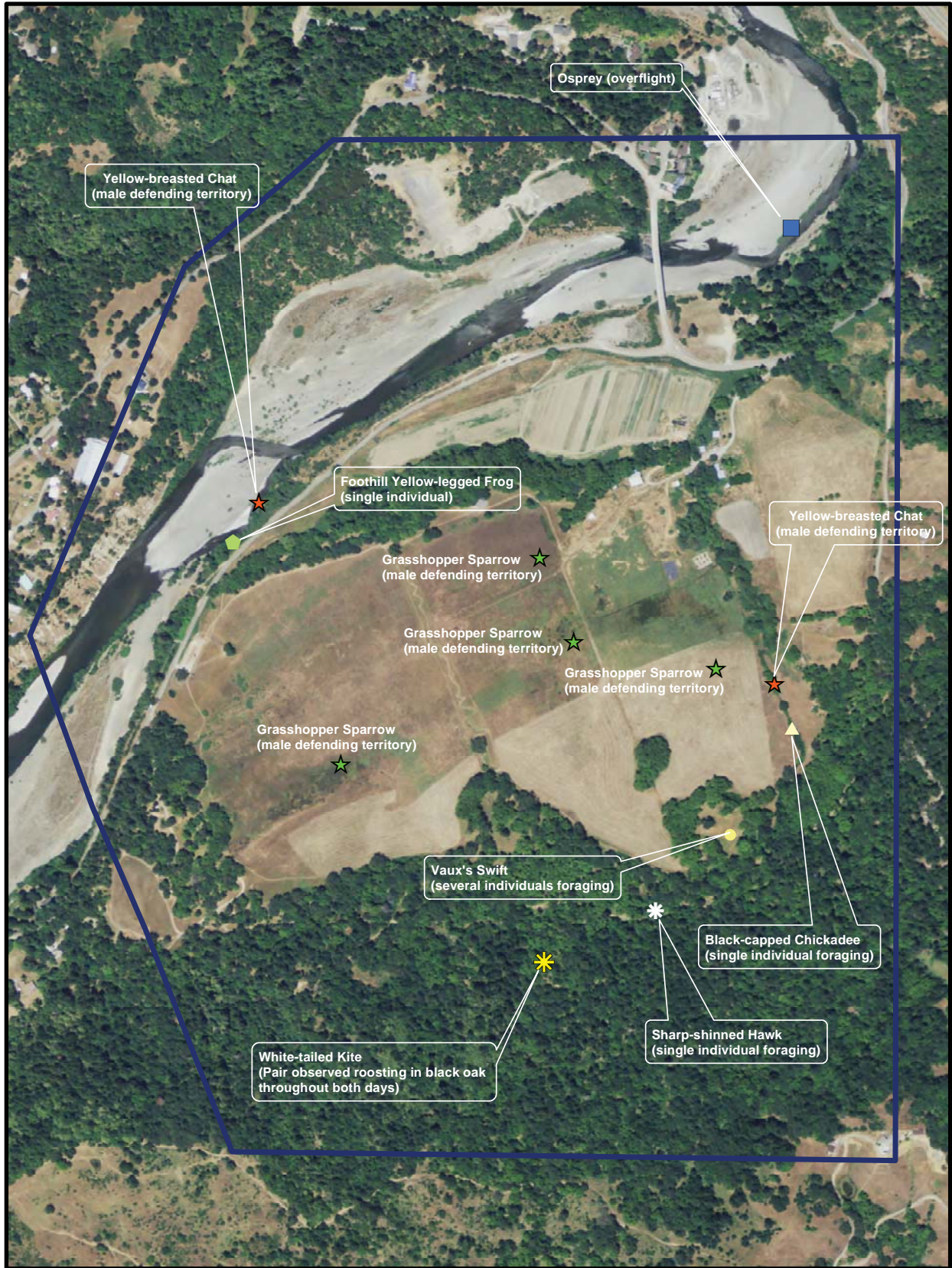
Species	Status	General Habitat Description	Potential Occurrence at the Southern Humboldt Community Park
Townsend's Big-Eared Bat <i>Corynorhinus townsendii</i>	SSC	Breeds and roosts within coniferous and deciduous-riparian forested areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning.  Has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites.	Suitable breeding/roosting habitat exists within forested portions of the study area, and possibly abandoned outbuildings.
<p>* The following species resulting from database queries that are limited to oceanic and/or marine habitats were omitted from this analysis due to the lack of such habitat within, or near, the study area: Loggerhead Turtle (<i>Caretta caretta</i>), Green Turtle (<i>Chelonia mydas</i> [incl. <i>agassizi</i>]), Leatherback Turtle (<i>Dermochelys coriacea</i>), Olive (=Pacific) Ridley Sea Turtle (<i>Lepidochelys olivacea</i>), Short-tailed Albatross (<i>Phoebastrus albatrus</i>), Xantus's Murrelet (<i>Synthliboramphus hypoleucus</i>), Sei Whale (<i>Balenoptera borealis</i>), Blue Whale (<i>Balenoptera musculus</i>), Fin Whale (<i>Balenoptera physalus</i>), Steller (= Northern) Sea Lion (<i>Eumetopias jubatus</i>), Humpback Whale (<i>Megaptera novaengliae</i>), Killer Whale (<i>Orcinus orca</i>), and Sperm Whale (<i>Physeter macrocephalus</i>).</p>			
<p><b>Notes:</b> Refer to Appendix A for additional explanation of conservation status.  <sup>a</sup> Taxonomy is consistent with: Collins &amp; Taggart (2012), AOU (1998), and Eder (2005).  <sup>b</sup> Status is according to CDFG's <i>Special Animals List</i> (CDFG 2011).</p> <p><u>Federal Status</u></p> <p>FE      Federally listed as Endangered  FT      Federally listed as Threatened  FPE     Proposed Endangered  FPT     Proposed Threatened  FC      Candidate for listing as federally Endangered or Threatened  FD      Delisted from Federal Threatened or Endangered status  FSC     Federal Species of Special Concern  MB      Migratory Bird Treaty Act of 1918. Protects migratory birds, eggs, and their nests</p> <p><u>California Status</u></p> <p>SE      State listed as Endangered  ST      State listed as Threatened  SSC     California State Species of Special Concern  WL      California State Watch List  FP      Fully protected against take pursuant to the Fish and Game Code Sections 3503.5, 3511, 4700, 5050, 5515.</p> <p><u>Other Status</u></p> <p>DPS     Distinct Population Segment</p>			



**Appendix C.** List of Wildlife Species Observed During June 1-2, 2012 Fieldwork.

Common Name	Species	Conservation Status
<b>Avian Species</b>		
California Quail	<i>Callipepla californica</i>	
Domesticated Chicken	<i>Gallus gallus domesticus</i>	
Turkey Vulture	<i>Cathartes aura</i>	
Osprey	<i>Pandion haliaetus</i>	DFG:WL
White-tailed Kite	<i>Elanus leucurus</i>	DFG:FP
Sharp-shinned Hawk	<i>Accipiter striatus</i>	DFG:WL
Red-shouldered Hawk	<i>Buteo lineatus</i>	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	
American Kestrel	<i>Falco sparverius</i>	
Killdeer	<i>Charadrius vociferus</i>	
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	
Mourning Dove	<i>Zenaida macroura</i>	
Barn Owl	<i>Tyto alba</i>	
Vaux's Swift	<i>Chaetura vauxi</i>	DFG:SSC
Anna's Hummingbird	<i>Calypte anna</i>	
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	
Pileated Woodpecker	<i>Dryocopus pileatus</i>	
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	
Western Kingbird	<i>Tyrannus verticalis</i>	
Cassin's Vireo	<i>Vireo cassinii</i>	
Hutton's Vireo	<i>Vireo huttoni</i>	
Warbling Vireo	<i>Vireo gilvus</i>	
Steller's Jay	<i>Cyanocitta stelleri</i>	
Western Scrub-Jay	<i>Aphelocoma californica</i>	
American Crow	<i>Corvus brachyrhynchos</i>	
Common Raven	<i>Corvus corax</i>	
Violet Green Swallow	<i>Tachycineta thalassina</i>	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	
Barn Swallow	<i>Hirundo rustica</i>	
Black-capped Chickadee	<i>Poecile atricapillus</i>	DFG:WL
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	
Bushtit	<i>Psaltriparus minimus</i>	
Winter Wren	<i>Troglodytes hiemalis</i>	
American Dipper	<i>Cinclus mexicanus</i>	
Golden-crowned Kinglet	<i>Regulus satrapa</i>	
Wrentit	<i>Chamaea fasciata</i>	
Western Bluebird	<i>Sialia mexicana</i>	
Hermit Thrush	<i>Catharus guttatus</i>	
European Starling	<i>Sturnus vulgaris</i>	
Orange-crowned Warbler	<i>Oreothlypis celata</i>	
Nashville Warbler	<i>Oreothlypis ruficapella</i>	
MacGillivray's Warbler	<i>Geothlypis tolmiei</i>	
Common Yellowthroat	<i>Geothlypis trichas</i>	
Wilson's Warbler	<i>Cardellina pusilla</i>	
Yellow-breasted Chat	<i>Icteria virens</i>	DFG:SSC

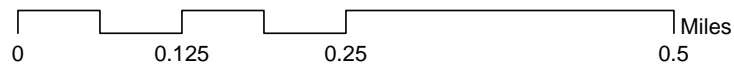
Common Name	Species	Conservation Status
Spotted Towhee	<i>Pipilo maculatus</i>	
California Towhee	<i>Melospiza crissalis</i>	
Savanna Sparrow	<i>Passerculus sandwichensis</i>	
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	DFG:SSC
Song Sparrow	<i>Melospiza melodia</i>	
Dark-eyed Junco	<i>Junco hyemalis</i>	
Western Tanager	<i>Piranga ludoviciana</i>	
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	
Lazuli Bunting	<i>Passerina amoena</i>	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	
Western Meadowlark	<i>Sturnella neglecta</i>	
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	
Brown-headed Cowbird	<i>Molothrus ater</i>	
Purple Finch	<i>Carpodacus purpureus</i>	
Lesser Goldfinch	<i>Spinus psaltria</i>	
American Goldfinch	<i>Spinus tristis</i>	
<b>Reptile Species</b>		
Western Fence Lizard	<i>Sceloporus occidentalis</i>	
Northern Alligator Lizard	<i>Elgaria coerulea</i>	
<b>Amphibian Species</b>		
Foothill Yellow-legged Frog (adult)	<i>Rana boylei</i>	DFG:SSC
Pacific Tree Frog (adults, larvae)	<i>Pseudacris regilla</i>	
<b>Mammalian Species</b>		
Striped Skunk	<i>Mephitis mephitis</i>	
Raccoon (tracks)	<i>Procyon lotor</i>	
Columbian black-tailed deer	<i>Odocoileus hemionus columbianus</i>	
Mountain Lion (scat)	<i>Puma concolor</i>	
North American Black Bear (feces/tracks)	<i>Ursus americanus</i>	
Common Grey Fox (tracks)	<i>Urocyon cinereoargenteus</i>	
Western Gray Squirrel	<i>Sciurus griseus</i>	
Brush Rabbit	<i>Sylvilagus bachmani</i>	
Virginia Opossum	<i>Didelphus virginiana</i>	
<b>Conservation Status Code Definitions</b>		
<b>Refer to Appendix A for additional explanation of conservation status.</b>		
FT - Federal Threatened		
FE - Federal Endangered		
FCE/T- Federal Candidate Endangered/Threatened		
ST - California State Threatened		
SE - California State Endangered		
SCE/T- Federal Candidate Endangered/Threatened		
DFG:FP - California Dept. Fish & Game Fully Protected		
DFG:SSC - California Dept. Fish & Game Species of Special Concern		
DFG:WL - California Dept. Fish & Game Watch List		



Base Imagery: NAIP 2009

## Appendix D. Map of Wildlife Observations.

Southern Humboldt Community Park



J. B. Lovelace & Associates



**APPENDIX I  
LIGHTING PLAN**



# Lighting Plan

Southern Humboldt Community Park



# Lighting Plan

## Southern Humboldt Community Park

**PURPOSE:** The adequacy of outdoor lighting is an important factor in maintaining good security in parking lots and other outdoor areas. This plan will provide a lighting system that will provide adequate lighting to ensure the safety and well-being of park users and mitigate the potential impacts of lighting on neighboring properties.

- **Area 1 – Tooby Memorial Park:** Residential lighting exists at the existing caretaker's residence. Low voltage lighting is proposed at the restrooms. Solar and battery-powered lighting options would be used whenever possible. All lighting fixtures would be shielded to prevent glare and spill.
  
- **Area 2 – Park Headquarters:**
  - Each building occupied by the general public shall be illuminated at the entrance and exit doors when the hours of operation are during the evening and the darkness with a minimum maintained one (1) foot-candle of light at ground level, measured within a five (5) foot radius from the center of the door.
  - Parking lots and walkways accessing buildings shall be illuminated with a minimum maintained one (1) foot-candle (maximum eight (5) foot-candles) of light on the driving or walking surface during the hours of operation.
  - Pathway lighting would be placed low to the ground to minimize excess lighting leakage. Solar and battery-powered lighting options would be utilized whenever possible.
  - Activation of the exterior lighting would be either by a photocell device or a time clock with an astronomic clock feature and/or photocell.
  - Lighting shall be located, directed or shielded so as not to shine directly on adjoining properties exceed .5-footcandle adjacent to residentially-zoned property or to create a traffic hazard
  
- **Area 3 – Main Agricultural Area:** No permanent lighting fixtures would be installed in this area. Temporary portable lighting would be required for the Festival in the small parking lot.
  - A light tower similar to the Bull Dog BD1000 single 1000watt system, which has the capacity to light 2 to 3 acres of land, will be placed in the parking area in Area 3. The lights would be elevated to a height of 15' and with a rotating mast, lighting would be shielded and precisely directed to avoid glare and light spillage. A 1,000-watt metal halide lamp provides an average of 88,000 lumens. The temporary lighting will be directed downward or turned off when not in immediate use.
  
- **Area 4 – Community Commons:** No permanent lighting would be installed in this area. Temporary portable lighting would be required for the parking areas during the Festival and some medium events.  
**Events**

Lighting would be used to light parking areas during the medium events (maximum of 5 evenings per year) and the festival (two evenings per year). The need for night lighting will depend on the final scheduling of the events. Events that are not planned to continue past dusk will not need night lighting.

**Medium Events:**

- Lighting needs for medium events will depend on the size and hours of operation of the event.
- For a maximum capacity medium event, one temporary portable light trailer would be positioned in the parking lot in Area 4. The light tower would be similar or equal to the Terex RL 4000 typically consisting of four (4) one-thousand watt lights with the capacity to light 5 to 7 acres. The lights



would be elevated to a height of 30' and with a rotating mast, lighting would be shielded and precisely directed to avoid glare and light spillage. All lighting shall be located, directed or shielded so as not to shine directly or glare on adjoining properties. A 1,000-watt metal halide lamp provides an average of 88,000 lumens. The temporary lighting will be directed downward or turned off when not in immediate use.

- For smaller events with attendance between 500-1000, a smaller light tower similar to the Bull Dog BD1000 single 1000watt system, which has the capacity to light 2 to 3 acres of land, will be placed in the parking area in Area 4. The lights would be elevated to a height of 15' and with a rotating mast, lighting would be shielded and precisely directed to avoid glare and light spillage. A 1,000-watt metal halide lamp provides an average of 88,000 lumens. The temporary lighting will be directed downward or turned off when not in immediate use.
- The stage would be lit from overhead at the Festival and medium events. Spot lights will be focused and directed to the stage to prevent light spillage.

**Festival Lighting:**

- One temporary portable light trailer would be positioned in the parking lot in Area 4. The light tower would be similar or equal to the Terex RL4 Light Tower consisting of four (4) one-thousand watt lights with the capacity to light 5 to 7 acres. The lights would be elevated to a height of 30'. A 360° rotating mast will ensure that lighting would be precisely directed to avoid light spillage. A 1,000-watt metal halide lamp provides an average of 88,000 lumens. The temporary lighting will be directed downward or turned off when not in immediate use.
- The stage would be lit from overhead at the Festival and medium events. Spot lights will be focused and directed to the stage to prevent light spillage.
- Exit lighting will be provided at the Park event exit and Sprowel Creek Road. The portable lighting trailer will consist of a smaller light tower similar to the Bull Dog BD1000 single 1000watt system. The tower will be elevated to a height that provides adequate visibility at the street level for vehicles exiting the project site.
- Low-voltage lighting would be used to light the entry and exit walkways and the portable toilets.
- Portable solar and battery-powered lighting would be used whenever possible.
- Pathway lighting shall be placed low to the ground to minimize excess lighting leakage
- Craft and food booths that remain open after dark would also provide their own low wattage lights.

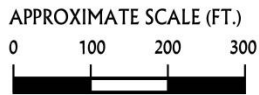
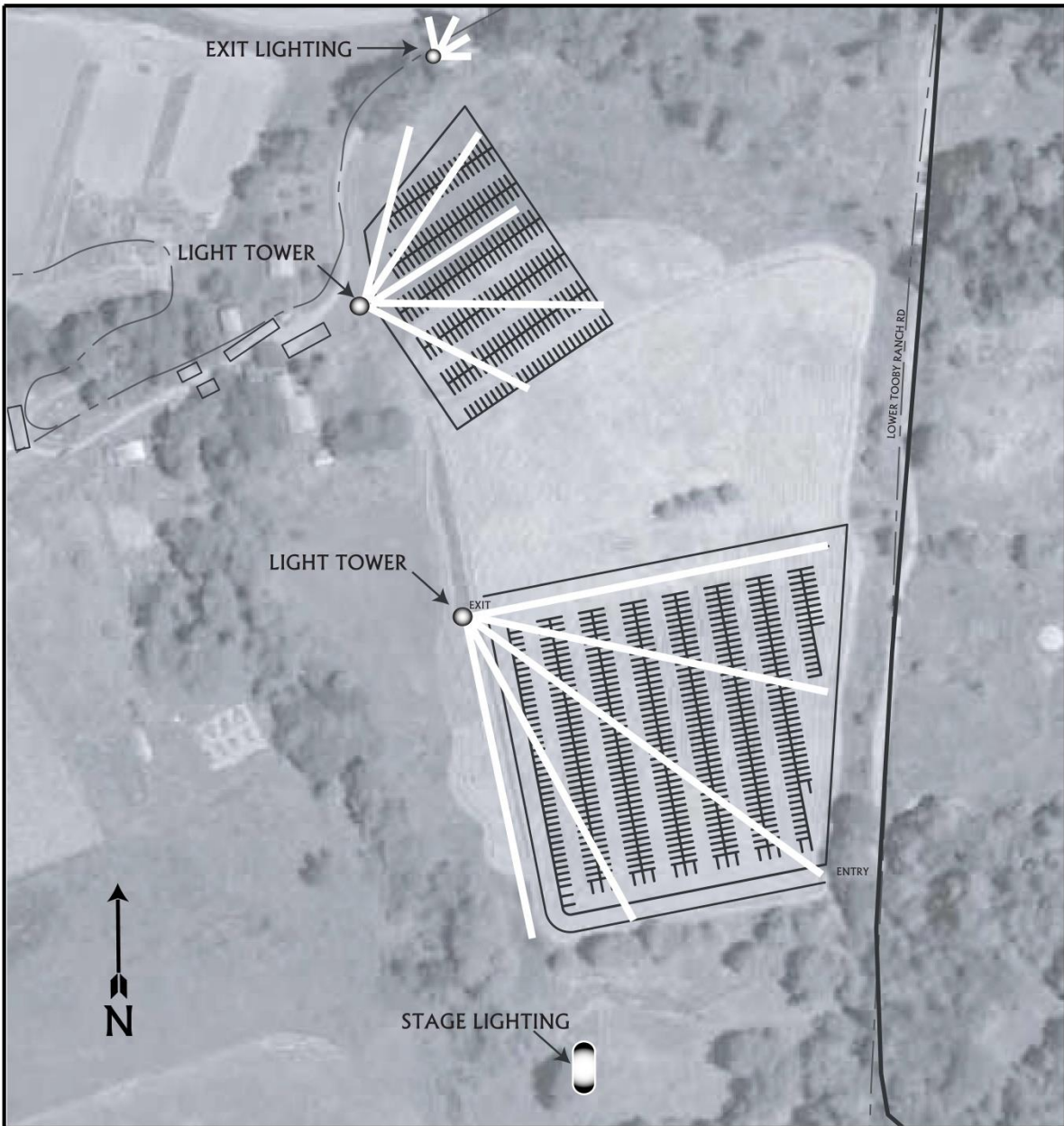
**Environmental Camp:**

- At the environmental camp, temporary solar or battery-powered lighting would be used to light camping areas and portable toilets.

Community Commons Area 4	Location of Residences	Distance	Line of sight
North	Rivercrest Drive	.75 mile	No direct line of sight Dense trees & vegetation
South	No residence with line of sight to the Community Commons Area-4		
West	No residence with line of sight to the Community Commons Area-4		
East	One residence	.3 mile	No direct line of sight Dense trees & vegetation

**Lighting Plan  
Southern Humboldt Community Park**

- **Area 5 – Community Facilities/Sports Facilities Area.** No permanent night lighting is proposed for the athletic fields in the Community Facilities/Sports Facilities Area.
  - Concession stands occupied by staff or the general public shall be illuminated pm the exterior at the entrance and exit doors when the hours of operation and maintenance go beyond daylight. Lighting will consist of 100w bulbs, with a minimum of one (1) foot-candle of light at ground level, measured within a five (5) foot radius from the center of the door.
  - Bathroom facilities and the concessions would also have standard outdoor lighting. Lighting will consist of 100w bulbs, with a minimum of one (1) foot-candle of light at ground level, measured within a five (5) foot radius from the center of the door.
  - Activation of the exterior lighting would be either by a photocell device or a time clock with an astronomic clock feature and/or photocell.
  - In many cases solar and battery-powered lighting would be used whenever possible.
  - Pathway lighting shall be placed low to the ground to minimize excess lighting leakage.
  
- **Area 6 – Riverfront.** No lighting is proposed for this area.
  
- **Area 7 – Forestland.** No lighting is proposed for this area.



## EVENT LIGHTING



**HUBER C&D**  
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REVISION: -A-

DRAWN BY: RHUBER  
DATE: 06/16/15



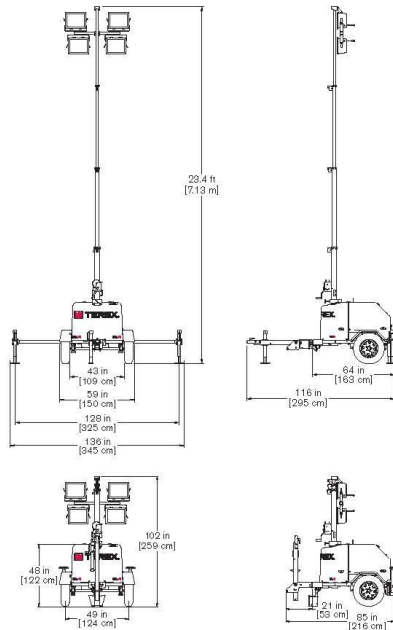
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## Lighting Plan Southern Humboldt Community Park

# SPECIFICATIONS

## MEASUREMENTS

Lamps	Metal halide 4 x 1,000 W
Generator	Brushless 60 Hz, 6.0 kW
Engine	Kohler Diesel 10.7 hp
Receptacles	One GFI duplex 20 A / 120 V
Fuel capacity	45 gal (170 L)
Wheel size	13 in (33 cm)
Axle rating	2,200 lbs (998 kg)
Tongue weight travel position	203 lbs (92 kg)
Total weight no fuel	1,461 lbs (663 kg)



Notice: Metal halide lamp bulbs contain mercury (Hg). Dispose of lamp bulbs according to local, state and federal laws.

## FEATURES

Durable 23 ft / 7 m vertical mast with manual self braking winch, mast brake and 359 degree mast rotation for quick setup and light positioning

4x1000w square cast aluminum metal halide lamps, Kohler 10.7hp engine, 45 gal / 170 L fuel tank and 6kW generator provide up to 90 hours of run time

Efficient design layout allows up to 17 units per truckload, with fork pockets and lifting eye for quick loading and unloading

Rust proof polymer covers provides ample access for service and maintenance, with locking tabs for security

Platform to access lights and fold up tongue for transport

Standard engine protection includes high water temperature and low oil auto shutdown

DOT approved run, stop and turn lights, standard

Telematics ready



## RL™4 LIGHT TOWER



## CHASSIS OPTIONS

Genie® branding and blue paint

Dome light with switch, 12V

Export racking and preparation

Multiple hitch configurations

## ENGINE OPTIONS

6 kW, 60 Hz generator with 13.6 hp Kubota® diesel

7 kW, 50 Hz generator with 13.6 hp Kubota® diesel

8 kW, 60 Hz generator with 13.6 hp Kubota® diesel

Positive air shutdown

Fuel/water separator filter

Fuel/water separator with fuel line heater

Autostart

One T/L 30A/240V receptacle

## TOWER OPTIONS

4 horizontally mounted lights, spun aluminum housing

Electric winch

## COLD WEATHER OPTIONS

800 CCA battery

Battery heater blanket

Low temperature coolant mix

Engine block heater

Lighting Plan  
Southern Humboldt Community Park

# Bulldog Portable Lighting

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## Technical Specs

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- Bull Dog **Job Site Light**
- Light Distribution **Flood**
- Lamp Type **Metal Halide**
- Number of Lamp Heads **1**
- Voltage **120VAC**
- Lamp Watts **1000**
- Lumens **110,000**
- Base Style **Cart**
- Lamp Included **yes**
- Rated Life **10000 hr.**
- NEC Cord Designation **SJTWO**
- NEMA Plug Configuration **5-15P**
- Gauge/Conductor **14**
- Max. Height **144"**
- Replacement Lamp **Yes**
- Standards **ETL**

