Photograph 3–14. Looking south from KVA 15 across Noyo Harbor to Pomo Bluffs Park from the Sailors Cemetery on the South Parkland.

Photograph 3–15. Looking north from KVA 16 across southwest corner of South Parkland from intersection of Highway 1 and Noyo Point Road.

3.1.3.3 Environmental Consequences

Methodology

Representative photos of the project site were taken during various field surveys. The photograph locations are identified on Figure 3–2. The preliminary plans were reviewed to identify the location and scale of the proposed improvements, as well as the topographic changes which may be necessary to accommodate these improvements.

To determine potential impacts to the existing aesthetic resources, the proposed project components were considered in relation to how they would affect the onsite resources and scenic vistas generally, and how they might affect specific resources, as applicable.

When reviewing potential changes to the North and South Parkland, it is important to reiterate that neither site is currently open to the public and the existing visual resources are not necessarily currently visible from public places, other than from a substantial distance. However, due to the importance of coastal visual resources, and the community's expectations for the project site, this analysis is conservative and evaluates the potential adverse affects as if the resources are currently available to the public. In general, due to the nature of the project, potential significant impacts are limited.

Potential impacts considered in this section include effects to 1) scenic vistas, and other scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, 2) degradation of the existing visual character or quality of the site and its surroundings, 3) creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Lighting has not been proposed and the project is not located along a state designated scenic highway; therefore the evaluation which follows focuses on two potential consequences, adverse affects to scenic vistas, and adverse impacts to the onsite visual character. Because these sites are generally not visible from offsite, the analysis focuses on changes as viewed from the project site.

Impacts

Glass Beach Drive

Visual Character

The proposed improvements on the Glass Beach Drive are limited to installation of a multi-use trail to the west of Glass Beach Drive. Minor topographic alteration would be required at the northern terminus of Glass Beach Drive.

Due to the limited scale and location of the proposed improvements, the visual character of the Glass Beach Headlands would remain high after construction of the Glass Beach Drive.

Scenic Vistas

Glass Beach Drive infrastructure improvements would be focused mostly within the existing right of way. The area disturbed by the pavement and drainage swale is generally at grade, and proposed improvements would not result in substantial topographic alteration.

Scenic vistas would not be significantly affected during construction or after construction of the proposed project. The project's removal of the 16 ft. high security fence on the southern edge of the Glass Beach Headlands and the development of the east west segment of the multi-use trail along the existing Glass Beach dirt road will improve the already high quality scenic values. The quality of scenic vistas would remain high and improve through the implementation of the project. No significant impacts would result.

North Parkland

Visual Character

Onsite visual resources of the North Parkland are located on the extreme western edge of the parcel. The project avoids affecting these resources primarily due to the location of the trail alignment, which is set back from the bluff edge. Proposed improvements include the trail network, signage, the parking area/welcome center, and drainage improvements. The drainage improvements would include one new culvert, replacement of two existing culverts and the installation of two above ground open stormwater conveyance systems that will be culverted over the bluff face. The three new culverted outfalls would not be visible except for the point where they outlet onto the bluff face. The culvert outlets would be surrounded by vegetation. Considering the North Parkland includes more than 25 ac and the coastline is more than 2 miles long, these outfalls would not be particularly visible from the trail system or the off shore environment.

The parking area and welcome center and the associated drainage improvements would be developed in a relatively small, approximately 1 ac area within the 28-ac North Parkland

site. Further the location for the proposed parking area currently has very low visual quality due to extensive existing asphalt, and an existing 16 ft. high chain link fence which would be removed as part of the project.

The majority of the North Parkland would be restored with native vegetation, resulting in substantial beneficial effects to the visual character.

Other improvements such as signage and fencing have been proposed in a limited way. The North Parkland area would include a total of approximately 13 trail etiquette and interpretative panels. They would be no taller than 48 inches and relatively small. Habitat protection fencing, a rod and cable/rope system, would be no taller than 3 ft. high. Property line fencing would be five strands of smooth strand wire on T stakes and 5 ft. tall.

Large construction machinery would be required and the construction activities would occur during one dry season. Generally, these activities would occur on the terrace portion of the site where the quality of the visual character is considered low. Further, the site would not be open to the public until construction is complete. The visual character would not be adversely affected by construction activities.

The proposed improvements, including the welcome area, restrooms, trail, and other improvements, would contribute to a developed look of the area post construction. However, considering that (1) the proposed improvements are located on the north east corner of the Mill Site, which has been developed for industrial uses and is nearly entirely paved, and (2) the fact the project includes substantial restoration of native habitats, post construction, no significant impacts would result.

Scenic Vistas

The North Parkland offers numerous scenic vistas to the north, south, and west of the site. Expansive views of the ocean, coastline, coastal terrace, and distant ridgelines can be seen from nearly the entire site. The proposed trail system does not require significant topographic alteration and would not adversely affect these scenic vistas to the north, south, and west. Other improvements such as benches, signage, and interpretive panels are limited in number and size and would not alter, obstruct, or significantly affect scenic vistas as seen from the trail.

The proposed Elm Street extension and welcome center area would include a 41-space parking lot, and a restroom and maintenance structure. The structure would be approximately 1,000 ft^2 in size, and 12-ft tall. These improvements would alter the current aesthetics of the corridor between the Glass Beach Headlands and the North Parkland. Currently the views include portions of the Glass Beach Headlands and the Mill Site, although the views are somewhat obstructed by large blackberry shrubs, a 16 ft. high chain link security fence, and other vegetation (refer to Photograph 3–5). The 40-ft wide Elm Street Extension, which includes the paved street surface, a 6-ft wide vegetated swale will be located on the City's property. An approximately 14-ft wide paved and gravel multi-use trail will be located on an existing gravel road on the southern portion of State Parks' Glass Beach Headlands. Areas north and south of the access road and multi-use trail would be restored with native species.

The proposed Elm Street Extension and welcome center would generally not obstruct or alter the scenic views to the north, south, or west as seen from the Glass Beach Headlands or the North Parkland. The proposed restroom and maintenance structure would not alter

existing views of the coastline to the south from the Glass Beach Headlands, due to its proximity to Elm Street and that it will replace an existing portable restroom.

During construction of the welcome center and Elm Street extension, scenic vistas may be altered for short periods. Post construction, due to the limited scale of the proposed improvements in relation to the expansiveness of the scenic vistas and the number of potential locations (the entire trail system) where those vistas could be viewed, the quality of the scenic vistas would remain high.

South Parkland

Visual Character

Onsite visual resources include the rocky shoreline, the punch bowl, the cemetery, and the well vegetated coastal terrace. The proposed trail alignment would be set back from the shore and would not include development along the bluff edge. Because of the topography and proposed restoration of the asphalt and gravel portions of the South Parkland, minimal drainage improvements are required. The largest onsite development includes the proposed parking area and associated amenities (restroom, welcome plaza, info kiosk, etc.) on the southern end of the runway. The proposed project plan includes planting coyote bush and other native shrubs to screen the parking lot from the trail and the distant Noyo Bridge. Additionally a 6-foot high concrete wall is proposed for the boundary between the project site and the residences along Noyo Point Road. The concrete wall would not impact views to the ocean from the public right of way because the proposed wall would perpendicular to highway 1 and views to the ocean are already severely limited in this area due to development along the bluff top (a hotel and four residences and associated out buildings and vegetation including a large stand of eucalyptus trees. Based on the location and type of proposed improvements, onsite visual resources would not be significantly impacted. Proposed restoration and landscaping (pine trees along the eastern border of the South Parkland) would enhance existing onsite resources. The nature preserve on the South Parkland would also have a 5 ft. high five strand fence to control access onto the site.

Given that the South Parkland is not open to public use and would not be until construction is complete, the visual quality would remain high.

Post construction, the proposed improvements would be limited and unobtrusive (parking lot, restroom, trail, signage) and would not adversely affect the visual character. The restrooms would be small and both the materials (metal/wood siding), and color (earthtone slate and brown) would be unobtrusive. These structures would not be substantial features within the 57-ac site. The quality of the visual character of the South Parkland would remain high.

Scenic Vistas

On the South Parkland, scenic vistas exist to the north, south, and west. The proposed trail alignment does not require substantial topographic alteration or include any components that may obstruct scenic vistas to the north, south, or west. Signage and benches are relatively limited and are generally 48 inches tall or lower. The proposed parking area and restroom is located on the southwest corner of the site, approximately 95 ft. from the bluff edge, and therefore would not adversely affect these vistas. The quality would remain high. The proposed restroom on the northern end, by the wastewater treatment facility, would be limited in size (100 ft^2, 9 ft. tall) and would be adjacent to the already developed wastewater treatment plant site, and therefore would not adversely affect existing resources.

The South Parkland parking lot has the potential to impact scenic vistas from the Noyo Bridge. However the project includes a landscaping plan to add coyote bush and other native scrub plants around the perimeter of the parking lot to screen the view of the parking lot from this public right of way and the coastal trail.

The proposed project would provide public access to areas currently inaccessible to the public, and would subsequently provide additional opportunities to experience these visual resources.

Given that the South Parkland is not currently open to public use and would not be until construction is complete, construction activities would not affect the high quality of the scenic resources.

None of the proposed improvements, including the structures and earthwork are of substantial enough scale or height to obstruct or alter existing scenic vistas. The quality of the scenic vistas would remain high post construction.

No Build Alternative

Under the No Build Alternative, no physical improvements would occur, including restoration actions. This alternative would not result in significant impacts; however it would also not result in the beneficial effects which include increased access to scenic vistas and enhancement of the onsite aesthetic resources.

Reduced Trail Alternative

From a visual resources perspective, this alternative would result in similar effects as the proposed project.

3.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

No significant impacts would result and no measures are required.

3.1.3.5 Cumulative Impacts

Potential future development to the east of the project site would not obstruct views of scenic resources which lie north, south, and west of the project site. Potential future development could substantially alter the existing visual setting, however and change the aesthetics of the site from a former industrial property to an urbanized area with additional public owned space.

The proposed project would include extensive restoration of the western edge of the Mill Site to native habitat, and would provide open space. Therefore it would not contribute to any cumulative significant impacts which could result in redevelopment of the remainder of the Mill Site.

The proposed project will have a beneficial cumulative impact because it preserves open space, and improves the character and visual quality of the area.

3.1.4 Cultural Resources

"Cultural resources" as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources.

This section includes a discussion of cultural resource regulations, a brief overview of the studies completed for this analysis, a description of the individuals and tribes that were consulted regarding this project and a discussion of the project mitigation. The section is based primarily on the findings and recommendations of a variety of confidential reports, which are available for review by qualified individuals.

Many significant portions of the project site have been investigated by professional archaeologists and architectural historians, particularly the North Parkland parcel and areas of the South Parkland parcel that are not heavily impacted by fill materials. The investigations included inventory, monitoring, test excavations, and evaluations of significance at numerous locations within the project area. The confidential reports summarize those investigations, identify potential impacts of the proposed project, and recommend a number of measures that should be implemented to avoid and/or mitigate potential significant impacts. Those measures are further refined in the Data Collection Plan, Post-Review Discovery Plan and Long term Management Plan for the project.

The Area of Potential Effect (APE) in this section is defined as the area, or areas, within which an undertaking may cause changes in the character or use of cultural resources present. The cultural resources APE encompasses the entire project site and a broader area of about 455 ac that includes the adjacent Mill Site, Glass Beach Drive, and Pudding Creek Trestle. That expanded area of consideration was investigated for potential indirect impacts to architectural (built environment) and archaeological properties (historic and pre-historic) outside of the project area.

State law requires that resource locations are kept confidential. The prepared archaeological reports are available for review by qualified persons at the City's Community Development Department at 419 North Franklin Street, Fort Bragg, CA 95437. Qualified persons may contact the Community Development Director (Marie Jones) to access this confidential information.

3.1.4.1 Regulatory Setting

Federal Policies and Regulations

The National Register of Historic Places

The NRHP administered by the National Park Service (NPS), under the Department of the Interior, is the nation's official list of historically significant cultural resources. It is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archaeological resources. Properties listed in the NRHP include

districts, sites, buildings, structures, and objects that are important in American history, architecture, archaeology, engineering, and culture, and that retain integrity. For the purposes of Section 106, properties are evaluated to determine if they meet the criteria for listing in the NRHP.

National Register Criteria for Evaluation

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of significant persons in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,

D. That have yielded or may be likely to yield, information important in history or prehistory.

State Policies and Regulations

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]). Section 21083.2(g) describes a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A *historical resource* is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR; Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5[a][3]).

According to Section 15064.5(a)(3)(A-D) of the revised CEQA Guidelines (Association of Environmental Professionals [AEP] 2009), a resource is considered historically *significant* if it meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or,

4. Has yielded, or may be likely to yield, information important in prehistory or history.

The criteria for listing resources on the CRHR (1-4) were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP (A through D) described above.

Additionally CEQA requires the following steps be undertaken to mitigate impacts to archaeological resources if any would be significantly impacted by a proposed project.

> "CEQA requires the Lead Agency to examine and impose mitigation measures or feasible project alternatives that would avoid or minimize any impacts or potential impacts identified in an EIR or a mitigated Negative Declaration.
>
> When archaeological resources are involved, avoidance, or preservation in an undisturbed state is the preferable course of action. Section 21083.2 provides that preservation methods may include:
>
> - **Planning construction to avoid archaeological sites.**
> - **Deeding sites into permanent conservation easements.**
> - **Capping or covering sites with a layer of soil before building on the sites.**
> - **Planning parks, greenspace, or other open space to incorporate archaeological sites.**
>
> Actual preservation measures may vary, depending upon the specific situation. For instance, capping or covering sites with soil may not be a practical solution where it might interfere with later carbon-14 or pollen dating procedures.
>
> When avoidance is not possible, excavation may be the only feasible alternative or mitigation measure**. Section 21083.2 limits excavation to those parts of the site which would otherwise be damaged or destroyed by the project**. Excavation is not required if the Lead Agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource. This information must be documented in the EIR."

Local Policies and Regulations

The City Coastal General Plan Open Space Element includes policies addressing cultural resources (see Table 2-2 Policy OS-4.1). Relevant policies and a consistency analysis can be found in the Land Use section of this subsequent EIR.

3.1.4.2 Affected Environment

The project site and vicinity have been inhabited for at least 13 millennia based on cross dating of cultural resources (projectile points) found at locally-investigated sites. The following discussion characterizes the general cultural history of the project vicinity

beginning with the prehistoric period and proceeding to the ethnography and history of the region. A summary of previously prepared cultural resources survey reports is included as well.

In 2011 the Fort Bragg Native American Archaeological District (P-23-4991) was determined eligible under Criteria A and D and has 22 contributing archaeological sites. This district includes all 22 sites found within the Fort Bragg Coastal Trail property. This archaeological district reflects persistent and intensive Native American use of the headlands between the Noyo River and Pudding Creek from the Upper Archaic Period to present. It is the only oceanfront location on the Mendocino Coast continuously occupied by Native Americans. The setting is a discrete portion of the local coast between two major watercourses with good access to intertidal resources, fish, and a rare coastal outcropping of Franciscan chert. This area may also be a Traditional Cultural Property for members of the Sherwood valley Rancheria.

Native American Prehistory, Historic and Current Use of Site

The site lies near the northern boundary of Northern Pomo territory. The coastline around Fort Bragg was inhabited in pre-historic times by the Northern Pomo, one of seven tribes who spoke languages of the Pomoan linguistic family. Shared linguistic traits of these groups suggest the Pomo expanded west from an ancestral homeland in the Clear Lake region. The Northern Pomo generally lived in the interior country, but had favorite coastal temporary camps and food collecting areas. Pre-historic Northern Pomo territory extended from the west shore of Clear Lake to the Pacific Ocean, encompassing coastal lands from Cleone south to the Navarro River.

The Pomo divided their time between interior villages and temporary coastal camps, rather than living permanently on the coast. Conical bark slab houses were traditional and in more recent historic times the same form was made with milled boards. The Pomo also built large semi-subterranean assembly houses for communal and ceremonial use. Their cultural materials included a wide array of durable artifacts, as well as many perishable goods such as an elaborate basketry tradition. Implements were fashioned from a variety of local materials, especially stone, bone, antler, shell, and woven plant materials. Chert and obsidian were preferred for flaked stone implements such as projectile points, drills, and scrapers, while a variety of lithic materials were used for mortars, pestles, anvils, and hammer stones.

The site was also a major nexus of Native American interactions with colonists. The headquarters of the Mendocino Reservation, the Fort Bragg Army Post, was located next to the site and one of the earliest local mills was located partially within the site. The entire APE for the project was once within the boundaries of the Mendocino Indian Reservation, as the reservation was very large. Several regional tribes were interred in the Reservation and worked at the Noyo Mill and as agricultural laborers. The Mendocino Indian Reservation closed in 1865 due to massive corruption. The superintendent of Indian Affairs used Indian supplies and funds to pay mill workers. Many Indians left the reservation in 1857 to keep from starving. Many of the remaining Indians were forceibly moved to the Round Valley Reservation (the North Coast's own trail of tears). Between 1858 and 1878 the Yuki population fell from 3,000 to 500 people and the Pomo population fell from 3,600 to 1,800 people in the reservation area. Some contributing sites of the district were used during that period and embody those significant events and trends. (Cook, 1976)

Following reservation closure, non-native settlement of the local area rapidly expanded.

In 1904, Barret identified two inhabited Indian villages at either end of the GP Mill Site; they were known as Indian Grove and Noyo Beach Village. The Indian Grove Village was just south of the current Glass Beach Headlands Park and by 1904 most of the inhabitants had moved to the Noyo Beach Village. CR Johnson of Union Lumber Company traded a portion of the Noyo Beach Village land for the Indian Grove land. The ULCO established a golf course on the Indian Grove area. The golf course was later operated by the City of Fort Bragg and finally reacquired by the mill owners to provide space for finished lumber storage.

The Pomo families that live on Noyo Point Road are descendants of Pomo people that were forced to move to the Round Valley Reservation, but later returned to Fort Bragg on their own and settled on the Kaidu Village site (Noyo Beach Village).

In 1940 (70 years ago), the historic Kaidu village (P-23-4305/CA-MEN-3328H) was relocated from Noyo Beach up to the top of the coastal bluff. That transition to the bluff top extended over several years, but was largely permanent by the time World War II started. Following the war a dredge spoils area was built over the original village on Noyo Beach, effectively precluding further access. Four Pomo families (Sherwood Valley Rancheria tribal members) continue to reside on the bluff top at this site. The City of Fort Bragg replaced their homes in the 1990s with four new modular that were funded with a Community Development Block Grant. This site is the only ocean front Pomo residential neighborhood still in existence along the Mendocino coast. The property on which the Pomo residents live is owned by Georgia-Pacific Corporation and is not part of the project site.

Residents (and friends of residents) of the Noyo Point Road neighborhood and members of the Sherwwod Valley rancheria have accessed portions of the South Parkland Parcel for cultural purposes in modern times and continue to do so today. Native use has in recent years included: fishing, diving for abalone and other marine resources, gathering botanical resources, collecting firewood, and walking and recreating on the site. There is no known current access or use of the North Parkland parcel for cultural purposes as there is no easy access to this site. There was use of the north parcel by native peoples in the historic period as this was the location of a native village in the Mendocino Indian Reservation.

History

Non-indigenous peoples explored the Mendocino coast for several centuries before any permanent settlement was initiated. International parties of exploration, particularly those sponsored by the Spanish government, viewed the coast of Mendocino starting in the early 1500s but probably did not land due to the dangerous, rocky near-shore environment. The likely first regular direct contacts between indigenous populations and European visitors were fur-trapping parties of the Russian American Company (RAC) who regularly occupied the coast after 1804. By 1812 the RAC established settlements at Fort Ross and Bodega Bay. The wreck and consequent salvage of the Russian vessel *Ilmen* near Point Arena in 1822 resulted in the first prolonged contact between Mendocino coast native groups and Euro-American colonists.

The first widespread American settlement of coastal Mendocino County was spurred by demand for lumber. The virgin forests of coastal California offered some of the most readily accessible timber in the state. A mill was established at the mouth of the Noyo River by the mid-1850s. In the following decades, the forests of the Mendocino Coast would prove to be a crucial commodity in the growth and development of California.

Settlement by American citizens disrupted indigenous subsistence regimes, and resulted in many deaths from introduced diseases and aggression by the new colonists. The Mendocino Indian Reservation was established in 1855 to control Indians who opposed white settlement. That reservation encompassed the project site, and its headquarters was located in the City limits about six blocks inland from the site. The reservation was established on 25,000 acres to concentrate the indigenous population in one area while allowing non-native settlement of the surrounding area. The company of soldiers stationed at Fort Bragg brought Indians to the reservation from near and distant locales, and also captured people who escaped from the reservation. Many Indians avoided capture or fled from the Mendocino Indian Reservation due to exploitation, sexual abuse and dismal conditions (see discussion above).

In 1885 the Fort Bragg Lumber Company (formerly the Ten Mile River Lumber Company) moved its operations to the mill site on the coastal bluffs in Fort Bragg. The City was incorporated in 1889. In 1891 the Fort Bragg and Noyo Mills merged as the Union Lumber Company, which continued to operate and expand the Fort Bragg mill until 1969. The mill was then acquired by Georgia-Pacific and continued to operate under that owner until its closure in 2003.

A railroad was completed in 1917 up into the Ten Mile River watershed and eventually converted into a logging road in 1949. The Pudding Creek trestle, located immediately north of the Glass Beach Headlands, is a highly visible remnant of this transportation route and Glass Beach Drive follows that route.

The city grew rapidly with businesses established to support the thriving population. Farms developed in the surrounding area to supply food for the local population, although many goods were also imported via a thriving shipping industry. The main landings used for shipping and travel were located in Soldier Bay and at a location on the north side of Noyo Bay. The headlands were also used to dispose of refuse from the mill and its associated community. The Union Lumber Company paved the western extension of Elm Street in 1949 at the time it converted the Ten Mile Railroad to a truck haul road. It was at that time that dumping began in the area now commonly known as Glass Beach.

The land north of Elm Street and south of Pudding Creek remained largely vacant in subsequent decades until various development schemes were proposed in the 1990s. The eastern 26.53 acres of that larger property was subsequently developed with a mixture of residential and commercial uses, while the 38 acre ocean front property was eventually acquired by the California Department of Parks and Recreation (DPR). The property was added to MacKerricher State Park in 2003 following remediation of the hazardous wastes present in the Glass Beach dump. The City acquired oceanfront parcels that now comprise the North and South Parklands in 2009 from the Georgia-Pacific Corporation with funding from the State Coastal Conservancy.

Previous Investigations within the APE

Prior studies within the APE are listed in Table 3-7 and the extent of those previous investigations is shown in Figure 3–3. A large portion of the project site has been previously covered by intensive pedestrian archaeological surveys and/or extensive subsurface archaeological investigations. As part of the EIR analysis for the proposed project, those earlier studies were supplemented with additional intensive pedestrian surface surveys and re-inspection throughout the ADI. The Glass Beach Headlands and Glass Beach Drive components have been completely inspected. Identification efforts in the Elm Street

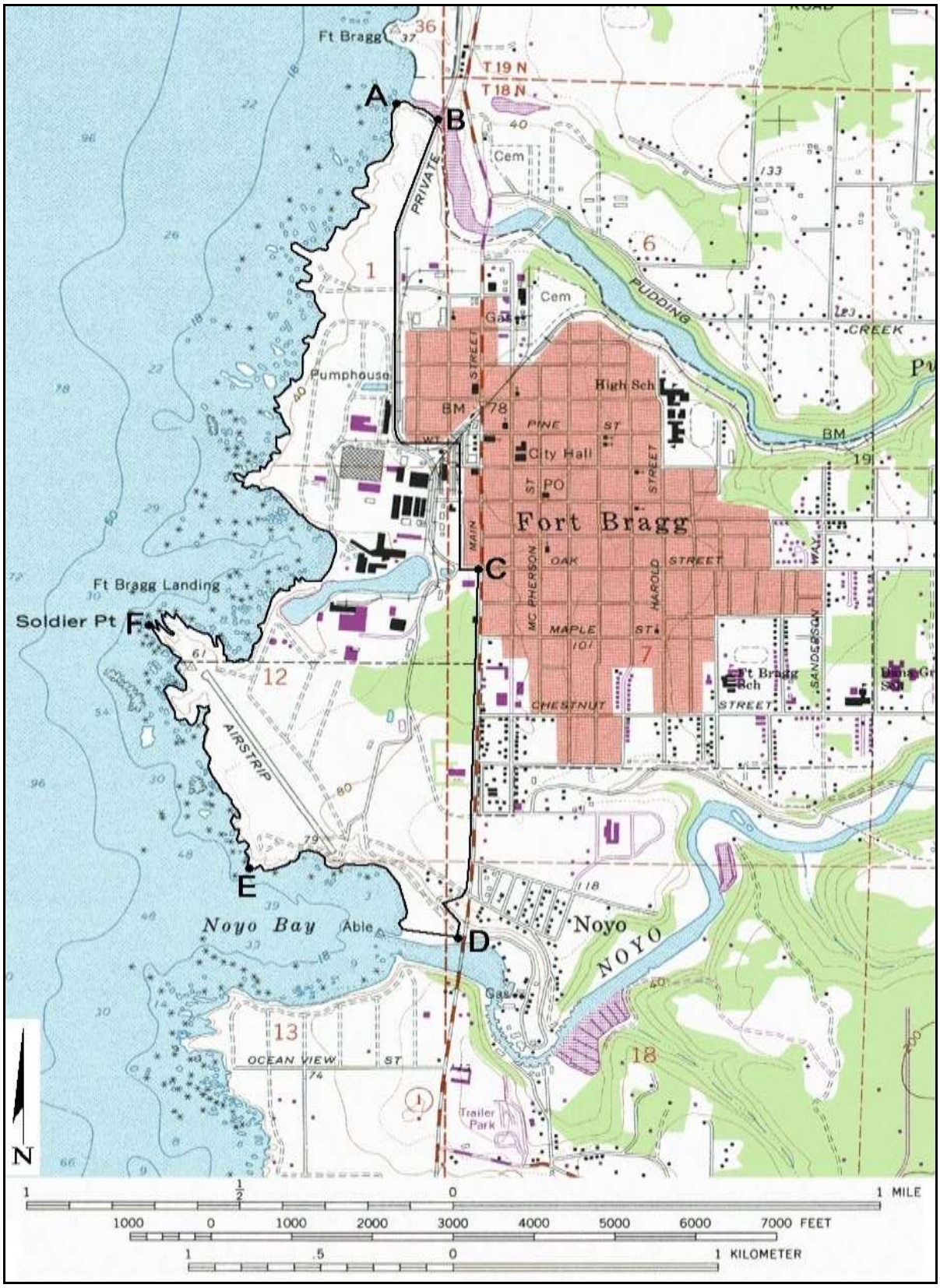
Extension, an area entirely obscured by pavement, were accomplished with systematic test pits in 2010 (Texier and Denardo). Similarly, the largely paved North Parkland component was systematically tested to augment recordations in1999. As part of the preparation of the Data Collection Report all unpaved areas in the South Parkland were subject to an intensive archaeological survey (surface recon with over 100 test pits associated with the site characterization completed for DTSC) to ensure an adequate identification effort (Van Bueren 2011).

Table 3-7. Previous Investigations within the Project Area

Author(s)	Date	Study Coverage	Description of Work
King	1974	In ADI (South Parkland)	Recorded Noyo Point Cemetery
Van Bueren	2002	In ADI (Glass Beach Headlands)	Glass Beach ASR/HRER for hazardous waste removal project
Parker and Drover	2003	In ADI (South Parkland)	Partial archaeological survey of Mill Site property (intensive survey of about 85 out of 415 ac)
Parker et al.	2003	Entire mill property	Mill Site property architectural survey
Van Bueren	2009	Outside of ADI at Noyo Beach	HPSR/FoE for dredging project
Van Bueren	2007a	In ADI (Glass Beach Headlands)	Intensive archaeological survey
Descantes et al.	2007	In ADI (North & South Parklands)	Test excavation at eight sites in ADI and monitoring five other hazardous waste removal areas
Van Bueren	2007b	In ADI (Glass Beach Drive right of way)	Intensive archaeological survey
Frank and Denardo	2010	Outside of ADI on mill property	Archaeological monitoring (2008 field season)
McCarthy-Reid and Denardo	2008	Entire mill property including North & South Parklands	Union Lumber Company History (architectural mitigation report for building demolitions)
Parker et al.	2006	Entire mill property including North & South Parklands	Archaeological evaluation, monitoring, a treatment plan
Collett and Nedoff	2009	In ADI (North & South Parklands)	Archaeological monitoring of hazardous waste removal
Reid and Denardo	2009	Outside of ADI on Mill property	Pipe removal monitoring
Texier and Denardo	2010	In ADI (Elm Street Extension) and Outside of ADI on northern Mill property	Phase I testing in northern mill property, mainly east of ADI; new sites found and tested.
Van Bueren and Carmack	2011	Entire ADI	HRER covering built environment and historic sites
Van Bueren	2011	Entire ADI	HPSR/FoE and Data Collection Plan for proposed project

Figure 3–3. Previous Investigations in the APE

Figure 3–4. Fort Bragg Native American Archaeological District Boundary



Built Environment Resources

Two built environment resources, including the Mill Site Historical District containing 14 buildings, were evaluated within the APE.

Pudding Creek Trestle and Union Lumber Company Haul Road

The timber trestle bridge is located in MacKerricher State Park on the former railroad alignment of the Ten Mile River Railroad/log haul road for the Union Lumber Company Mill. In 1949, the rail line and trestle were converted from railroad use to a paved vehicular haul road, for use by special trucks that were too large to travel on the state highway system. The haul road and trestle remained in use by the lumber mill until 1983. In 1986, a portion of the haul road containing the Pudding Creek Trestle was acquired for use as MacKerricher State Park. In the early 1990s the trestle bridge was found to be structurally unstable and was closed to all transportation. A 1996 evaluation found that the trestle was eligible for listing in the NRHP or CRHR under Criteria A/1 as a contributor to the Union Lumber Co. Haul Road historic district. It was also found individually eligible under Criteria C/3, as an intact example of a railroad trestle bridge.

In 2007, it was reevaluated and found no longer individually eligible under Criteria C/3, as the reconstruction project compromised the integrity of the resource. That report did assert that the resource remained eligible under Criteria A/1, as a contributor to the Haul Road historic district. Since that finding was made, the bridge was reconstructed (2007). Because the haul road currently lacks all aspects of integrity except location, it is no longer eligible as a historic district. Without a greater Haul Road historic district, the subject property trestle bridge does not contribute to the significance of a Haul Road historic district. Because the Pudding Creek Trestle is not a contributor to the Union Lumber Company Haul Road historic district and is not individually significant, it is not eligible for listing in the NRHP or CRHR. Although the trestle bridge was directly associated with the Union Lumber Company and the logging industry that helped shape Mendocino County (Criteria 1/A), it has been extensively altered. Because of the reconstruction it no longer retains integrity of design, materials, workmanship, feeling, or association. The resulting reconstructed bridge is not directly associated with persons significant in our past (Criteria B/2) and no longer embodies the distinctive characteristics of its type, period, or method of construction, (Criteria C/3). There is no reason to believe that the trestle may yield important information about prehistory or history (Criteria D/4).

The Union Lumber Company Mill Historic District

The former Georgia-Pacific Lumber Mill property consisted of 32 extant buildings that date from approximately 1900 to 1963. A 2003 survey identified 50 extant buildings and structures on the property, of which 22 were found to be contributors to a historic district. Although that evaluation found the property eligible for listing in the NRHP as a historic district, there was no evidence that the report was submitted to the State Historic Preservation Office (SHPO) for concurrence. The remaining 28 non-contributing buildings were constructed between 1970 and 1990. Since the 2003 evaluation was completed, 21 of the 22 historic district contributors were demolished, leaving only 1 extant, ostensibly contributing building (Dry Shed #4). All of the Mill Site buildings were demolished in 2013, with the exception of Dry Shed #4, the guard shack at Cypress Street and the training center at Oak Street due to health and safety concerns: the site no longer has a fire suppression system and many of the buildings were starting to fall down.

The majority of these simple, post-war utilitarian warehouses and office buildings were constructed after 1945. In light of the recent demolitions of most of the standing structures, the Georgia-Pacific Lumber Mill property is not eligible for listing in the NRHP or CRHR as a historic district. Only one of what once were 22 contributing resources remain, and the setting has been greatly altered by the demolition of the other, related buildings.

3.1.4.3 Environmental Consequences

Methodology

Consultation

Native American Consultation

Letters were sent to the Native American Heritage Commission (NAHC) and every tribe identified on the NAHC's contact list for Mendocino County (refer to Table 3-8). No sites listed in the Sacred Lands inventory of the NAHC are present in or near the APE according to their response. Letters were again sent to all tribes when the South Parkland was added to the scope of the project. Several responses were received and they are summarized below.

The Guideville and Potter Valley tribes responded by letter and additional information was received orally from Harriet Rhoades of the Noyo Indian Community (SVR Tribal member), Gregg Young of the Potter Valley Tribe, and Misty Cook of the Sherwood Valley Rancheria. These four responsive tribes mentioned the sensitivity and longstanding indigenous use of the APE, shared information on specific resources, requested involvement if remains are unearthed during project construction, and viewed the reestablishment of access favorably. They emphasized persistent associations with the area that are considered in the District evaluation discussed later in this report. After the Fort Bragg Coastal Trail EIR was certified in 2011 the City of Fort Bragg began working on an Environmental Assessment (NEPA) for the project because about 12% of the project funding was a federal appropriation (earmark) from Congressman Mike Thompson. As part of the NEPA process Sherwood Valley Rancheria indicated that they were interested in participating in Government-to-Government consultation in fall of 2011 under the federal Section 106 consultation process. That consultation began in 2012 with Caltrans participating as the NEPA lead agency under an agreement they have with the Federal Highway Administration. The Consultation process was a lengthy progress that extended from early 2012 through the Fall of 2013. The City of Fort Bragg was not invited to participate in the formal Government to Government consultation but was invited to participate in a number of pre-meetings to provide information about changes to the design to address various tribal concerns. By the summer of 2013, City Staff became concerned about the pace of the consultation process and the very long timeframe for completing the Section 106 process, the 4F process and the Environmental Assessment and these processes are required for projects with federal funding that impact cultural resources. In July of 2013 City Council reviewed the project schedule, given the long timeframe for the NEPA and associated process, and determined that retaining the $750,000 federal appropriation for the project would put the remaining state funds of over $6 million at risk because of timelines associated with the state funding sources. Consequently City Council directed staff to deobligate the federal funds for the project and work with the Sherwood Valley Rancheria for a period not to exceed three months in order to come to agreement regarding design changes to the project that would address the majority of the SVR's concerns regarding the project. City Staff met with the Tribal council three times over a two month period to identify mutually agreeable and feasible solutions which would address SVR's concerns. On September 9th the City Council received a report regarding proposed changes, agreed to by SVR Tribal Council and City

Staff, and directed the City to proceed with a CEQA document to analyze the proposed changes. In September of 2013 the federal funds were deobligated for this project.

This Subsequent EIR analyzes the revised Coastal Trail project design, which incorporates the agreed to changes between the SVR Tribal Council and the Fort Bragg City Council.

An administrative draft and a draft version of this subsequent EIR was circulated to Sherwood Valley Rancheria asking for their comments.

Historical Societies and Other Resources

Contacts were made with several local historical societies. Letters were sent by U.S. mail to historic preservation and history advocacy groups/societies listed below in Table 3-9. The letters requested information on potential historic resources in the area of the proposed project. Some respondents such as Sylvia Bartley of the Guest House Museum supplied specific information about historic era resources.

Additional background research was conducted to develop the historic context necessary for evaluation of the resources present in the APE. That research included the examination of primary and secondary historical sources, including historic maps and photographs and previous cultural resource studies. Research was focused on the history and development of the Georgia-Pacific lumber mill property, and the City as they relate to identified resources within the APE. The following repositories and individuals were contacted to identify known historic land uses and the locations of research materials pertinent to the APE:

- Guest House Museum, Fort Bragg
- Kelley House Museum, Mendocino
- Held-Poage Historical Research Library, Mendocino County Historical Society, Ukiah
- Nancy Philips, Administrative Secretary, City of Fort Bragg
- Nancy Freeze, Executive Director, Kelley House Museum in Mendocino
- Sylvia Bartley, Archivist of the Guest House Museum in Fort Bragg
- Various internet web sites

The following maps and aerial photographs were specifically inspected:

- 1867 Government Land Office plat
- 1890, 1898, 1909, 1919, 1941 Sanborn Fire Insurance maps of Fort Bragg
- 1927 and 1957 aerial oblique photographs
- 1929 U.S. Coast and Geodetic Survey Map, Point Cabrillo to Pudding Creek
- 1943 USACE Fort Bragg 15’ quadrangle
- 1957-2009 Historic aerial photographs
- 1960 U.S. Geological Survey (USGS) Fort Bragg 15’ Quadrangle

Table 3-8. List of Contacted Tribes

Affiliation	Name	Title	Address	City	State	Zip
Round Valley Reservation	Shannon Barney		P.O. Box 448	Covelo	CA	95428
She Bel Na Band of Pomo Indians	Dina Bowen-Welsh		15701 Pearl Ranch Road	Fort Bragg	CA	95437
Hopland Band of Pomo Indians		Tribal Chairperson	3000 Sanel Road	Hopland	CA	95449
Scotts Valley Rancheria		Tribal Chairperson	9700 Soda Bay Road	Kelseyville	CA	95451
Laytonville Rancheria	Atta P. Stevenson	Cultural Resource Coordinator	P.O. Box 1239	Laytonville	CA	95454
Manchester Band of Pomo Indians		Tribal Chairperson	P.O. Box 623	Point Arena	CA	95468
Manchester Point Arena Tribe	Florence Silva		P.O. Box 237	Point Arena	CA	95468
Coyote Valley Band of Pomo Indians		Tribal Chairperson	P.O. Box 39	Redwood Valley	CA	95470
Redwood Valley Rancheria		Tribal Chairperson	3250 Road I	Redwood Valley	CA	95470
Stewarts Point Rancheria		Tribal Chairperson	3535 Industrial Drive, Ste B2	Santa Rosa	CA	95403
Guidiville Band of Pomo Indians		Tribal Chairperson	P.O. Box 339	Talmage	CA	95481
Yokayo Tribe		Tribal Chairperson	P. O. Box 362	Talmage	CA	95481
Intertribal Sinkyone Council		Tribal Chairperson	P.O. Box 1523	Ukiah	CA	95482
Pinoleville Rancheria		Tribal Chairperson	367 N. State Street, Ste 204	Ukiah	CA	95482
Potter Valley Tribe		Tribal Chairperson	2251 S. State Street	Ukiah	CA	95482
Sherwood Valley Rancheria	Tribal Chain, Tribal Council & Hillary Renick	THPO	190 Sherwood Hill Drive	Willits	CA	95490

Table 3-9. Local Historical Groups Consulted

Facility/Group	Date Sent	Reply Date	Results
Grace Hudson Museum and Sun House 431 South Main Street Ukiah, CA 95482 Attn: Marvin A. Schenck, Curator	5/11/2010 via U.S. Mail	7/06/2010: Mr. Schenck contacted by telephone	On 7/06/2010, Mr. Schenck stated that the museum has no comment and does not foresee anything that will come in the way of the project.
Guest House Museum, **Fort Bragg-Mendocino Coast Historical Society** 343 North Main Street, P.O. Box 71 Fort Bragg, CA 95437 Attn: David Foucheaux, Vice President, Board of Directors	5/11/2010 via U.S. Mail	7/01/2010: S. Francisco spoke to Mr. Foucheaux by telephone	On 7/06/2010, Mr. Foucheaux stated that he does not know of any potential or known historic resources within the project area. Sylvia Bartley was contacted by T. Van Bueren and she provided written details on May 12, 2010 about several resources in APE.
Held Poage Memorial House and Research Library 603 West Perkins Street Ukiah, CA Attn: Dr. Paul Poulos, Director	5/11/2010 via U.S. Mail	5/28/2010: Dr. Poulos responded via email.	Dr. Poulos responded on May 28, 2010 via e-mail, on behalf of the Held Poage Memorial House and Research Library and the Mendocino County Historical Society that they have no information pertinent to the area at this time.
Kelley House Museum and Mendocino Historical Research Inc. 45007 Albion Street, P.O. Box 922 Mendocino, CA 95460 Attn: Carolyn Zeitler, Archivist	5/11/2010 via U.S. Mail	6/01/2010: Nancy Freeze, Executive Director, was contacted by telephone	On 6/01/2010, Ms. Freeze stated that the letter was reviewed internally by all staff and no one had any knowledge to contribute or offer. No further action necessary. This facility was visited in May 2010 by T. Van Bueren to obtain information about the Noyo Point Cemetery.
Mendocino County Museum & Roots of Motive Power 400 East Commercial Street Willits, CA 95490 Attn: Alison Glassey, Director	5/11/2010 via U.S. Mail	6/01/2010: Ms. Glassey was contacted by telephone	On 6/01/2010, Ms. Glassey stated that no one at the Mendocino County Museum is aware of any potential or known historic resources within the project area.
Mendocino County Historical Society 603 West Perkins Street Ukiah, CA 95482 Attn: Lorena Christiansen, President	5/11/2010 via U.S. Mail	5/28/2010: Dr. Poulos responded via email.	Dr. Poulos responded on May 28, 2010 on behalf of Held-Poage Museum & Mendocino County Historical Society that they have no information pertinent to the area at this time.

Field Investigations

Most of the APE has been previously subject to either intensive pedestrian survey or subsurface testing. However, supplemental field inspection was carried out during this investigation to verify earlier findings and ensure an intensive level of pedestrian surface coverage in all portions of the APE not covered in fill or pavement.

Thresholds of Significance

To determine potential impacts to the cultural resources identified during the literature review and field investigations, the proposed areas of temporary and permanent native soil disturbance were placed on maps which showed the aerial extent and depths of the significant cultural resources. (These maps are available for review by qualified persons at the City Community Development Department). Cultural resource specialists then compared the necessary depths of excavation to the depths of the resources and determined where disturbance of subsurface resources would potentially occur. This relatively precise method of assessment allowed the City to modify the project design and construction techniques in ways that would allow for avoidance of resources to the extent feasible.

Additionally, through the consultation process with Sherwood Valley Rancheria, a number of innovative strategies were developed to avoid or reduce impacts and improve the project. Innovative strategies include:

- Relocate the south parking lot, restroom, welcome sign, and welcome kiosk from the Noyo Point Road entrance to the southern end of the runway.
- Provide access to the parking lot from the Cypress Street gate instead of Noyo Point Road
- Add a six-foot high concrete wall along Noyo Point Road to provide visual and auditory privacy, and to reduce trespassing onto the parcel along Noyo Point Road.
- Add three new interpretive panels emphasizing past and current Native American use of the property and revise one existing native American panel.
- Limit access to the Noyo Headland Reserve to SVR tribal members, City staff and researchers.
- Various changes to the stormwater management design. These changes include the elimination of a 600 foot long culvert, replacement of two existing short culverts, and installation of two above-ground storm water conveyance systems.
- Change the extent and depth of the cultural resource cap as discussed with SVR.
- Relocate the bench adjacent to the Dynamite Shack.
- Include native plants which are cultural resources to the tribe in site restoration and allow for gathering of such plants in DTSC approved areas.

Cultural resources, found on the site, are eligible for inclusion in the National Register of Historic Places. The SHPO concurred with the finding that cultural resources on the site are eligible for inclusion in the National Register of Historic Places. After a complete analysis of the modified project it was determined that complete avoidance of the cultural resources onsite was not feasible and that the project would have limited impacts on cultural resources. Consequently the City began developing a Phase III program (this program can also be referred to as a Data Recovery or Treatment Plan). The Phase III is a comprehensive approach to address significant impacts to the archaeological resources. This document is available for review by qualified persons at the City Community Development Department.

Additionally as the site is also considered a Traditional Cultural Property (TCP) by SVR, the project may have impacts to Culturally Significant Places which may have been used in the past and are currently used by members of the Native American community for spiritual purposes and/or resource gathering, and which are areas that may be important due to their intimate relationship with native oral tradition/oral history. To address potential impacts to the TCP component of the project APE, an ethnographic study will be implemented to mitigate for impacts to Culturally Significant Places.

3.1.4.4 No Project Alternative

The No Project Alternative would not include any improvements within the Mill Site and therefore no adverse impacts would occur there.

3.1.4.5 Reduced Trail Alternative

This alternative would not reduce impacts to resources since the native soil disturbance would still be required due to stormwater improvements for the reduced trail alternative.

3.1.4.6 Avoidance, Minimization, and/or Mitigation Measures

AR Impact 1: The construction of one below ground drainage feature and the replacement of two existing culverts will have unavoidable impacts on cultural resources.

AR/mm- 1 AR/mm- 1 The City shall hire an archaeologist to prepare a Data Collection Plan for unavoidable impacts to cultural resources. The City will consult with Sherwood Valley Rancheria on the Data Collection Plan contents and protective measures. The Data Collection Plan will be followed prior to, during and after construction. All protective measures identified within the Data Collection Plan, including presence of tribal monitors during all data collection activities shall be incorporated into the plans, specifications and estimates for the project. The City and its contractors will follow the Environmentally Sensitive Action Plan, Post Discovery Action Plan and the Monitoring Plan prepared for this project as part of the Data Collection Plan.

AR Impact 2: Project construction and restoration activities have the potential to impact cultural resources.

AR/mm-2 The City of Fort Bragg's cultural resources consultant (archaeologist) shall assist in implementation of all cultural resources mitigation measures.

AR/mm-3 To protect cultural resources the City of Fort Bragg shall prepare an Environmentally Sensitive Area (ESA) action plan prior to construction. The plan shall be implemented prior to, during and after construction, as applicable. The plan shall include the following measures:

Prior to Construction

1) ESA action plans for the significant historic and archaeological resources identified shall be clearly described and illustrated in the final construction plans and specifications prepared to guide construction of the project. Protective measures shall be adequately specified and appropriately scheduled in construction document specifications.
2) A qualified cultural resources consultant shall review all construction plans to ensure ESA locations and protective measures are correctly

identified on project plans and specifications. The City will consult with SVR at the 90% design stage to ensure that this mitigation measure is carried out.

3) Cultural resources specialists (including tribal monitors) shall attend relevant hand-off meetings with construction contractors to ensure that ESA commitments are addressed.
4) ESA action plans will be discussed during the preconstruction meeting. The importance of ESA action plans will be discussed with construction personnel and it will be stressed that no native soil disturbing construction activity should occur within the ESAs. Additionally, construction personnel will be informed of historic preservation laws that protect archaeological sites against any disturbance or removal of artifacts.
5) The archaeologist will be notified at least three weeks in advance of ground disturbing construction activities within ESAs to ensure they will be available to monitor/review installation of ESA protection and ensure they are in proper locations. A construction schedule will be provided to the archaeological monitor detailing when grading and other excavations will occur within ESAs three weeks before such activities begin.
6) One week prior to initiating any native soils disturbance within an ESA, the archaeologist will: 1) perform a field review of completed installation of ESA protections (permanent and/or temporary plastic fencing, chalk marks, staking as feasible); and 2) provide a site tour, project overview and required training (e.g. safety) for Native American Monitors that will work on the project.

During Construction

7) The archaeologist will be notified when native ground disturbing activities will begin and will inspect the construction area as necessary during excavation work to ensure that the ESAs are not violated. Inspections shall occur at least weekly, with daily checks preferred in areas of known cultural resources, with reports provided to relevant agencies.
8) Native American monitors will be required where ground disturbing activities occur in archeological areas or in locations where native soils will be disturbed and there is insufficient evidence to rule out a resource area.

Archaeologist will notify the City of Fort Bragg and the State Historic Preservation Officer within 48 hours of any ESA violation or unanticipated discovery to determine how it will be addressed. Consultation with Native Americans shall also be included.

After Construction

9) The Archaeologist shall supervise removal of the temporary fencing after construction.
10) The City of Fort Bragg shall prepare a four year monitoring plan that includes an annual review of the sites in the project ADI to assess cumulative impacts, measures to address impacts, and an annual report of findings, which would be available for review by the public and resource agencies. That plan shall be implemented for at minimum four years, or until it is clear that resources are no longer impacted by the project.

AR/mm-4: The project will implement the “post Review Discovery Plan if cultural materials are discovered during construction.

AR/mm-5: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the project archaeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

AR/mm-6: The City shall require Native American monitoring of all construction activities that will result in grading or movement of native soils in cultural resource areas as identified in the Data Collection Plan and in areas not previously cleared for cultural resources where native soils will be disturbed.

AR Impact 3: The project could potentially impact Culturally Significant Places.

AR/mm-7 The City shall complete an ethnographic study of the project site prior to completion of construction to mitigate for non-archaeological impacts of the project to cultural resources and places of cultural significance.

AR/mm-8 The City shall provide for Sherwood Valley Rancheria Tribal Member access of the Noyo Headlands Preserve for limited cultural activities that will not impact the botanical resources of the site. General public access of the Noyo Headlands Preserve shall be prohibited through the installation of a fence and signage.

3.1.4.7 Cumulative Impacts

Implementation of the proposed project, without mitigation, would contribute to the cumulative degradation of significant archaeological resources in Mendocino County. The destruction of archaeological resources has a significant cumulative impact as they are inherently important to the descendants of native peoples and make the study of prehistoric and historic life unavailable for study by scientists. Given the prevalence of cultural resource sites in Mendocino County and the number of construction activities that involve disturbance of archaeologically sensitive areas that are regulated by the Local Coastal Programs of both the City of Fort Bragg and Mendocino County, many (if not most) prehistoric and historic resources are identified and monitoring is required during construction where there are known resource sites \.

For the proposed project, impacts to known cultural resources would be either avoided or mitigated by implementation of a Phase III data recovery program, establishment of ESAs, ethnographic study, and monitoring. Based on implementation of these measures, potential cumulative impacts resulting from the proposed project would not be cumulatively considerable.

3.2 Physical Environment

3.2.1 Water Quality and Storm Water Runoff

This section considers water quality issues, with a focus on storm water management and erosion and sedimentation related to construction activities. Potential significant impacts are identified and avoidance, minimization, and mitigation measures have been recommended. Technical reports used in the development of this section include:

- Rau Engineering, Site Drainage Analysis, North Fort Bragg Trail. January 2010.
- Rau Engineering. Comments Regarding Proposed Parking Lot Drainage Modifications, August 2011.
- Tetra-tech, Technical Memo Site Drainage For North Fort Bragg Coastal Trail. August 2010.
- SWCA, Draft Wetland Assessment for the Fort Bragg Restoration and Trail Project. September 2010.
- Rau Engineering. Revised drainage designs for North Trail 2013.

3.2.1.1 Regulatory Setting

Section 401 of the Clean Water Act requires water quality certification from the State Water Resource Control Board (SWRCB) or a Regional Water Quality Control Board (RWQCB) when the project requires a Federal permit. Typically this means a Clean Water Act Section 404 permit to discharge dredge or fill into a water of the United States, or a permit from the Coast Guard to construct a bridge or causeway over a navigable water of the United States under the Rivers and Harbors Act.

Along with Clean Water Act Section 401, Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB (State Water Resources Control Board) and the nine RWQCBs (Regional Water Quality Control Boards). To ensure compliance with Section 402, the SWRCB has developed and issued the Department an NPDES Statewide Storm Water Permit to regulate storm water and non-storm water discharges from Department' right-of-way, properties and facilities. This same permit also allows storm water and non-storm water discharges into waters of the State pursuant to the Porter-Cologne Water Quality Act.

The City has an MS4 General Permit from the RWQCB; the permit covers the entire City of Fort Bragg Incorporated Area and the project is located entirely within the City's Incorporated Area. The Region 1 North Coastal Region of the RWQCB issued an NPDES Small MS4 permit to the City because it discharges into a sensitive water body (the Noyo River) and has high population density. The City's Storm Water Management Program (SWMP), required by the Small MS4, serves as the plan and guide for managing stormwater discharges and the reduction of pollutants within the permit boundary. The requirements of SWMP that have to do with pre and post development storm water management have been incorporated into the City's Coastal Land Use and Development Code, which the project will have to comply with as a condition of the project's Coastal Development Permit from the City.

In September of 2011, the Fort Bragg Planning Commission approved a Coastal Development permit for this project. An amendment to this permit to incorporate the design changes will be considered if this subsequent EIR is certified.

City of Fort Bragg Coastal General Plan, Conservation, Open Space, Energy, & Parks Element

This element of the City's General Plan includes numerous policies related to storm water and water quality. Refer to Table 3-1 of the Conservation, Open Space, Energy, & Parks section of this EIR for a complete list and consistency determination.

3.2.1.2 Affected Environment

Floodplain

The Project site is located in a 500 year floodplain, except for a few areas along the bluff top edge that are subject to Flood Zone V, consisting of coastal flood with velocity hazard (wave action). The Flood Zone V areas are illustrated in Figure 3-5.

The project will not have a significant encroachment on the floodplain.

Figure 3–5. Floodplain Map

Glass Beach Drive

Stormwater/Hydrology

Glass Beach Drive is bordered on the west by a roadside drainage ditch between the road and the eastern border of the Glass Beach Headlands (refer to Photograph 3–16). The drainage ditch only conveys stormwater shortly after rainfall events. A culvert outlet drains the southern half of this ditch west to the Pacific Ocean. Another culvert outlet drains the northern half of the ditch north to Pudding Creek. The ditch becomes less defined upon approaching Pudding Creek but the overall slope of the land indicates that runoff eventually sheet flows from the ditch to the parking lot and from there through a drop inlet into the culvert that outlets 40 feet above Pudding Creek.

Erosion

There are no significant existing erosional features or issues associated with Glass Beach Drive, as new visitors will be accommodated on the multi-use trail and therefore will not contribute to erosion.

North Parkland (including the Elm Street Extension and Welcome Area)

Stormwater/Hydrology

The coastal trail property is located down gradient from, and within, the 80-ac northern portion of the Mill Site, which is covered by a combination of asphalt, compacted gravel, and structures. Within the North Parkland there are six existing culverts intended to drain stormwater from this 80-ac area; however, only five outfall locations (refer to Photograph 3–17) could be identified by the design and engineering team. The outfalls are in poor condition (choked with vegetation or sediment) and likely function poorly during rain events. Due to the lack of topography onsite and the existence of the asphalt and gravel, there is little to no opportunity for stormwater retention or percolation into the underlying soils. These characteristics, along with the large (80 acres of impervious surfaces) drainage area of the Mill Site which drains to the North Parkland, have resulted in stormwater sheet flow directly through the proposed project, and over the bluff edge.

Erosion

The hydrologic conditions noted above have resulted in severe areas of erosion along the bluff edge. Some portions of the asphalt, along with underlying soils have been eroded by stormwater and have fallen onto the bluff face, onto the beach, or directly into the ocean (refer to Photograph 3–18). This level of erosion has occurred in four or five spots along the project site and site erosion has worsened since the Mill Site shut down due to the shortened time to concentration for stormwater leaving the mill site property, as the stormwater no longer makes a circuitous route over stacked finished lumber piles which resulted in longer time to concentration and less erosion. Due to the asphalt and gravel overlying much of the North Parkland, erosion is concentrated along the bluff edge, where low spots result in concentrated flows and undercutting of the soil under the asphalt surface and resulting collapse. The proposed project will reduce erosion forces on the site because: 1) over 25 acres of impervious surfaces will be replaced with restored coastal bluff scrub on top of a cultural resources cap of 12 inches of sand, which will increase the water infiltration abilities of the site; and 2) new bioswales and drainage features (as described later) will improve onsite storm water treatment and conveyance to the toe of the downslope through the bluff. Finally, visitors will traverse the site on established paved trails with plenty of signage to keep people off of the unstable bluffs and out of rare plant areas.

South Parkland

Stormwater/Hydrology

The hydrology of the South Parkland differs to a great extent from the North Parkland. A smaller portion of the site (~10 acres) is covered in asphalt or gravel, and the majority of the site (80%) is covered with non-native fill of one to 30 feet in depth that is fully vegetated with non-native vegetation. Further, the South Parkland does not accept or infiltrate offsite Mill Site stormwater because that stormwater from the southern Mill Site flows north and down-gradient towards the Mill Pond area where it is collected and drains to Soldier Bay via the Mill Pond Spillway. Drainage infrastructure within the South Parkland includes two culverts which outfall into the southern edge of Soldier Bay between the City's wastewater treatment plant and the north end of the former runway.

A long, linear manmade drainage ditch is located immediately east of the northeastern edge of the South Parkland project area. The ditch drains portions of the South Parkland and adjacent portions of the Mill Site (refer to Photograph 3–19). The ditch connects with the northernmost culvert described above.

The largest natural drainage feature within the South Parkland is a "gulch" located immediately south of the former runway and north of the cemetery. The feature is well incised and includes riparian and wetland vegetation (refer to Photograph 3–20).

Erosion

Large erosional features are relatively limited within the South Parkland. Erosion of the upper bluffs does exist due to sheet flow from the site itself; although the effects are limited and mainly due to the relative instability of some of the areas of fill on the south parcel that abut the bluff top, especially in comparison with the erosional issues on the North Parkland. In 2009, a relatively large bluff blowout (of 10 feet in width by 30 feet in length) occurred on the South Parkland as a result of the remediation activities there and ineffective re-contouring of the surface, which resulted in a relatively large flow of stormwater towards an unstable bluff, composed primarily of fill materials. This area has since been re-stabilized with re-contouring of the slope and revegetation of the area. This work was completed by Georgia-Pacific as part of the remediation of the site and is not part of this project.

Access to the South Parkland is extremely limited, therefore unlike the Glass Beach Headlands, the South Parkland does not include areas which have been eroded by the public seeking access to trails or the beach. Once the site is open to the public with an established trail network and signage (warning people off of the bluff edge), additional use of the site is not anticipated to increase erosion. In the event that informal trails are established that result in erosion, the City will close such trails with natural barriers.

Photograph 3–16. Looking north down the existing drainage ditch parallel to Glass Beach Drive.

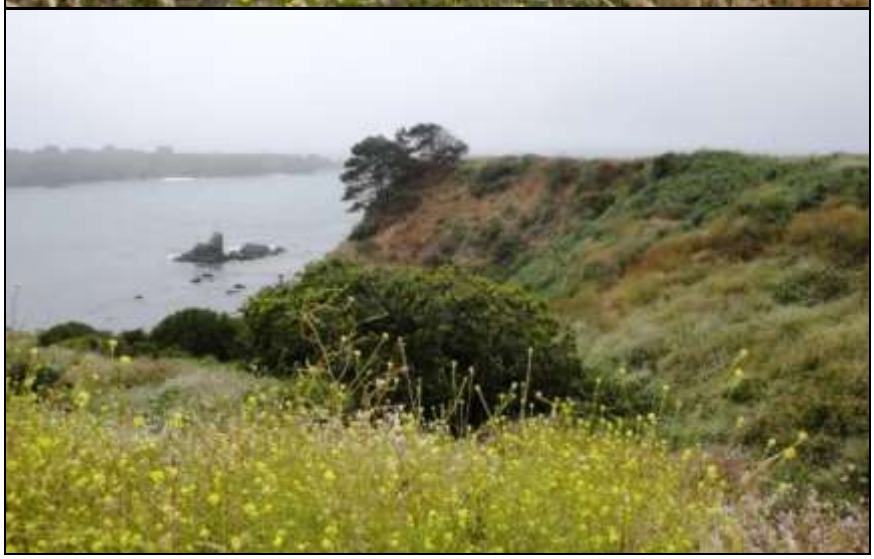
The Glass Beach Headlands are on the left. Parking lot at Pudding Creek Trestle in the distance. This ditch primarily drains the road.

Photograph 3–17. View of the North Parkland.

Much of the North Parkland is nearly flat and covered with asphalt and compacted gravel. Stormwater primarily sheet flows uncontrolled across the site and over the bluff edge. Note straw bales at left installed as a temporary measure to slow flow rates and discharge over the bluff.

Photograph 3–18. Erosion and bluff undercutting at North Parkland bluff due to uncontrolled stormwater flows.

Photograph 3–19. This ditch runs parallel to and east of the runway, just outside and to the east of the parkland parcel.



Photograph 3–20. Looking southwest across the "gulch" adjacent to the southern end of the runway, towards Noyo Bay.

3.2.1.3 Environmental Consequences

Methodology

Potential water quality and stormwater runoff impacts were based upon a review of the site drainage report and technical memos prepared for the project, the City's General Plan and a field review of the project site. The drainage report included a review of existing conditions and evaluated the potential of the proposed drainage system to accommodate stormwater runoff consistent with federal, state, and local regulations. The analysis assumes that the City would comply with these regulations prior to, during and post construction. The City would need to prepare and submit numerous reports, including a final drainage plan, and an erosion control plan/SWPPP.

Potential significant impacts considered in this section include: 1) substantial soil erosion or the loss of topsoil; 2) alterations to the existing drainage patterns of the site; 3) substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; and/or 4) contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems to control.

Impacts

Project wide

The proposed construction activities would increase the amount of exposed soils subject to erosion. Erosion could be accelerated where soils are directly exposed to concentrated stormwater runoff such as at culverts and existing drainage swales. Removal of paved or graveled areas within Glass Beach Drive and the Mill Site would expose a large area of previously "capped" soil to stormwater, and erosion could result. However with the exception of the bluff edge, where development is limited, generally the project areas are relatively flat, construction would occur during the drier months, and the project would be subject to intensive federal, state, and local regulations which address construction related stormwater. Additionally, removal of large areas of pavement and compacted soils will have stormwater and erosion benefits, primarily by increasing the time of concentration for storm flows, providing for infiltration, and eliminating the current site conditions which result in undercutting of the bluff beneath pavement and consequent collapse of paved sections into the sea.

The City's Coastal Land Use and Development Code requires the City to prepare an erosion control plan and SWPPP prior to initiation of project activities. The BMPs in these plans include measures such as installing sandbag barriers, straw bale barriers, sediment traps, and fiber rolls to stabilize soils; hydraulic mulch, hydro seeding, and geotextiles to control sediments; portable water and straw mulch for wind erosion control; street sweeping and entrance/outlet tire washing; and vehicle and equipment cleaning, concrete waste management, and contaminated soil management. These measures were also noted in the Drainage Report prepared for the project. These measures would be incorporated into the final design plans.

Because of the extensive restoration component of the project, and long-term implementation schedule (as many as four years) it will be important to integrate the final restoration plan with the erosion control and drainage plans. The Drainage Report also notes that installation of earthen berms reinforced with geotextile fabric and vegetation will be critical to control stormwater runoff during and after construction. Additionally, two above ground stormwater conveyance systems are proposed to reduce impacts to cultural resources. These above ground features would consist of two parallel two foot high and five foot wide berms running in an east west alignment to convey stormwater from the Mill Site property to the bluff edge. These parallel berms will be lined with clay on the inboard side and vegetated on the outboard side. On the westerly terminus of the berms a culvert will be secured to the bluff top and convey the collected stormwater to the toe of the bluff.

Glass Beach Drive

Glass Beach Drive is the only component of the proposed project that would increase impervious surfaces. Glass Beach Drive and the open channel which currently accommodates stormwater would be reconfigured to allow for a multi-use trail system while maintaining drainage capacity west of the road. The existing open channel would be replaced with a combination of a 5-ft Type 2 vegetated swale and an underground storm drain system with tree boxes will be constructed between the modified pavement edge and the new trail. (Tree boxes are drainage features that include a vegetated sub-surface box, with a layer of gravel and a perforated pipe placed below the box). Drainage goes through the box and the gravel and into the perforated pipe to flow to a culvert. The whole system improves storm water retention, infiltration and treatment over a bioswale or a ditch.)

Type 1 vegetated swales are open, shallow channels, with vegetation covering the side slopes and bottom, that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through sedimentation in the channel, filtration through a subsoil matrix, and/or infiltration into the underlying soils. Swales can be natural or manmade. They trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of storm water runoff. A Type 2 vegetated swale is similar to a Type 1 but also includes a trench below the vegetation that would be backfilled with a porous material and includes a perforated pipe.

The Glass Beach Drive component is the only component of the project that would increase impervious area compared to existing conditions. For projects where impervious area would increase, the RWQCB generally requires treatment of stormwater. The Type 2 swale provides treatment.

Based on the Drainage Report and Technical Memo, the Glass Beach Drive component of the project would not result in significant impacts to water quality or stormwater runoff conditions. No measures beyond those recommended in the technical reports and local code are required.

North Parkland (including the Elm Street Extension, Multiuse Trail and Welcome Area)

There are a number of individual stormwater improvements proposed for the North Parkland. These improvements are described briefly below and shown in the preliminary plans. The analysis below describes the proposed improvements evaluated in the Drainage Report, and notes any potential deficiencies in the proposal identified during preparation of the Technical Memo (i.e., peer review). Recommended modifications from the Technical Memo have been included as mitigation measure WQ/mm-1 in Section 2.2.1.7.

Elm Street Extension and Welcome Area Vegetated Swales and Stormdrain Tie-ins

The Elm Street extension would include a 6-ft wide Type 1 vegetated swale parallel to the Elm Street extension to accommodate runoff, treat it, and convey to a new stormdrain tie-in. The existing stormdrains flow east to west at the border of the Mill Site and the Glass Beach Headlands and outfall into the Pacific Ocean near Glass Beach. This component of the project will result in a net decrease of impermeable surface because this entire area is currently paved. After construction of the parking lot and the Elm Street extension, some areas will include native planting and storm water treatment bioswales.

Trailside Diversion Berms, Swales, and Culverts

Due to the bluff top erosion issues, the proposed stormwater system was proposed to address the quantity and rate of uncontrolled sheetflow from the paved Mill Site log deck area. The North Parkland improvements direct the runoff away from the bluff tops to a safe point of disposal to the toe. The first step involves constructing a series of earthen diversion berms reinforced with geotextile and vegetation at the edge of the cut pavement near the eastern edge of the North Parkland.

Type 1 vegetated swales that are generally parallel with the trail would also be constructed in some areas of the North Parkland to capture and direct the storm water runoff. They would be approximately 3 ft. in width, with 3:1 side slopes and be 18 in to 30 in deep. The swales would direct the flow into very shallow detention basins and/or under the trail in pipes (18-in to 24-in diameter), to the toe of the bluff through a piped outfall on the bluff face. Due to the substantial amount of runoff expected, two existing culverts would be replaced with

two upsized culverts, a new culvert would be added to the south of Otsuchi Point, and two above ground culverts would be added in resource protection areas. In total there are five proposed outfalls for the North Parkland. These outfalls would be 24-in diameter.

The project does not include any plans to dewater existing state or federal wetlands. The Drainage Report and Technical Memo indicate that the proposed drainage improvements on the North Parkland would generally meet the standards and criteria of the Mendocino Urban Stormwater Management Plans. Both reports suggested relatively minor alterations to the proposed drainage system which were incorporated into the current design plans.

The Drainage Report suggests that the RWQCB has indicated that water pollution controls would be addressed by the proposed grading and restoration project because the proposed project reduces the amount of existing impermeable surface, and that no additional long-term pollution control measures (i.e. filtration, treatment) would be necessary. With proper implementation and long-term maintenance of the stormwater system, the proposed project may result in beneficial impacts to water quality and reduce erosion, particularly at the bluff edge, where sheet flows over asphalt covered surfaces undercut the bluff and currently accelerate erosion. The proposed project would have the capacity to accommodate runoff, increase pervious surfaces, and treat runoff when necessary. It would not acerbate flooding or include changes to the floodplain.

South Parkland

Proposed improvements on the South Parkland would be small in scope because the site is in a more natural state and both the quantity and rate of stormwater runoff is considerably less due to the presence of pervious surfaces, vegetation and topographic changes, and a smaller contributing drainage area. The South Parkland component would include two new outfalls and replacement of one existing outfall. As with the North Parkland, the amount of impervious surface would decrease as a result of the project and therefore long-term (post-development) pollution control measures (treatment) would not be necessary.

3.2.1.4 No Project Alternative

The No Project Alternative would not include the increased impervious surface associated with the proposed Glass Beach Drive component of the project; however, it would also not include the restoration and stormwater improvements which would increase pervious surfaces and allow for more natural “treatment” of stormwater within the North and South Parklands. This alternative may result in significant impacts over the long-term as the bluffs continue to erode unnaturally due to the existence of the pavement and no formalized drainage infrastructure.

3.2.1.5 Reduced Trail Alternative

The Reduced Trail Alternative would not include the proposed Glass Beach Drive improvements. The remainder of the proposed stormwater improvements would be similar in scope. In total, the Reduced Project Alternative, because of the extensive restoration proposed would have similar beneficial impacts to the proposed project.

3.2.1.6 Avoidance, Minimization, and/or Mitigation Measures

WQ/mm-1 *Prior to construction, Final Drainage Plans shall be prepared which incorporate the recommendations from the Drainage Report and Technical memo. Changes to the proposed Drainage Plan shall include, but not be limited to constructing bioswales, where feasible given cultural resource deposits. Side slopes shall be no steeper than 3:1, constructing them in existing compacted gravel and/or native soil to the maximum extent feasible, maximizing onsite infiltration as feasible and required by the City's Coastal General Plan.*

Development of the Final Drainage Plans shall be coordinated and consistent with the Final Restoration Plan, the Cultural Resources Data Recovery Plan, and biological resource and cultural resource avoidance, minimization, and mitigation measures in this EIR.

3.2.1.7 Cumulative Impacts

Due to the extensive restoration proposed and the reduction of impervious surfaces within the project area, more storm water will infiltrate onsite after project completion. In addition, proposed native habitat re-vegetation would allow for more natural treatment of storm water. Because the proposed project would have beneficial impacts to storm water, it would not contribute to any significant impacts. The draft land use plans for the redevelopment of the remainder of the Mill Site indicate that impervious surfaces would decrease even further as a result of the redevelopment.

3.2.2 Geology / Soils / Seismicity / Topography

This section summarizes the information and analyses in the *Engineering Geologic Reconnaissance Report (report)* (BACE Geotechnical 2004), which is available for review for interested persons at the City Community Development Department. Bluff retreat is addressed in this chapter; however, erosion related to construction activities, stormwater, and drainage conditions is considered in the Water Quality and Hydrology section.

3.2.2.1 Regulatory Setting

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures.

Uniform Building Code and California Building Code

The Uniform Building Code (UBC) and the California Building Code dictate seismic design parameters for structures in California. The UBC provides a standard for building laws. Published by the International Conference of Building Officials, the UBC is a widely adopted model building code in the United States. The 1997 UBC is considered the latest edition and is adopted and used by most cities and counties. The California Building Code incorporates by reference the UBC with necessary California amendments. The California Building Code is another name for the California Code of Regulations (CCR) Title 24 Part 2, which is a portion of the California Building Standards Code (CBSC 2001). 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. About one-third of the text within the California Building Code has been tailored for California earthquake conditions (CBSC 2001).

City of Fort Bragg Coastal General Plan, Safety Element

The Safety Element includes numerous policies related to geologic hazards, including seismic hazards, landform alteration, and bluff retreat/setback. Refer to Table 3-1 of the Land Use section for descriptions of relevant policies.

3.2.2.2 Affected Environment

The report cited above evaluates the geologic conditions along the ocean bluffs within the Mill Site (North and South Parklands). The information was intended to determine trail bluff setback and long-term (150 year) access easement width for the trail. The scope of work included: researching published geologic maps, studying aerial photographs, field reconnaissance, marine reconnaissance via ocean kayak, geologic analysis, and estimating bluff retreat rate(s). A Paleontological Resources Survey Report prepared for the project (SWCA 2009) described the general geologic conditions of the project site and vicinity. Based on a review of those reports, the underlying geologic and soils conditions at the Glass Beach Headlands are similar to the Mill Site; therefore, the conditions described below apply generally to the entire project site.

The North and South Parkland is situated on a near-level, elevated, marine terrace that is bordered by steep ocean bluffs. The terrace was created when sea level fluctuations, caused by glaciation, created a series of steps or terraces cut into the coastal bedrock by wave erosion. The bluffs along the westerly and southerly limits of the Parklands extend south from Glass Beach to the north end of the Noyo Harbor.

A large cove (Fort Bragg Landing aka Soldier Bay) divides the property bluffs into roughly equal halves. The cove has two interior coves, one to the south and another to the east-northeast. A large, sandy beach is at the east-northeast end of the cove. Bluffs along the North Parkland are approximately 40 ft. in vertical height. The South Parkland bluffs are approximately 40 to 80 ft. in vertical height but are highest southeast of the airstrip, where they rise to as high as approximately 80 ft. in vertical height. The site originally had bluff tops of 40 to 50 feet. However over many years of operation, GP added significant fill to the site, increasing the bluff height to 80 feet in places.

The bluffs have an average slope gradient of approximately one-quarter horizontal to one vertical (1/4H:1V) with local areas that are near vertical. The bluffs are serrated with many, small, generally northwest-trending inlets and peninsulas. Groundwater seeps from swales and from bedrock fractures in the lower bluffs.

Scattered, small, sandy beaches are located at the bluff toes at the south and east ends of Fort Bragg Landing and at the base of the northerly bluffs. Other small beaches are mostly cobbles and boulders. There are many rocks, reefs and a few small islands offshore of the property bluffs. Pockets of debris (wood, iron, concrete, etc.) are located on both the South and North Parkland bluffs. Some fill deposits on the lower bluffs are cemented by red-orange iron oxide. Several poured concrete walls are located at the bluff edge (adjacent to Gus West Island and Johnson Point) where debris was formerly dumped into the ocean. During the geologic reconnaissance, log retaining structures on the South Parkland bluffs, partially covered by vegetation, were observed. The remains of an abandoned sewer outfall as well as several working storm drain outlets are located within the northerly, upper bluffs.

Bedrock

Bedrock at the Glass Beach Headlands and the North and South Parklands consists of sedimentary and igneous rocks of the Tertiary-Cretaceous Franciscan Complex coastal belt. In the project vicinity these rocks consist of dark gray to brown, sandstone, shale, and volcanic rocks that are generally little too closely fractured, moderately hard to hard, and little to moderately weathered. There is a consistent, northwest-trending strike where bedding is exposed within the Franciscan Complex rocks. This accounts for the northwest linear trend of most of the peninsulas and offshore rocks in the vicinity. Rock bedding orientation observed within the bluffs generally consists of a northwest trending strike with steep dips, approximately 67 to 90 degrees from horizontal, to the southwest and northeast. Much of the bedding is discontinuous and contorted.

The bedrock is partially covered by as much as 30 ft. of Pleistocene terrace deposits at the site. The bedrock-terrace deposit contact is generally flat lying. The terrace deposits consist of silty fine sand, sandy silt, with clean (little or no clay or silt) sand and minor sandy clayey silt. The upper 2 to 4 ft. of the terrace deposits generally consists of dark colored sandy silt – silty sand topsoil.

Beach Deposits

The beach deposits are mostly unconsolidated sand and/or cobbles and boulders, although large concrete debris can be found at various beaches, especially at the major beach at Fort Bragg Landing (which is adjacent to the site).

Fill Deposits

Man-placed fills, consisting of soil with concrete, iron, and wood debris, have been placed on the upper bluffs at various locations along the bluff face in the South Parkland. The fill deposits appear to be as much as 20 to 30 ft. in thickness. Rip rap (large rocks and/or broken concrete) has been placed by Georgia-Pacific for erosion protection at several locations on the North and South Parklands within the property bluffs. And on some of the beaches.

Landslides/Rockfall

No evidence of deep-seated, rotational landsliding was observed on the property bluffs. However, numerous areas of erosion were observed during the reconnaissance. The erosion is primarily occurring within the Pleistocene terrace or man-placed fill deposits. Erosion by ocean waves is occurring wherever terrace or man-placed fill deposits are at a low enough elevation to be reached during high tides or storms. The erosion within these weaker terrace and fill deposits results in near-vertical scarps that can extend to the full height of the bluff. Upper bluff scarps caused by surface-runoff are typically 10 to 15 ft. in vertical height.

Most of the sea caves within the project area have been formed by erosion within fault, shear zones, or along bedding planes. None of the sea caves observed during a marine side kayak reconnaissance showed evidence of recent rock falls or severe erosion.

Faulting

Several inactive faults and one potentially active fault were observed in the lower bluffs. The inactive faults consist of linear fractures or shear zones displaying evidence of offsets within the Franciscan bedrock, but not within the overlying terrace deposits. The potentially active (probable late Pleistocene) fault crosses a small, narrow peninsula within the northerly bluffs. The potentially active fault forms a vertical offset between the Franciscan bedrock and the terrace deposits. No geomorphic evidence was observed that would suggest this potentially active fault has been active in the Holocene (last 11,000 years). No active faults were observed at the site and neither of the published references that were reviewed show faults on, or trending towards the property. The active San Andreas Fault is located offshore, approximately 6 miles to the southwest.

Bluff Retreat

The bluff retreat rates noted below were estimated based upon aerial photograph studies, site field and marine reconnaissance, and other Mendocino County coastal sites. A qualified engineering geologist compared accurate, scaled (1 in = 20 ft.) topographic maps showing the bluff edge at Point Cabrillo Light Station in 1907 and 2002 (95 years apart). Retreat rates at various locations on the property bluffs are as follows:

- Hard rock areas of the bluffs are retreating at an average rate of approximately 1.5 to 2 in per year.
- Bluffs containing large fill deposits are eroding at an average rate of approximately 2.5 to 3 in per year.
- "Erosion areas" above bedrock are retreating at an average rate of approximately 3.5 to 6 in per year.

Unique Geologic Features

There are many sea caves within the lower bluffs, including the blowhole west of the southeast end of the airstrip. Many inlets are former sea caves where the cave roof has collapsed and eroded away. The blowhole is a sea cave where the roof over the back of the cave has collapsed, leaving an arch over the front of the cave. This geologic feature is made more unique as its steep walls are stained with iron oxide and provide habitat for native species.

3.2.2.3 Environmental Consequences

Methodology

The assessment of potential impacts included a review of the Engineering Geologic Report. Information in the report was then used to determine if the proposed construction activities could cause impact to these resources or would result in increased potential for exposure to geological hazards in the project area. Types of geologic hazards considered include risk of loss, injury, or death involving earthquake rupture, strong seismic ground shaking, seismic related ground failure including liquefaction, and landslides, bluff retreat/erosion, and expansive soils.

When completing the analysis, it was assumed that construction and design of the proposed project would be built in compliance with current construction and seismic codes and standards. As required by local code, subsequent geotechnical studies shall be completed prior to completion of final design for the proposed project. Specific design and construction measures would be recommended in subsequent geotechnical studies.

Because of the limited development associated with the proposed project in general, and the lack of habitable and/or permanent structures proposed, the evaluation of environmental consequences considers geologic hazards at a qualitative level, with one exception. The potential consequences of bluff retreat are discussed quantitatively as they directly relate to the life of the project. Soil erosion as it relates to construction and operation of the project are discussed in the Water Quality and Hydrology section.

Impacts

Geologic/Soils Hazards

The proposed project would include limited topographic alteration. Cut and fill slopes would generally be no greater than a few feet, with maximum slopes of 2H:1V or flatter. The largest of the cutslopes, approximately 5 ft. tall, would be necessary to allow for the construction of the multi-use path near the parking area at the north end of the Glass Beach Drive. The restoration activities would include importing fill to create soil for revegetation efforts while protecting cultural resources.

Improvements include the construction of parking facilities, road extension, multi-use trails, pedestrian trails, cable stairs to the beach, drainage improvements, and utility extensions and connections. The only structures proposed include two restroom facilities and one restroom/maintenance combination building. No habitable structures and no structures with high occupancy rates are proposed. Due to the type and limited scale of the improvements proposed, the flat topographic conditions, and relatively shallow depth to bedrock, geologic and seismic hazards can be avoided or minimized by employing sound engineering practice in the final design and construction.

Bluff Retreat

The City's local coastal program policy is to provide 100-year protection from bluff retreat and the City requires estimates to reflect potential increased bluff retreat rates that may result from sea level rise. The Geologic report prepared for the North and South Parkland included recommendations for setbacks that would allow for safe use and maintenance of a blufftop trail for up to 150 years, assuming bluff retreat continues at current rates. The extra 50 years of setback more than compensates for the fact that the implications of sea level rise due to climate change were not considered in the Geologic Report.

The recommended setback ranged from 50 ft. to a maximum of 106 ft. The 106-ft setback was recommended for more than 50% of the Mill Site (approximately 75% of the North Parkland, and 45% of the South Parkland). Refer to Plate 2 of the Geologic report for more information. Because retreat rates, and therefore the recommended setbacks, vary considerably throughout the Mill Site, this analysis assumes the "default" setback should be 106 ft. That setback would reflect approximately 150 years of retreat at the fastest retreat rates, which results in a very conservative analysis. A 100-year setback would be approximately 70 ft.

The bluff retreat rates were considered during development of the proposed trail alignment, along with other constraints, including drainage conditions, biological, cultural, and the limited width of the parcel which is only 110 feet from the mean high tide on the west to the edge of property on the east, which often results in less than 100 feet of bluff-top trail width. For example, in some cases, due to intensive drainage constraints, the eastern edge of the multi-use trail will also function as the western edge of a drainage swale or detention basin. The alignment was also guided by the fact that the project goal is to provide trail users with views of the aesthetic resources of the site and access to the beach in a safe manner. As a result, it was infeasible to strictly adhere to the recommended setbacks in all cases. Additionally the multi-use trail will have a useful life of 30 years, and so does not need a 100 year setback. The City's Local Coastal Program policies regarding bluff setback apply to structures not the trail itself. All structures will be set back from the bluff edge by more than 70 feet. Some sections of the trail may need to be moved inland as bluff erosion occurs. Although current rates of bluff erosion should slow after site restoration reduces erosive forces and conditions on the site.

Glass Beach Drive and the Elm Street extension are all located a considerable distance from the bluff edge, therefore the discussion that follows focuses on the trail components within the North and South Parklands.

North and South Parkland

Areas of the North Parkland components which might be subject to damage from bluff retreat include much of the primary and secondary trail system. It also indicates that in 100 years much of the northern portion of the North Parkland parcel would no longer exist due to bluff retreat, making it infeasible to provide a larger trail setback.

Within the South Parkland, the areas subject to damage from bluff retreat include the primary trail and the overlooks. The proposed parking area at the end of the runway on the south parcel and the parking lot at the end of Elm Street on the north parcel are beyond the 150 year setback.

There are no potential significant impacts resulting from the placement of structures within the recommended setback areas. Only trails will be placed within bluff retreat setbacks as

permitted by the Coastal Land Use and Development Code and, as noted above, these features have a useful life of less than 30 years.

Within the North Parkland, approximately 20 ac of asphalt and gravel will be restored with native habitat and a stormwater system has been designed to address stormwater runoff from the Mill Site in a manner that would reduce erosion and bluff retreat. Considering that the Geologic report notes that bluff retreat rates are high in areas with "uncontrolled erosion" and where manmade fill has been located, restoration efforts will slow retreat rates at these locations.

The site would be subject to damage due to bluff retreat, potentially in the near future, which increases the risk of injury to the public. The proposed project's sign program includes warning signage regarding hazards of bluff retreat and prohibitions against leaving the trail to access the bluff top. Furthermore, habitat protection fencing will exclude people from much of the bluff face on the North Parkland and on those areas of the South Parkland where there are still native plant populations.

The City's LCP policy SF-1.9 allows the construction of trails, stairs to the beach and similar structures to be placed within the 100-year bluff setback area. In addition, the more permanent components of the project such as the North parking lot most of the south parking lot and all three restroom facilities are located more than 110 feet from the bluff edge and therefore are located outside of the bluff retreat setback. When this is considered, along with the beneficial components of the project (i.e., restoration, improved stormwater management), the conservative bluff setback recommendation, and the non-permanent nature of the majority of the improvements, it is determined that the project would not result in significant bluff retreat related impacts.

Figure 3–6. Recommended Bluff Retreat Setback

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Unique Geologic Features

The proposed project would not grade or otherwise alter the unique geologic features within the project site. By providing observation points and trails, the project would allow the public to view these features, such as the blowhole and Johnson Rock, which are currently not accessible. The project would not result in adverse impacts to these unique geologic features.

3.2.2.4 No Project Alternative

The No Project Alternative would not include any improvements within the Mill Site and therefore no significant impacts would occur there. In regards to bluff retreat, erosion of the bluff would occur at rates similar to the present on the Mill Site.

3.2.2.5 Reduced Trail Alternative

This alternative would have effects similar to the proposed project except in regards to bluff erosion. The North and South Parkland components would not include the secondary trails or overlooks, and therefore less of the project would potentially be adversely impacted by bluff retreat.

3.2.2.6 Avoidance, Minimization, and/or Mitigation Measures

No significant impacts associated with geologic or soils conditions, bluff retreat, or unique geologic features have been identified and no measures are required.

3.2.2.7 Cumulative Impacts

Potential impacts related to geologic, soils, and seismic hazards are site-specific, and measures are applied to individual projects to minimize the potential for significant impacts. All development projects are required to comply with State and local regulations regarding grading and construction; therefore, the proposed project would not contribute to cumulative impacts.

3.2.3 Hazardous Waste/Materials

This section discusses the potential for ground contamination resulting from the discharge of hazardous materials to significantly impact the proposed project and/or the public. Existing and past land use activities are used as potential indicators of hazardous material storage and use at individual sites. For example, many industrial sites, historic and current, are known or suspected to have soil or groundwater contamination by hazardous substances. This is the case with the Mill Site.

The primary concerns motivating identification of potential environmental contamination are worker health and safety and public exposure to hazardous materials during construction and waste handling.

3.2.3.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use. The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include Community Environmental Response Facilitation Act (CERFA) of 1992, CWA, Clean Air Act, Occupational Safety and Health Act (OSHA), among others.

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

The Department of Toxic Substances Control (DTSC) regulates and interprets hazardous waste laws in California. DTSC generally considers excavated or transported materials that exhibit “hazardous waste” characteristics to be a waste requiring proper management, treatment, and disposal. The site was under a clean-up order from DTSC. The site was remediated in 2009 and DTSC has submitted a letter to the City of Fort Bragg confirming that all required remediation tasks have been completed for the site (see Appendix F).

City of Fort Bragg Coastal General Plan, Safety Element

The Safety Element includes policies to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes (TSD Facilities). Refer to Table 3-1 of the Land Use section for descriptions of relevant policies.

3.2.3.2 Existing Conditions

Glass Beach Drive

In 2003 the Glass Beach Headland site was remediated under the authority of the RWQCB prior to the transfer of the site to State Parks. No hazardous materials or conditions were encountered during construction of Glass Beach Drive.

North and South Parkland

The information that follows is based on information from a Mitigated Negative Declaration prepared by the Department of Toxic Substances Control (DTSC 2008) for the remediation of the North and South Parkland.

In 2008 Georgia-Pacific submitted a proposed Remedial Action Plan (RAP) to the California Department of Toxic Substances Control (DTSC). The RAP was developed separately from plans for other portions of the Mill Site because the property was in the process of being sold to the City for use in the Coastal Restoration and Trail project (North and South Parkland).

Within the North and South Parkland, seven Presumptive Remedy Areas were identified as contaminated by either lead, dioxins, PCBs and/or petroleum hydrocarbons (refer to Figure 3–8). The historic uses of the areas included log and untreated lumber storage, surface disposal activities, open burning, scrap storage, and landfill.

The purpose of the RAP was remediation of the North and South Parkland to a level suitable for passive recreation. Remediation was achieved through the removal, treatment, and/or capping of contaminated material/soils. The plan involved:

- Excavation, staging, and offsite transport of soil and materials that contain hazardous waste levels of metals (i.e., lead) or levels of other chemicals (PCBs) not suitable for treatment or capping. These materials were disposed of at commercial landfill facilities permitted to accept hazardous and non-hazardous waste.

- Soils with petroleum hydrocarbons contamination, such as diesel and motor oil, were treated onsite and reused. Approximately 25,600 cubic yards were treated using in-situ bioremediation and reused onsite.

- Approximately 275 cubic yards of soils contaminated with lead and other metals was characterized as California Hazardous Waste. Another 1,010 cubic yards of soil contained PCBs at non-hazardous levels. These materials were hauled off site to a landfill.

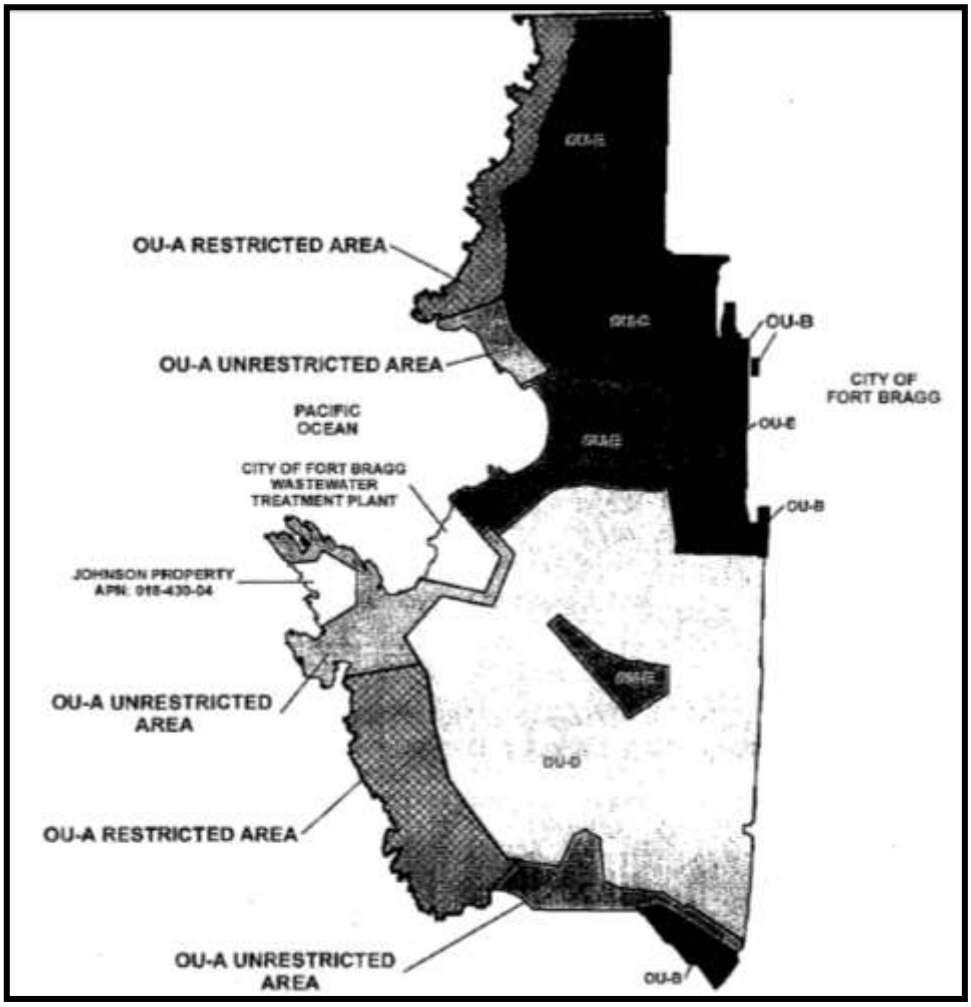
- Approximately 12,100 cubic yards of dioxin-containing materials were consolidated and capped on the Mill Site, though not within the boundaries of the project. While the off-site consolidation cell was constructed for the permanent capping of the dioxin contaminated soils, the consolidation cell did not operate as planned. It filled with water during heavy rains, and resulted in considerable operations and maintenance costs to GP. Consequently GP removed the consolidation cell in 2011 and all dioxin contaminated soils were transported off of the Mill Site to a certified landfill.

- Excavated sites were revegetated.

In December 2009 the DTSC issued an "Approval of Operable Unit A Completion Report and Partial Certification of Remedial Action, Former Georgia Pacific Wood Products Facility, Fort Bragg, California." This approval notes that the soil remediation activities had been carried out on OUA and that any residual contamination was below levels warranting further action, as long as future uses were limited to passive recreational uses. The remedial levels are also protective of the health of a construction worker or a utility trench worker. For more information on this topic please read the Soil Management plan in Appendix E. The letter requires that the City prepare a Soil Management Plan for the site in order to identify the proper procedures for construction activities on the site. The Soil Management Plan is attached as Appendix E. Additionally, DTSC has composed a letter to the City of Fort Bragg confirming that all required remediation tasks have been completed for the site, and the letter is attached as Appendix F.

As shown in Figure 3-7, some areas of the project site did not require remediation because these areas had contamination levels below those requiring compliance with unrestricted use. Accordingly, construction activities in the areas noted as "OU-A Unrestricted Area" need not comply with the Soil Management Plan.

Figure 3–7. Unrestricted Areas Not Requiring SMP Compliance



3.2.3.3 Environmental Consequences

Methodology

The assessment of potential impacts included reviewing technical reports prepared in support of the Mill Site remediation activities. Historical uses, existing conditions, and recent activities were clearly described in a series of environmental assessments prepared by qualified consultants and reviewed by relevant agencies, including the DTSC. Potential impacts considered include exposure to hazardous materials through transport of materials, or during soil disturbance, or use of hazardous materials during construction. When identified, impacts are classified as either short-term construction or longer-term operational.

Impacts

Because there is no indication of hazardous material contamination at the Glass Beach Headlands or under Glass Beach Drive, and due to the limited depth and extent of excavation within those areas, no short (onsite construction crews) or long-term (future trail) users would be impacted by hazardous material contamination.

Considering that the remediation activities proposed by Georgia Pacific within the North and South Parklands have been implemented to the satisfaction of the DTSC, no short or long-term users would be impacted by hazardous material contamination at the North or South Parkland. A Soil Management Plan has been prepared for the project site and is included in this Final EIR. Compliance with the Soil Management Plan is required to reduce the potential impacts due to residual contamination of the site to a less than significant level.

Hazardous materials may be handled during fueling and servicing construction equipment on-site. These activities would be short-term or one-time events and would be subject to federal, state, and local health and safety requirements; consequently, no adverse impacts would result. Further, the proposed project does not include use of potentially hazardous materials and would therefore not expose trail users to hazardous materials.

3.2.3.4 No Project Alternative

This alternative would not include construction within the Mill Site (previously or currently contaminated areas) nor would it require the use of hazardous materials. No adverse impacts would result.

3.2.3.5 Reduced Trail Alternative

This alternative is located within the same project area, and therefore the remediation and clearance discussed for the proposed project would also apply to this alternative. No significant impacts would result.

3.2.3.6 Avoidance, Minimization, and/or Mitigation Measures

HM Impact 1: The proposed project has the potential to impact human health for construction workers unless the Soil Management Plan for the site is followed.

> HM/mm-1 DTSC requires that any construction projects which involve grading shall comply with the Soil Management Plan (SMP) prepared for the site. Compliance with the SMP will also be a condition of approval for the grading permit for the site. A copy of the SMP is attached in the appendix.

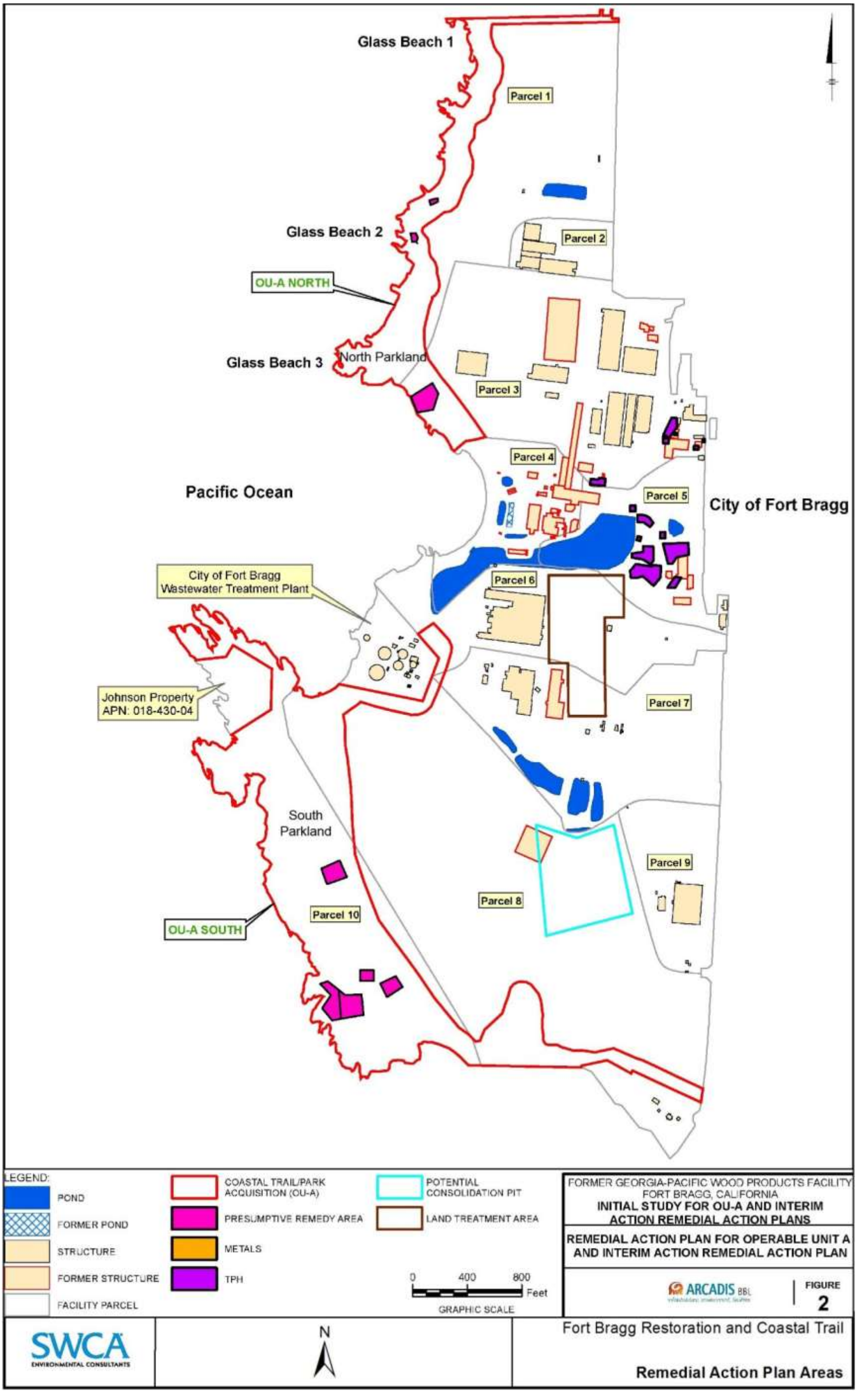
3.2.3.7 Cumulative Impacts

Cumulative hazardous materials impacts would occur when a population or resource is exposed to the cumulative impacts of hazardous materials released by the proposed project and one or more related projects. The geographic scope of the area affected by potential cumulative hazardous materials impacts would depend on the migration characteristics of the hazardous materials as they are released into the soil, air, or groundwater. The cumulative hazardous materials analysis would consist of the Mill Site.

Remediation activities will be ongoing at the Mill Site in future years, however the impact of these remediation activities will be analyzed in CEQA documents for that project and are speculative at this time.

The potential for substantial cumulative impacts is further reduced if the related projects are constructed and operated in accordance with applicable hazardous materials laws, statutes, and regulations.

Figure 3–8. Remedial Action Plan Areas



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