CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET ·SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FAX (707) 826-8960

Th5a

Staff: C Kenyon–A
Date: April 24, 2015

ADMINISTRATIVE PERMIT

Application No.:	**1-15-0246**
Applicant:	**William and Nancy Shwaika**
Agent:	Leilani Summers
Location:	2420 Hilfiker Lane, Eureka, Humboldt County (APN 019-321-06).
Project Description:	Removal of earthen fill placed in wetlands without the benefit of a coastal development permit and restoration of the wetlands.

I. EXECUTIVE DIRECTOR'S DETERMINATION:

The findings for this determination and any special conditions appear on subsequent pages.

Note: Public Resources Code Section 30624 provides that this permit shall not become effective until it is reported to the Commission at its next meeting. If one-third or more of the appointed membership of the Commission so request, the application will be removed from the administrative calendar and set for public hearing at a subsequent Commission meeting. Our office will notify you if such removal occurs.

This permit will be reported to the Coastal Commission at the following time and place:
Thursday, May 14, 2015 – 9:00 a.m.
Santa Barbara Board of Supervisors Chambers
105 E. Anapamu Street
Santa Barbara, CA 93101

IMPORTANT: Before you may proceed with development, the following must occur:

Pursuant to Title 14, California Administrative Code Sections 13150(b) and 13158, **you must sign the enclosed duplicate copy acknowledging the permit's receipt and accepting its contents, including all conditions, and return it to our office**. Following the Commission's meeting, and once we have received the signed acknowledgement and evidence of compliance with all special conditions, we will send you a Notice of Administrative Permit Effectiveness.

BEFORE YOU CAN OBTAIN ANY LOCAL PERMITS AND PROCEED WITH DEVELOPMENT, YOU MUST HAVE RECEIVED BOTH YOUR ADMINISTRATIVE PERMIT AND THE NOTICE OF PERMIT EFFECTIVENESS FROM THIS OFFICE.

The Executive Director hereby determines that the proposed development is a category of development which, pursuant to PRC Section 30624, qualifies for approval by the Executive Director through the issuance of an administrative permit. Subject to Standard and Special Conditions as attached, said development is in conformity with the policies of Chapter 3 of the California Coastal Act, including those policies regarding public access and coastal recreation opportunities, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act. If located between the nearest public road and the sea, this development is in conformity with the public access and public recreation policies of Chapter 3.

CHARLES LESTER
Executive Director

By: _____

CRISTIN KENYON
Coastal Program Analyst

II. STANDARD CONDITIONS:

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgement**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions is returned to the Commission Office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS:

This permit is granted subject to the following special conditions:

1. **Restoration, Monitoring, and Remediation.** The permittee shall comply with the restoration, monitoring, and remediation measures included in the submitted "Restoration Plan" prepared by Streamline Planning and dated March 4, 2015 as modified by the two subsequent report addendums both dated April 24, 2015 (**Exhibit 4**), except as modified and/or supplemented herein. Restoration, monitoring, and remediation requirements shall include, but shall not be limited to, the following:
   A. Restoration timing: WITHIN 60 DAYS OF THE DATE OF COMMISSION CONCURRENCE WITH THE EXECUTIVE DIRECTOR'S ISSUANCE OF PERMIT 1-15-0246 (UNLESS EXTENDED BY THE EXECUTIVE DIRECTOR FOR GOOD CAUSE), all unauthorized fill shall be removed from the subject property.
   B. Restoration goals and objectives: The restoration goals shall be to remove all recent unauthorized fill from the restoration area and restore wetlands that mimic the native plant species' composition and overall plant cover found in seasonal wetlands immediately surrounding the fill prisms. Based on the surrounding wetlands, success criteria shall include: (1) the establishment of 85% native plant cover and 95% total ground cover in the restoration area; and (2) the establishment of 50% *Carex pansa*, 14% *Juncus lescurii,* and 11% *Festuca rubra* within the restoration area with a threshold of +/- 10% for each of these three target species.
   C. "As built" plans: Within 30 days of fill removal, documentation shall be provided to the Executive Director of the Coastal Commission demonstrating completion of fill removal in accordance with the conditions of this CDP.
   D. Monitoring provisions: After fill removal, the site shall be monitored for the health and abundance of vegetation that reestablishes in the restoration area in compliance with the monitoring frequency and duration outlined in Subsections (E) and (G) below. During each monitoring event, (i) nonnative invasive plants shall be hand removed from the restoration area; (ii) any Scotch broom (*Cytisus scoparius)* on the parcel shall be removed to prevent its encroachment into the restoration area; (iii) straw wattles and temporary fencing shall be inspected and maintained; (iv) a layer of rice straw or similar mulch shall be added to portions of the restoration area where bare soil remains; and (v) accumulated trash and debris shall be removed from the parcel. If drought conditions ensue, a portable water tank shall be used to water the restoration area.

E. Initial monitoring frequency and duration: After fill removal, the site shall be monitored in accordance with the Restoration Plan bi-monthly for six months.

F. Interim remediation: If less than 33% native plant cover is achieved during the first six months after fill removal, then the smallest available size of containerized plants of *Carex pansa*, *Juncus lescurii,* and *Festuca rubra* shall be installed at the desired percentages outlined in Subsection (B) above at 18-inch spacing in November 2015. If drought conditions ensure, a portable water tank shall be used to water the planted vegetation.

G. Ongoing monitoring frequency and duration: After the first six months following fill removal, the restoration area shall be monitored in accordance with the Restoration Plan twice annually for a period of five years.

H. Annual monitoring reports: Monitoring reports shall be submitted to the Executive Director by July 1st of each year for the duration of the required monitoring period, beginning the first year after the submission of the "as-built" assessment. Each report shall include a "Performance Evaluation" section where information and results from the monitoring program are used to evaluate the status of the wetland enhancement project in relation to the goals and objectives outlined in Subsection (B) above.

I. Final monitoring report: A final monitoring report shall be submitted for the review and approval of the Executive Director by December 1st of the last year of annual monitoring required by Subsection (G) above. The final report shall be prepared in conjunction with a qualified wetlands biologist. The report shall evaluate whether the site conforms with the goals and objectives outlined in Subsection (B) above. The report shall address all of the monitoring data collected over the five-year period.

J. Remediation: If the final monitoring report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the goals and objectives outlined in Subsection (B) above, the permittee shall submit a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved goals and objectives. The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Construction Responsibilities. The permittee shall comply with the constructed best management practices (BMPs) included in the submitted "Restoration Plan" prepared by Streamline Planning and dated March 4, 2015 as modified by the two subsequent report addendums both dated April 24, 2015 (**Exhibit 4**), except as modified and/or supplemented herein. Construction-related requirements shall include, but shall not be limited to, the following BMPs:

A. Timing of work: All soil removal work will be performed during dry weather to prevent soil compaction or creation of mud that could be tracked offsite.

B. Pre-construction worker training: PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT AUTHORIZED BY THIS CDP, the permittee shall ensure that

all on-site workers understand and agree to observe the standards for work outlined in this permit.

C. Limits of disturbance:

i. Prior to fill removal activities, fill areas shall be flagged on the ground;

ii. The last remaining 10% of fill closest to the original ground surface shall be removed with hand tools to limit disturbance to the original buried topsoil;

iii. During the process of fill removal, plywood shall be laid out on the freshly exposed restoration area to distribute the weight of foot and wheel barrow traffic and equipment;

iv. The pickup trucks used to transport the fill offsite shall not enter the fill prisms;

v. When excavation is complete, no fill shall be left onsite; and

vi. Immediately after soil removal, temporary fencing shall be installed around the restoration area. The fencing shall be maintained until the site is successfully restored, at which point the fencing shall be removed.

D. Water quality protection:

i. Straw wattles shall be installed along the two low points on the site's western berm prior to fill removal activities, maintained throughout the removal process, and eliminated from the site once the restoration is successful;

ii. Immediately after soil removal, jute netting shall be installed over the exposed soil in the restoration area;

iii. Before any vehicles leave the site, all bumpers, tailgates, tires and other vehicle parts with loose soil shall be swept to prevent trackout onto the road. In the event that an unforeseen spill or trackout of soil occurs on the surrounding roadway, the soil shall be immediately swept up and disposed with the fill soil being hauled offsite;

iv. No construction materials, debris, or waste shall be stockpiled onsite or placed or stored where it may be subject to entering coastal waters or wetlands;

v. During the course of construction, all trash shall be properly contained, removed from the work site on a regular basis, and properly disposed of to avoid dispersal of litter and contamination of habitat;

vi. All equipment used during construction shall be free of oil and fuel leaks at all times. Fuels, lubricants, and solvents shall not be allowed to enter waters of Elk River or Humboldt Bay. Any fueling, maintenance, and washing of construction equipment shall occur more than 100 feet away from the mean high tide line; and

vii. Hazardous materials management equipment shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be

locally available on call. Any accidental spill shall be rapidly contained and cleaned up.

E. Plastic netting prohibition: To minimize wildlife entanglement and plastic debris pollution, the use of temporary rolled erosion and sediment control products with plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers used in fiber rolls, erosion control blankets, and mulch control netting) is prohibited. Any erosion-control associated netting shall be made of natural fibers and constructed in a loose-weave design with movable joints between the horizontal and vertical twines.

F. Debris and soil disposal: All construction debris, including excavated soils shall be removed from the project site and disposed of in an upland location outside of the coastal zone or at an approved disposal facility.

3. Restoration Site Revegetation. If rhizomes and native seed in the original surface soil fail to re-sprout after the removal of the fill, and planting becomes necessary as part of the approved remediation plan described in Special Condition 1, Subsection (F) above, the revegetation shall comply with the following standards and limitations:

A. Only native plant species shall be planted. All proposed plantings shall be obtained from local genetic stocks within Humboldt County. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside of the local area may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the governments of the State of California or the United States shall be utilized within the property.

B. The use of rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum or Diphacinone is prohibited.

4. Protection of Archeological Resources. If an area of cultural deposits or human remains is discovered during the course of the project, all construction shall cease and shall not re-commence until a qualified cultural resource specialist, in conjunction with the Wiyot-area Tribal Historic Preservation Officers, analyzes the significance of the find and prepares a supplementary archaeological plan for the review and approval of the Executive Director, and either: (a) the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, or (b) the Executive Director reviews the Supplementary Archaeological Plan, determines that the changes proposed therein are not *de minimis*, and the permittee has thereafter obtained an amendment to coastal development permit 1-15-0246.

5. **Permit Effectiveness and Condition Compliance**. This coastal development permit shall be deemed effective upon the Commission's concurrence on May 14, 2015 with the Executive Director's determination to issue the administrative coastal development permit. Failure to comply with the special conditions of this permit may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

IV. FINDINGS FOR EXECUTIVE DIRECTOR'S DETERMINATION

A. PROJECT DESCRIPTION & BACKGROUND

The permittee proposes to remove approximately 50 cubic yards of unauthorized fill and restore wetlands on a 1.23-acre waterfront property on Hilfiker Lane in the City of Eureka (**Exhibits 1 & 2**). The subject property is vacant and zoned "Natural Resources." The property is bordered to the west by the Elk River at its confluence with Humboldt Bay and to the east by a segment of the California Coastal Trail, known locally as the Hikshari' Trail. The surrounding lands are owned by the City of Eureka, including a firefighter training facility across Hilfiker Lane to the east and 1.11-acres of salt marsh habitat directly to the south, recently created as mitigation for impacts to wetlands that resulted from the construction of the Coastal Trail (CDP 1-11-037). Although the property is currently vacant, the site contains two concrete foundation remnants and construction debris, including an asphalt pile located adjacent to the river and broken pieces of asphalt just below the soil surface throughout the site.

The eastern third of the parcel supports upland habitat and the northeast corner of the parcel includes the site's tallest vegetation of approximately twelve feet, dominated by Pacific Wax Myrtle (*Myric californica).* The southeastern and central portions of the parcel lack shrubs and are characterized by coastal prairie grassland covered with varying concentrations of grasses, rushes, sedges, and forbs. The unauthorized fill has been placed in a gently sloping depression that runs north to south through the center of the parcel. Prior to the fill, this portion of the site was a palustrine emergent wetland, which, based on the vegetation surrounding the fill, supported a coastal prairie dominated by *Carex pansa* interspersed with sparse *Juncus lescurii.* While the rest of the site contains sandy soils, the fill is a loamy topsoil covered with broad-leaved wild radish (*Raphanus sativus*). To the west of the fill lies an elevated berm covered with native coyote brush (*Bacharrus pilularis*) and non-native Scotch broom (*Cytisus scoparius)* underlain by grasses and forbs. There are two low points in the western berm, where extremely high tides overflow the bank of the Elk River, as seen by drift deposits. These low points and the river bank to the west are wetlands that support salt marsh habitat, including non-native dense- flowered cordgrass *(Spartina densifiora)*, European beachgrass *(Ammoplzila arenaria*), and pickleweed *(Salicornia virginica).*

Project Description

According to the proposed restoration plan prepared by Streamline Planning (**Exhibit 4**), the site would be restored to its pre-fill condition by removing the unpermitted fill and allowing the rhizomes and native seed in the original surface soil to re-sprout. The restoration plan estimates that approximately 3,000 square feet of wetlands have been covered in

approximately 50 cubic yards of fill. The permittee has proposed to remove the unauthorized fill in its entirety from the site. The fill is easily distinguishable by its dark color and loamy consistency and by the presence of a near monoculture of wild radish.

According to the restoration plan, the fill areas would be flagged on the ground and then a mini excavator, bobcat, or bucket-loading tractor would be used to remove the majority of the fill. The last 10% of loamy fill closest to the original soil surface would be scraped off with hand tools. A black peat layer where the original plant foliage is decomposing clearly marks the boundary between the loamy soil and the original sandy soil. Caution would be taken to excavate only to this peat layer so as not to disturb the rhizomes and roots in the original sandy topsoil. In addition, plywood would be temporarily placed during fill removal activities on the freshly exposed soil to distribute the weight of both foot and wheel barrow traffic as the fill is hauled offsite for disposal in upland locations outside of the coastal zone.

To stabilize the soil and prevent erosion that could cause sedimentation of the adjoining Elk River during the removal of fill and the reestablishment of native vegetation, the permittee proposes to install straw wattles along the two low points between the river and the restoration site prior to fill removal, and apply jute netting over exposed soil immediately after fill removal. In addition, after the soil is removed, the permittee proposes to erect temporary fencing around the restoration area to prevent people from compacting or otherwise disturbing the soil or damaging emerging plants. The temporary fencing would be removed upon successful restoration of the fill removal area.

Upon completion of fill removal, the site would be monitored bi-monthly for the first six months and then twice annually for a period of five years to observe the emergence of the native plants buried by fill. During this monitoring period, (1) weeds would be hand pulled from the restoration area; (2) Scotch broom along the western side of the parcel would be removed to prevent its encroachment into the restoration areas; (3) straw wattles and temporary fencing would be inspected and maintained; (4) a layer of rice straw or similar mulch would be added to portions of the restoration area where bare soil remains; and (5) accumulated trash and debris would be removed from the subject property. If drought conditions ensue, a portable water tank would be used to water the restoration areas. If less than 33% native plant cover is achieved during the first six months following fill removal, the restoration plan proposes remediation measures that include installing native containerized plants.

According to the restoration plan, the restoration goal would be to mimic the native plant species' composition and overall plant cover found in seasonal wetlands immediately surrounding the fill prisms with a final goal of 85% native plant cover and 95% total ground cover. The highly dominant native species surrounding the fill prisms are *Carex pansa*, followed by *Juncus lescurii* and *Festuca rubra*. The average percentages of these species in relation to the total plant cover are 45%, 11%, and 9%, respectively, based on data from three of the wetland delineation sample locations near the fill prisms. For the restoration area, the plan proposes a goal of 50% *Carex pansa*, 14% *Juncus lescurii,* and 11% *Festuca rubra* with a threshold of +/- 10% for each of these three target species. This goal would be an

improvement over current site conditions where non-native species such as *Plantago*, *Holcus* and *Rumex* make up a large portion of the minor species.

Table 1. Restoration Plant Cover Goal			
Species	Current % of Total Plants	Current % of 3 Species	Goal % for Restoration Area
Carex pansa	45%	68%	50%
Juncus lescurii	11%	18.5%	14%
Festuca rubra	9%	13.5%	11%

Background on Violation
The Commission's North Coast District staff received a report on September 26, 2014 that fill material had been stockpiled on the subject parcel. The reported fill and grading activities had the potential to result in damage to and fill of coastal wetlands and ESHA and impacts to water quality.

Commission staff subsequently visited the coastal trail to observe and photograph the fill, and then alerted the City of Eureka to the alleged violation. In response, the City of Eureka posted a stop-work order at the subject property on October 1, 2014, indicating that both a coastal development permit (CDP) and a grading permit were required. Photographs taken by the City's code enforcement staff show that at the time the stop-work order was posted, the unpermitted fill material was stockpiled in over a dozen small piles (See **Exhibit 3, pg. 1**). Commission staff then became aware that despite the stop-work order, the piles of unpermitted fill had since been leveled (See **Exhibit 3, pg. 2**).

Commission staff subsequently sent a Notice of Violation letter on December 8, 2014 requesting that the permittee provide a biological resource assessment including a wetland delineation to determine whether the fill had been placed in wetlands. In response, the permittee submitted a wetland delineation report for the subject property dated January 29, 2015 prepared by Streamline Planning. The consultant dug a total of nine test pits on January 6 and 19, 2015 to characterize the site and determined that the fill had been placed in depressed areas at the center of the site that delineate as wetlands. As a result of these findings, the permittee submitted a CDP application for removal of the fill and restoration of the site.

B. STANDARD OF REVIEW

The proposed project is located in the Commission's retained jurisdiction. The City of Eureka has a certified local coastal program (LCP), but the site is within an area shown on State Lands Commission maps over which the state retains a public trust interest. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

C. WETLAND FILL; PROTECTION OF WATER QUALITY AND MARINE RESOURCES

Section 30230 of the Coastal Act states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30233 of the Coastal Act states, in applicable part, as follows:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *...*
>
> *(6) Restoration purposes..*
>
> *...*
>
> *(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary…* [Emphasis added.]

The permittee will excavate approximately 50 cubic yards of unpermitted fill placed on the site, including within wetlands. Excavation of the fill from wetlands is a form of dredging subject to the requirements of Section 30233. In addition, the development could affect the biological productivity and quality of wetlands and the adjoining marine resources of the Elk River and Humboldt Bay, and thus is subject to the requirements of Section 30230 and 30231.

When read together as a suite of policy directives, Sections 30230, 30231, and 30233 set forth a number of different limitations on what types of projects may be allowed in coastal wetlands. For analysis purposes, the limitations applicable to the subject project can be

grouped into four general categories or tests. These tests require that projects that entail the dredging, diking, or filling of wetlands demonstrate that:

a. That the purpose of the filling, diking, or dredging is for one of the seven uses allowed under Section 30233;

b. That the project has no feasible less environmentally damaging alternative;

c. That feasible mitigation measures have been provided to minimize adverse environmental effects; and

d. That the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

Each category is discussed separately below.

Allowable Use

The first test set forth above is that any proposed filling, diking, or dredging in wetlands must be for an allowable purpose as specified under Section 30233 of the Coastal Act. Among the allowable uses listed under Section 30233(a), the use which most closely matches the project objectives is subcategory (6), "restoration purposes."

Neither the Coastal Act nor the Commission's administrative regulations contain a precise definition of "restoration." The dictionary defines "restoration" in terms of actions that result in returning an article "back to a former position or condition," especially to "an unimpaired or improved condition."[1] The particular restorative methods and outcomes vary depending upon the subject being restored. For example, the Society for Ecological Restoration defines "ecological restoration" as "the process of intentionally altering a site to establish a defined indigenous, historical ecosystem. The goal of the process is to emulate the structure, function, diversity, and dynamics of the specified ecosystem."[2] However, within the field of "wetland restoration," the term also applies to actions taken "in a converted or degraded natural wetland that result in the reestablishment of ecological processes, functions, and biotic/abiotic linkages and lead to a persistent, resilient system integrated within its landscape"[3] that may not necessarily result in a return to historic locations or conditions within the subject wetland area.

Implicit in all of these varying definitions and distinctions is the understanding that the restoration entails returning something to a prior state. Wetlands are extremely dynamic systems in which specific physical functions such as nutrient cycles, succession, water levels and flow patterns directly affect biological composition and productivity. Consequently "restoration," as contrasted with "enhancement," encompasses not only reestablishing certain prior conditions but also reestablishing the processes that create those conditions. In addition, most of the varying definitions of restoration imply that the reestablished conditions will persist to some degree, reflecting the homeostatic natural forces that formed and sustained the original conditions before being artificially altered or degraded. Moreover, finding that

[1] Merriam-Webster's Collegiate Dictionary, Tenth Edition.

[2] "Definitions," *Society of Ecological Restoration News*, Society for Ecological Restoration; Fall, 1994.

[3] *Position Paper on the Definition of Wetland Restoration*, Society of Wetland Scientists, August 6, 2000.

proposed diking, filling, and dredging constitutes "restoration purposes" must be based, in part, on evidence that the proposed project will be successful in improving habitat values. Should the project be unsuccessful at increasing and/or enhancing habitat values, or worse, if the proposed diking, filling, and dredging impacts of the project actually result in long term degradation of the habitat, the proposed diking, filling, and dredging would not be for "restoration purposes."

Thus, to ensure that the project achieves its stated habitat enhancement objectives, and therefore can be recognized as being for "restoration purposes," the project must demonstrate that: (1) it either entails (a) a return to, or re-establishment of, former habitat conditions, or (b) entails actions taken in a converted or degraded natural wetland that will result in the reestablishment of landscape-integrated ecological processes, and/or abiotic/biotic linkages associated with wetland habitats; and (2) there is a reasonable likelihood that the identified improvements in habitat value and diversity will result; and (3) once re-established, it has been designed to provide the desired habitat characteristics in a self-sustaining, persistent fashion independent of the need for repeated maintenance or manipulation to uphold the habitat function.

The proposed development involves dredging in existing palustrine emergent wetlands to remove unauthorized fill and reestablish the same configuration of seasonal wetlands that previously existed in the area. Prior to the unauthorized fill, a gently sloping depression ran north to south through the center of the subject parcel that would periodically flood during extremely high tides or intense precipitation events, encouraging the dominance of facultative or facultative-wet species. The sandy soils over the high water table at this location associated with the close proximity to the river impede downward movement of water at around two feet deep, resulting in lateral water flow. Prior to the unauthorized fill, these conditions resulted in a coastal prairie dominated by *Carex pansa* interspersed with sparse *Juncus lescurii*, two species that prefer sandy soils that become periodically inundated. The proposed work involves removing the loamy fill to reestablish the topographic and soil conditions that previously resulted in seasonal wetlands at the site.

Given that the site supported seasonal wetlands prior to the fill, there is a reasonable likelihood that the fill removal will result in the desired improvements to habitat value and will provide the desired habitat characteristics in a self-sustaining, persistent fashion. The original topsoil that still exists below the fill contains plant rhizomes and roots that will be able to re-sprout after the fill is removed to reestablish the local coastal prairie community. Furthermore, through the proposed regular removal of invasive nonnative plants within the restoration area and the removal of Scotch broom across the subject property, the reestablished seasonal wetlands will likely be less degraded and more productive than the previously filled wetlands. Therefore, for all of the above reasons, the Executive Director finds that the proposed dredging or excavation in wetlands is for restoration purposes.

As discussed above, this finding that the proposed project constitutes "restoration purposes" is based, in part, on the assumption that the proposed project will be successful in increasing seasonal wetland habitat values. Should the project be unsuccessful at increasing wetland habitat values, or worse, if the proposed dredging impacts of the project actually result in long

term degradation of the habitat, the proposed dredging would not be for "restoration purposes." To ensure that the proposed wetland enhancements achieve the objectives for which the project is intended, the Executive Director attaches **Special Condition 1** requiring that the permittee comply with the restoration, monitoring, and remediation measures included in the proposed Restoration Plan. These measures include monitoring the improvements in habitat value and diversity at the site over the course of five years and implementing remediation measures if the restoration fails to meet the plan's goals and objectives outlined in Special Condition 1(B) and Finding IV-A. In addition, to ensure that fill is removed in a timely manner so that the underlying native plant material does not perish and fail to re-sprout, Special Condition 1 also requires that all unauthorized fill be removed within 60 days of the date of Commission concurrence with the Executive Director's issuance of this permit (unless extended by the Executive Director for good cause).

Therefore, the Executive Director finds that as conditioned, the proposed dredging and filling of seasonal wetlands for the restoration and enhancement of habitat is permissible under Section 30233(a)(6) for "restoration purposes."

Alternatives

The second test set forth by the Commission's dredging and fill policies is that the proposed dredging or fill project must have no feasible less environmentally damaging alternative. Coastal Act Section 30108 defines "feasible" as "…*capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors*." In this case, alternatives that have been identified include: (1) a "no project" alternative, and (2) alternative restoration methods.

a. No project alternative
   Under the "no project" alternative, the unauthorized fill would remain in onsite seasonal wetlands. Without the proposed project, there would be no restoration of wetland functions, including floodwater storage, groundwater recharge, absorption of pollutants, capture of sediments, and habitat value for a diversity of native coastal prairie grassland species and a variety of shorebirds, among other species. In addition, the loamy fill may harbor seeds or rhizomes of nonnative invasive plants that, if left in place, could become established on the property and surrounding habitats, including the City-maintained wetland mitigation site directly to the south. Accordingly, the no project option is not a feasible less environmentally damaging alternative than the proposed project.

b. Alternative restoration methods
   Instead of relying on the buried original rhizomes and roots to re-sprout, the permittee could restore the site by planting vegetation. However, planting outside vegetation greatly increases the chances of restoration failure. The surface soils on this site contain a large quantity of broken asphalt which makes planting difficult and finding local seeds for sale of the target species is a challenge. In addition, planting would require disturbance of the original soil surface that could result in deleterious effects such as organic matter oxidations. Original topsoil is hard to replace for effective restoration in terms of texture, organic matter composition, soil microbiology, and

other ecological function characteristics of a given site. Furthermore, planting seeds or plugs from an outside source would replace and reduce the native genetics found on site. The existing plant genetics have survived past human disturbances including the introduction of invasive, nonnative species in this particular climate and ecosystem and are therefore important in maintaining the native ecological function of the site. Accordingly, the use of alternative restoration methods is not a feasible less environmentally damaging alternative than the proposed project.

For the reasons described above, the Executive Director finds that the proposed project is the least environmentally damaging feasible alternative, and therefore the second test of Coastal Act Section 30233(a) is satisfied.

Mitigation Measures

The third test set forth by Section 30233 is that adequate mitigation must be provided to minimize adverse environmental impacts. The proposed project could have a number of potential adverse effects, including: (1) construction-related impacts to aquatic habitat and water quality; (2) introduction of exotic invasive plant species that could compete with native vegetation; and (3) impacts to wildlife from the use of certain rodenticides that could deleteriously bio-accumulate in predator bird species.

a. Construction-related impacts to aquatic habitat and water quality

The restoration work will occur directly adjacent to the Elk River where it empties into Humboldt Bay (See **Exhibit 2**). The project as proposed involves the disturbance of soil and the removal of materials that could result in sediments or debris entering the Elk River and impacting sensitive fish species and their habitat, including the water quality of the river and Humboldt Bay.

The subject property has a concave topography throughout the center of the parcel where the restoration area is located which acts like a retention basin, preventing the movement of sediment offsite. The restoration area is also surrounded by a dense prairie of grass and sedge that can capture sediment and slow stormwater, and the buried roots and rhizomes in the original topsoil act as an underground geotextile blanket to stabilize the soil. The weakest points of the project from an erosion and sediment control perspective would be the two low points of the western berm, where extremely high tides can enter the parcel. At these two points the permittee proposes to install straw wattles prior to fill removal that will be maintained until project monitoring indicates the restoration has been successful, at which point the straw wattles will be removed. The straw wattles will not only slow the flow of high tide water onto the site, but will catch any potential sediment from unexpected disturbance or water flow events.

To further prevent erosion into Elk River during the removal of fill, the permittee also proposes to (1) perform all soil removal work during dry weather; (2) educate all onsite workers about construction-related responsibilities; (3) avoid stockpiling onsite; (4) only use hand tools to remove the last 10% of fill to limit disturbance to the original buried topsoil; (5) use shovels and wheel barrows to transport the excavated

soil from the site to pickup trucks rather than allowing heavy equipment into the restoration area; (6) sweep loose soil from all bumpers, tailgates, tires and other vehicle parts to prevent trackout onto the road; and (7) remove all fill to upland parcels outside of the coastal zone. In the event that an unforeseen spill or trackout of soil occurs on the surrounding roadway, the permittee proposes to immediately sweep up the soil and dispose of it with the fill soil being hauled offsite. To stabilize the site after fill removal, the permittee proposes to install jute netting over the exposed soil and erect temporary fencing around the restoration area. The jute netting will be left in place to decompose while the fencing will be removed once the restoration monitoring period is complete.

To ensure that the permittee implements these construction-related responsibilities as proposed, the Executive Director attaches the proposed measures as **Special Condition 2**. Special Condition 2 also includes a number of BMPs related to the use of heavy equipment onsite, including requirements that (1) all equipment used during construction shall be free of oil and fuel leaks at all times; (2) fuels, lubricants, and solvents shall not be allowed to enter waters of Elk River or Humboldt Bay; (3) any fueling, maintenance, and washing of construction equipment shall occur more than 100 feet away from the mean high tide line; (4) hazardous materials management equipment shall be available immediately on-hand at the project site; (4) a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call; and (5) any accidental spill shall be rapidly contained and cleaned up. In addition, Special Condition 2 prohibits the use of temporary rolled erosion and sediment control products with plastic netting to minimize the potential for wildlife entanglement and plastic debris pollution. The condition instead requires that any erosion-control associated netting shall be made of natural fibers and constructed in a loose-weave design to reduce the potential for small animal entrapment and avoid leaving a residue of plastic in the environment upon degradation of the material.

b. Introduction of exotic invasive plants

If rhizomes and native seed in the original surface soil fail to re-sprout after the removal of fill and less than 33% native plant cover is achieved during the first six months after fill removal, the permittee proposes to implement remediation measures including planting native potted plants of the species *Carex pansa*, *Juncus lescurii* and *Festuca rubra*. If invasive species are instead planted, they could displace native species and alter the composition, function, and biological productivity of the wetland and surrounding habitats. To ensure that no invasive plant species are planted or seeded in the project area, **Special Condition 3(A)** prohibits the planting of any plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California. Furthermore, no plant species listed as a "noxious weed" by the governments of the State of California or the United States are to be utilized in the revegetation portion of the project.

c. Use of anticoagulant-based rodenticides

To help in the establishment of vegetation, rodenticides are sometimes used to prevent rats, moles, voles, and other similar small animals from eating the new plantings. Certain rodenticides, particularly those utilizing blood anticoagulant compounds such as brodifacoum, bromadiolone and diphacinone, have been found to pose significant primary and secondary risks to non-target wildlife present in urban and urban/ wildland areas. As the target species are preyed upon by raptors or other environmentally sensitive predators and scavengers, these compounds can bio-accumulate in the animals that have consumed the rodents to concentrations toxic to the ingesting non-target species. To avoid this potential cumulative impact to environmentally sensitive wildlife species, modified and reimposed **Special Condition 3(B)** contains a prohibition on the use of such anticoagulant-based rodenticides.

Maintenance and Enhancement of Biological Productivity and Functional Capacity. The fourth general limitation set by Sections 30230, 30231 and 30233 is that any proposed dredging or filling in coastal wetlands must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible. Sections 30230 states that marine resources shall be maintained, enhanced, and where feasible, restored. Section 30231 also states that the biological productivity of coastal waters appropriate to maintain optimum populations of all species of marine organisms and protect human health shall be maintained and, where feasible, restored. Section 30233(c) states that the diking, filling, or dredging of wetlands shall maintain or enhance the functional capacity of the wetland.

Seasonal wetlands provide a wide variety of important ecological benefits including absorption of storm energy, flood storage, erosion control, water filtration, and habitat for wildlife. The proposed restoration and enhancement of seasonal wetlands on the subject property will, among other benefits, provide habitat for the abundant birdlife at the mouth of the Elk River, including marine shorebirds that rely on shallow freshwater wetlands with unobstructed views (e.g., short vegetation such as grasses) for roosting and foraging. In addition, the restored seasonal wetlands will help remove pollutants and entrained sediment from runoff entering the Elk River and Humboldt Bay that could harm the diverse aquatic life that occur in the estuarine bay/river waters, including the Federal endangered tidewater goby (*Eucyclogobius newberryi*), Federal/State threatened coho salmon (*Oncorhynchus kisutch*), and Federal threatened/State endangered northern California steelhead (*Oncorhynchus mykiss irideus*).

As discussed above, the conditions of the permit will ensure that the project will not have significant adverse impacts on the water quality of any of the coastal waters in the project area and will ensure that project construction will not adversely affect the biological productivity and functional capacity of coastal waters or wetlands. Furthermore, the project's stated purpose is to restore and enhance the biological productivity of coastal wetlands and waters, and conditions of the permit will ensure that the site is monitored for achievement of these goals. Therefore, the Executive Director finds that the development, as conditioned, will maintain and enhance the functional capacity of the habitat and maintain and restore optimum populations of marine organisms consistent with the requirements of Sections 30233, 30230, and 30231 of the Coastal Act.

D. ARCHEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

> *Where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The project area is located within the ethnographic territory of the Wiyot people, who lived in villages along the protected shores of Humboldt Bay, the mouth of the Elk River, and at other sheltered sites inland of the open coast. Wiyot people call the Elk River area *Iksori.* Their ancestors once lived in *Iksori* in redwood plank homes and traveled Elk River and Humboldt Bay in redwood dug-out canoes. An extensive archeological and cultural resources investigation was conducted for the adjoining Elk River Access Area/Hiksari' Trail project in July 2010 by Roscoe & Associates that included the subject property. A number of archaeologically sensitive areas were mapped along the trail, including the historic Indian community and town site of Bucksport north of the subject property, and the former Wiyot village of Wamel south of the property. Based on this pattern of Wiyot settlement, the project area has the potential to hold archaeological resources.

While archaeological resources are potentially present in the project area, the proposed project only involves the excavation of recent fill material and will avoid any disturbance of the underlying soil. To ensure protection of any archaeological or paleontological resources that may be discovered at the site, **Special Condition 4** is attached. This condition requires that if an area of cultural deposits is discovered during the course of project operations, all operations must cease, and a qualified cultural resource specialist must analyze the significance of the find. To recommence construction following discovery of any cultural deposits, the permittee is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are de minimus in nature and scope, or whether an amendment to this permit is required. Therefore, the Executive Director finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30244, as the development as conditioned will include reasonable mitigation measures to ensure that the development will not result in significant adverse impacts to archeological resources.

E. PUBLIC ACCESS PROTECTION

Pursuant to Coastal Action Section 30604(c), because of the project's location between the first public road and the sea, a coastal development permit issued for the project must include a specific finding that the development is in conformity with the Coastal Act's public access and recreation policies.

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions. Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to

protect natural resource areas from overuse. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30212 requires that access from the nearest public roadway to the shoreline be provided in new development projects, except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or where adequate access exists nearby.. Section 30214 provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. In applying Sections 30210, 30211, 30212, and 30214, the Commission is also limited by the need to show that any denial of a permit application based on these sections or any decision to grant a permit subject to special conditions requiring public access is necessary to avoid or offset a project's adverse impact on existing or potential access.

The proposed project will have no significant adverse effects on public access. The Hikshari' Trail runs along the subject property's eastern boundary line between the property and Hilfiker Lane. The trail provides public access to the Elk River Wildlife Area, Elk River estuary, and Humboldt Bay and acts as a critical link in the Eureka waterfront section of the California Coastal Trail that, once complete, will provide a continuous, multi-use coastal trail and bicycle path along the eastern shoreline of mid Humboldt Bay. Trail access will not be blocked during project construction or maintenance. In addition, the proposed development will not create any new demand for public access or otherwise create any additional burdens on public access. Therefore the Executive Director finds that the proposed development will not have any significant adverse effects on public access, and is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

F. VIOLATION

As discussed in Finding IV-A above, unpermitted fill and grading development occurred on the site in 2014. Other unpermitted development may also have occurred on the site in the past. Although certain development has taken place at the project site without the benefit of a coastal development permit, consideration of the application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Approval of this permit does not constitute a waiver of any legal action with regard to the alleged violations nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal development permit.

As discussed in the Allowable Use Section of Finding IV-C, **Special Condition 1** requires that all unauthorized fill be removed from the site within 60 days of Commission concurrence with the Executive Director's issuance of the administrative permit. This requirement will help ensure the underlying native plant material survives and the planned restoration of wetland habitat is successful, consistent with Section 30233 of the Coastal Act. **Special Condition 5** notifies the permittee that failure to comply with the special conditions of this permit (including Special Condition 1) may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the

application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Executive Director incorporates its findings on conformity with the Chapter 3 policies of the Coastal Act at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the development has been conditioned to be found consistent with the policies of the Coastal Act. Mitigation measures, which will minimize all adverse environmental impacts, have been required as permit special conditions. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Executive Director finds that the development as conditioned to mitigate the identified impacts can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

ATTACHED EXHIBITS

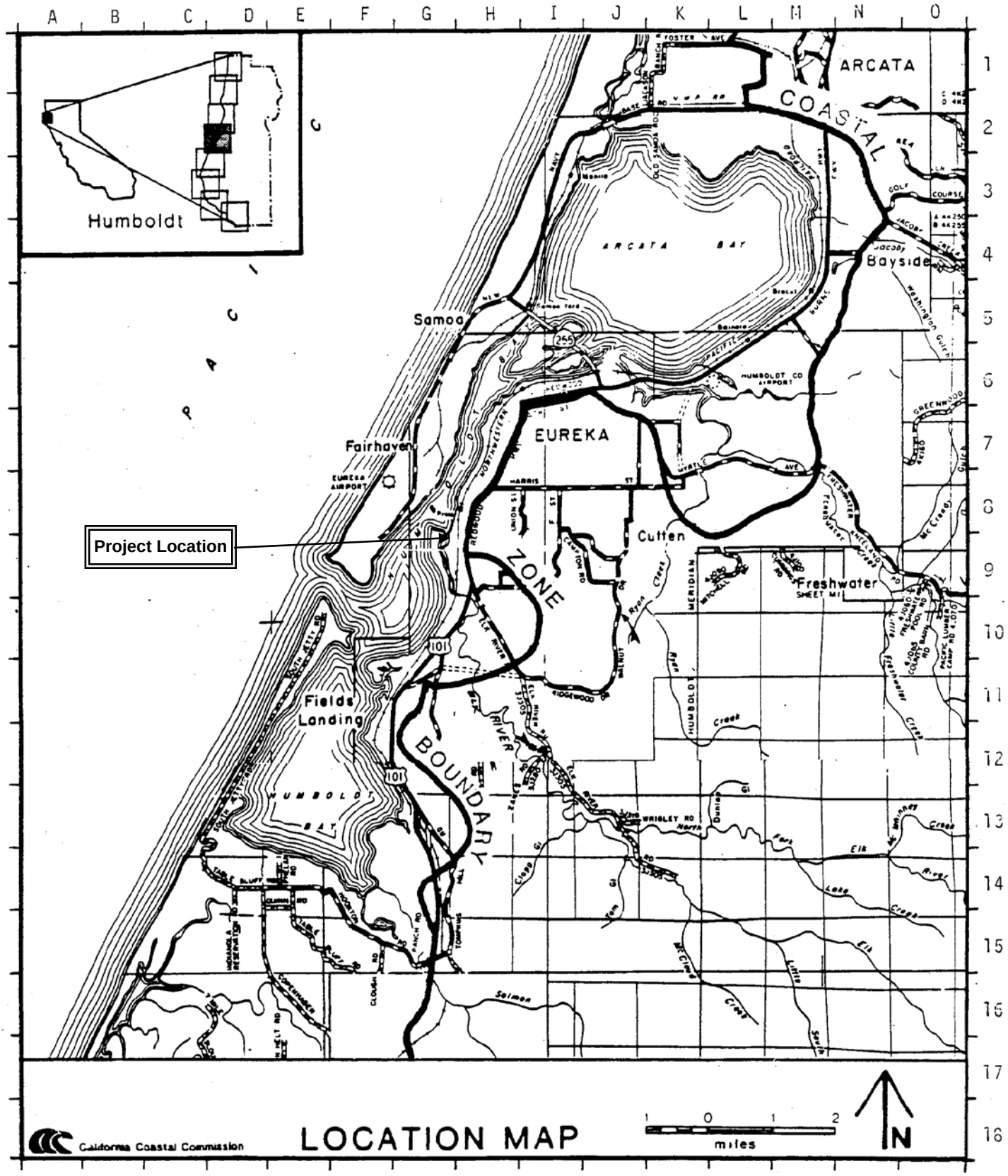
1. Regional location
2. Vicinity maps
3. Photographs of fill to be removed
4. Restoration plan

ACKNOWLEDGEMENT OF PERMIT RECEIPT/ACCEPTANCE OF CONTENTS:

I/We acknowledge that I/we have received a copy of this permit and have accepted its contents including all conditions.

_____ _____

Permittee's Signature **Date of Signing**



County of Humboldt

EXHIBIT NO. 1

APPLICATION 1-15-0246

William & Nancy Shwaika

REGIONAL LOCATION MAP

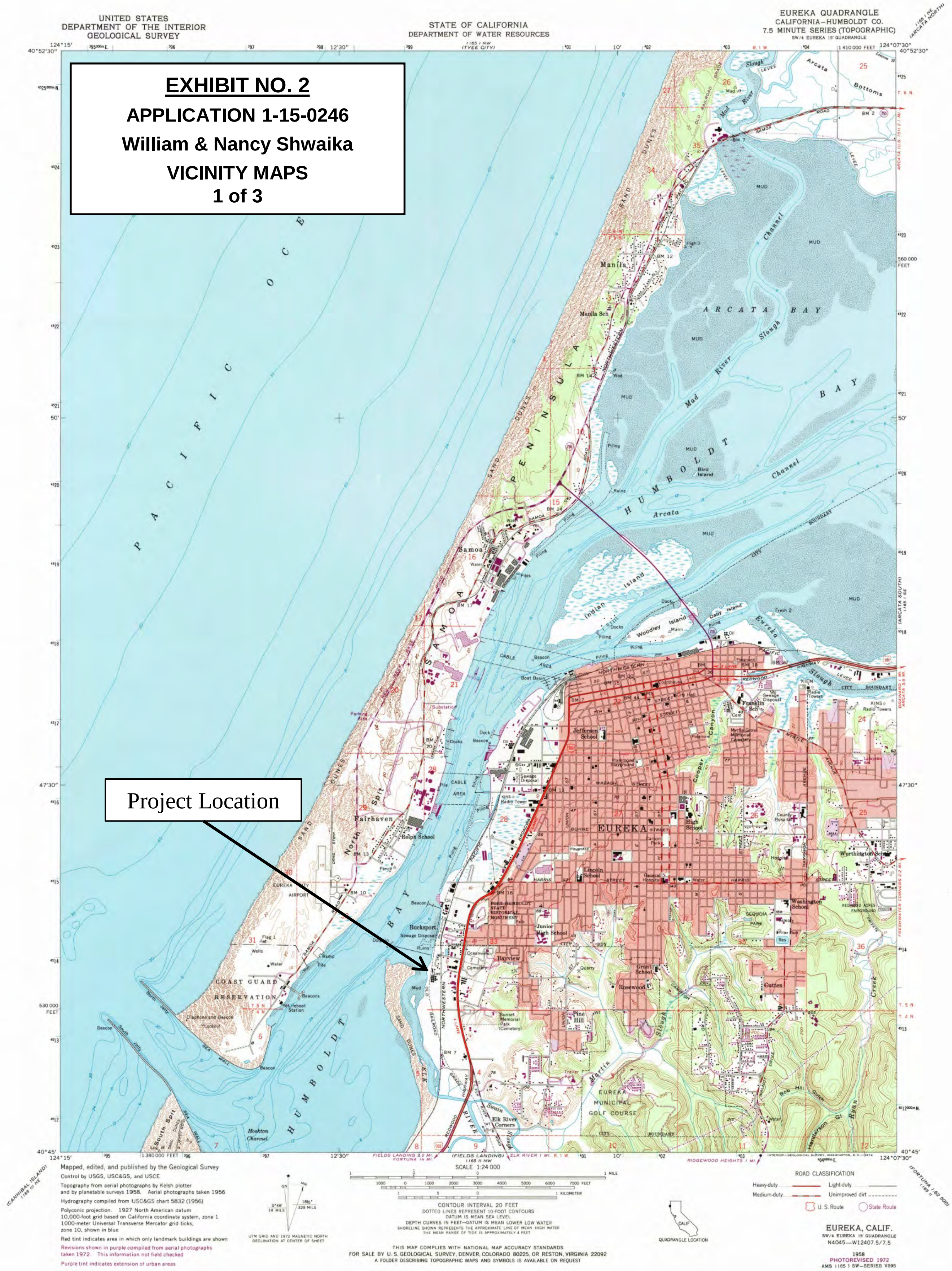
EXHIBIT NO. 2

APPLICATION 1-15-0246

William & Nancy Shwaika

VICINITY MAPS

1 of 3



(2014 Aerial Photograph from City of Eureka GIS; Community Development Department Viewer)

(2014 Aerial Photograph from City of Eureka GIS; Community Development Department Viewer)

Shwaika Property

Site during fall of 2014 with stockpiled fill. (Photographs taken by Commission staff)

EXHIBIT NO. 3

APPLICATION 1-15-0246

William & Nancy Shwaika

PHOTOS OF FILL TO BE REMOVED – 1 of 2

Shwaika Property

Site during fall of 2014 after stockpiled fill was leveled.

2 of 2

Streamline Planning Consultants

• PLANNING • PERMITTING • ENVIRONMENTAL CONSULTING

Restoration Plan

for

William and Nancy Shwaika
Hilfiker Lane, Eureka, CA
APN 019-321-06

Photograph of broad-leaved wild radish, *Raphanus sativus*, on northern fill soil location with tire tracks through soft fill, looking northwest toward pipeline across mouth of Elk River. Notice tall Pacific wax myrtle on right and Scotch broom-covered berm on left. Photograph taken January 6, 2015.

March 4, 2015

for submission to
California Coastal Commission, North Coast District Office
1385 8th Street, Suite 130
Arcata, Ca 95521

EXHIBIT NO. 4
APPLICATION 1-15-0246
William & Nancy Shwaika
Restoration Plan
1 of 21

Restoration Plan Preparer's Certification

Project Name: Shwaika Parcel, Hilfiker Lane

Project Phase: Restoration Plan

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my knowledge of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Preparer's Signature: Sam Polly Date: 3-4-2015

Preparer's Name: Sam Polly Telephone Number: (707) 822-5785
Preparer's Title: Stormwater Specialist, CPESC #5926, QSD/P #00316, Wetland Specialist
Preparer's Training: 38 Hour Army Corps of Engineers Wetland Delineation Training Program
Soil Science 363, Wetland Soils, Humboldt State University, Spring 2012
24 Hour Caltrans Certified Storm Water Pollution Prevention Plan Training
B.S. Soil Science, Cal Poly San Luis Obispo, 1996
M.S. Agricultural Education, Cal Poly San Luis Obispo, 2006

Preparer's Organization: Streamline Planning Consultants

Table of Contents

1. INTRODUCTION

The property found at 2420 Hilfiker Lane, designated APN 019-321-06, received unpermitted fill during the fall of 2014 (Attachment 1). The two areas filled on the parcel contained depressional topography and fell within the Coastal Zone wetland portion of the site (Attachment 2). This Restoration Plan has been requested by the California Coastal Commission (Commission) in a letter dated February 10, 2015, to articulate the measures that will be employed to remediate unpermitted fill and grading activities using the least environmentally damaging feasible alternative along with site-feasible mitigation measures to minimize adverse environmental effects.

2. BACKGROUND

The site-specific assessment for this project was performed by Streamline Planning Consultants on January 6, 2015, as requested in the Commission's Notice of Violation Letter dated December 8, 2014. A wetland delineation was completed on January 29 and submitted to the Commission. This delineation provided the detailed boundaries of wetlands and fill prisms across the site (Attachment 2). During the site assessment, two fill locations were identified for restoration within wetland boundaries (Attachment 3). Table 1, below, identifies the amount and types of fill involved. Both native and non-native plants were identified across the site, as well (see data sheets in Wetland Delineation by Streamline, 2015).

3. BIOLOGICAL SETTING AND SITE CONDITIONS

The parcel lies directly west of the firefighter training facility across Hilfiker Lane in Eureka, California. Elk River flows along the western border of the parcel. The parcel examined in this report contains 1.23 acres and is located at latitude 40.7701309171 and longitude -124.196231425. Lying at the mouth of Elk River's confluence with Humboldt Bay, the location is considered a sensitive and highly visible area of environmental concern.

The soils found throughout the site are dominated by sand (Photo 1, Attachment 4). Annual rainfall at this site is approximately 39 inches or 99cm (WRCC 2013). The dominant geomorphic characteristic of the site is the gently sloping depression that runs north to south through the center of the parcel, opening to the bay at the central and southern ends (Photo 2, Attachment 4).

The title deed for this property states, "As is; fill." The elevation at the investigation site is approximately 9 feet above sea level in an area dominated by shifting sand placed by both wind and water. Historical photographs show large changes in the size and shape of the sand spit across the river. However, vegetation has kept the sands stable at this site. The property and area surrounding this parcel is dominated by historical industrial activity, as seen by the concrete foundations remaining above ground, as well as the amount of asphalt and iron pipes uncovered during the wetland delineation. The firefighting practice facility across Hilfiker Lane appears to have a similar history of land manipulation.

The plant community on this site had three main components, deemed Zones 1 through 3 for simplicity.

Zone 1 included the tallest vegetation of approximately 12 feet, which was dominated by Pacific Wax Myrtle, *Myric californica*, in the northeastern upland quarter of the parcel. The elevated berm running along the shoreline in the northwestern quarter of the parcel, designated Zone 2, was covered with native coyote brush, *Bacharrus pilularis*, and non-native Scotch broom, *Cytisus scoparius*, underlain by grasses and forbs (Top of Photo 3, upper left of Photo 5, Attachment 4). Zone 3 lacked shrubs and was characterized by coastal prairie grassland covered with varying concentrations of grasses, rushes, sedges and forbs. Of note was the dominance of *Carex pansa* throughout the north and central portions of the depressional area, along with the dominance of *Distichlis spicata* at the southern (lower) end. These dominant plants form a native coastal prairie in the wetland portion of the site, where the fill activity occurred.

Historical aerial photographs reveal that this site has been maintained by periodic mowing. This management has probably contributed to the maintenance of the dominantly native prairie grassland, which typically requires some form of grazing or burning regime to prevent the dominance of invasive, non-native plants such as the spartina, beach grass and Scotch broom seen along the western edge of the parcel where mowing cannot occur due to topography. The fill was placed in 2014 at the two locations to facilitate mowing, since the depressions created a tipping hazard.

4. NATURE OF FILL AND VIOLATION CONDITIONS

Approximately 3,000 ft^2 were covered with just over 8/10ths of a cubic yard of fill. Soil examination confirmed that both fill areas lie within the Coastal Zone wetland. The fill areas are easily located onsite by the presence of wild radish, *Raphanus raphanistrum* (Photo 3, Attachment 4). The fill consists of a dark (10YR2/1) loam topsoil. The soil was likely full of radish seeds, which prefer recent disturbance and loam soils. Table 1 outlines the types and amounts of recent fill found.

Table 1. Fill Characteristics (Final estimates)

Area	North	South	Total
Average Depth	3”	7”	
Surface area (ft^2)	990	2,043	3,033
Volume (ft^3)	248	1,192	1,440
Volume (yd^3)	0.14	0.69	0.83
Fill Type	Loam topsoil	Loam topsoil	

At both fill areas it is very evident where the wetland/original soil surface exists below the fill due to what appears as a black peat layer where the original plant foliage is decomposing (Photo 4, Attachment 4). This line separates the loam topsoil from the sandy original soil. When a cross section is dug for examination, the profile breaks in half at this dividing line when removed from the spade. Additionally, the existing sandy soil contains significant quantities of broken asphalt pieces, which are lacking in the fill soil. Essentially no disturbance of the original topsoil could be detected underneath the fill, indicating the original rhizomes and roots are still intact.

The wetland ecosystem affected by fill on this site is a unique, short coastal prairie grassland dominated by *Carex pansa* and interspersed with sparse *Juncus lescurii* (Photo 5, Attachment 4). Periodic flooding during extremely high tides or intense precipitation events encourages the dominance of facultative or facultative-wet species (Photo 6, Attachment 4). The sandy soils over the high water table associated with the close proximity to the bay impede downward movement of soil water at around two feet deep, resulting in lateral water flow. This condition results in wetter than normal conditions for a sandy soil, resulting in the dominance of the two above-mentioned species, which prefer sandy soils that become periodically inundated. This type of wetland remains dry most of the season and can handle extreme drought conditions. These characteristics have discouraged the encroachment of invasive, non-native species.

5. RECOMMENDATIONS

The environmentally ideal alternative for this site is to revive the vegetation that was buried under the fill. Ordering seed or plugs to install across the site not only greatly increases the chances of failure (based on local experience), but also increases the expense and complexity of restoration. Additionally, the surface soils on this site are packed with broken asphalt which would be nearly impossible to thoroughly plant with plugs or containerized plants, and would cause deleterious soil disturbance effects such as organic matter oxidation. Seed for these species is essentially unavailable and containerized plants are often out of stock. More importantly, this would replace and reduce the native genetics found on this site. The existing plant genetics have survived past human disturbances, as well as the introduction of invasive, non-native species in this particular climate and ecosystem. This proves these plants' importance in maintaining the native ecological function on this site.

Since the fill and grading activities occurred on this site within the past year, it is recommended that the fill be removed as quickly as possible to remediate this site. *Carex pansa*, as well as rushes like *Juncus lescurii*, are very durable plants that grow in volatile settings where shifting sand dunes, high velocity stormwater events and bank sloughing are constant threats. These species are highly adapted to periods of burial or other disturbance. It is expected that these hardy plant species, buried during the cool season, should re-vegetate the site on their own. However, a number of months have passed, so expedience is essential to uncover the existing plant rhizomes and roots so they have time to resprout and recover enough energy and nutrients to survive the oncoming dry season. The loam topsoil should be scraped off the original soil, without damaging the original soil surface or plant parts.

6. TEMPORARY EROSION & SEDIMENT CONTROL PLAN

This site is ideally suited for ground work because it has a concave topography throughout the center of the parcel, where both remediation areas lie. Additionally, these two areas are completely surrounded by a dense prairie of grass and sedge which create an exceptional grassy filter to capture sediment and slow stormwater or flood waters. Furthermore, the sandy soil, with a water table around two-feet deep, allows for infiltration of precipitation, as seen during recent storms that brought the water table up to only 12 inches from the surface rather than the surface itself (at Pit #4). The roots and rhizomes that

were buried act as an underground geotextile blanket to stabilize the existing soil. The entire site forms essentially one large bioretention basin. Almost no runon occurs at this site except for a negligible quantity from the adjacent road, which immediately infiltrates along the sandy soil of the road edge.

The weakest points of the project from an erosion and sediment control perspective would be the two low points of the western berm, where extremely high tides can enter the parcel (Attachment 2). At these two points, straw wattles will be installed and fully functional per California Stormwater Quality Association BMP Fact Sheet (or equivalent) specifications. This will not only slow the flow of high tide water onto the site, but will catch any potential sediment from unexpected disturbance or water flow events. Even at these two points, however, the highest tides do not reach far into the site, touching only the southern extent of the southern remediation location. These wattles will be installed prior to fill removal activities.

An additional measure will be the application of jute netting over the exposed soil at both removal sites. The netting will be applied immediately after soil removal while plywood is still protecting the delicate soil surface and underground plant parts. Since no water flow is expected across these sites, and there is essentially no slope, simple jute netting is all that will be required. This netting helps absorb a large percentage of raindrop impact, while still allowing vegetation to emerge. The netting will decompose, replacing some of the soil organic matter that will oxidize as a result of recent disturbance. The final erosion control and restoration measure after soil removal will be to erect a temporary fence around the two fill areas. This measure will protect the soil and emerging plants from any form of traffic, which could compact the soil, disturb the soil to cause erosion, or damage emerging plants. The fence and straw wattles will remain and be maintained until the site is satisfactorily restored, at which point the fence and straw wattles will be removed. No other erosion or sediment controls are appropriate for this site or project.

7. FILL REMOVAL PLAN

Upon gaining Restoration Plan approval and the CDP from the Commission, both fill areas, North and South, will be flagged on the ground, prior to commencement, to ensure the appropriate areas are remediated. Extreme caution will be taken to excavate to the peat layer where obvious, decomposed plant parts still exist. Variations in the original topography will dictate where this dividing layer lies in the profile at any given location. It is nearly as important not to dig below the original surface as it is to dig down to it, since this plant-littered surface represent the top of the potentially living root and rhizome systems. This area also contains the original sandy topsoil. Original topsoil is hard to replace for effective restoration in terms of texture, organic matter composition, soil microbiology and other soil characteristics and ecological function characteristic of a given site. The following narrative and sub-sections (7.1-7.5) describe the specific activity at both areas, as shown in Attachment 2, Aerial Photo of Restoration Site.

The history of mowing, maintenance and vehicles driving onto the site demonstrates that vehicular traffic such as passenger trucks and tractors will not damage the site. However, once the fill is removed, care must be taken to avoid disturbing the original surface soil and tender underground plant parts.

Pickups will therefore be used to back up to the fill prisms, where shovels will be used to scoop the fill soil into the pickups. Since the pickups cannot be driven onto the fill areas as the fill recedes, wheel barrows will be used to transport soil from the increasingly distant fill prism. Since wheel barrows concentrate the weight of the heavy soil onto one or two tires, plywood will be laid out on the freshly exposed restoration area to distribute the weight of both foot and wheel barrow traffic. As the decomposed plant parts become exposed, lawn rakes will be used to rake the remaining loose soil into piles where it can be raked into flat shovels for detailed removal. The freshly exposed original soil surface will not be walked on. Jute netting will be applied as the plywood is removed to prevent soil disturbance. All soil removal work will be performed during dry weather to prevent soil compaction or creation of mud that could be tracked offsite.

7.1 Northern Area

This area contains a relatively small amount of fill. An approximate 19-foot-wide band of fill lies between the eastern patch of Pacific wax myrtle and the elevated berm along the northwestern shore. This band runs approximately 52 feet north to south for an approximate total of 248 ft^3. This area will be treated first to prevent the freshly exposed southern restoration area from being disturbed after fill removal. The existing fill will protect the original soil surface and underground plant parts on the southern area while this northern area is being restored. Fill removal and site protection measures outlined in the above narrative and Section 6 will be employed at this location.

7.2 Southern Area

The Southern Area contains a larger quantity of recent fill. The band of fill is 36 feet wide by 66 feet long and averages seven inches deep resulting in a total of 1,192 ft^3. This entire band will be removed. This area, located in the south-central portion of the parcel, will be excavated after the northern fill prism to ensure the soil surface is not impacted during fill removal on the northern portion. Fill removal and site protection measures outlined in the above narrative and Section 6 will be employed at this location.

7.3 Surrounding Areas

No surrounding areas will be impacted by this restoration project. The parcel is fenced and prevents any travel or impacts from extending off the parcel, except for the entry/exit point. The roadway at this point will be protected from trackout as described in Section 7.4, below.

7.4 Soil Disposal

No stockpiling will occur on this site or project. All soil will be removed to upland areas offsite. Two disposal locations will include rural residential uplands within the jurisdiction of the County of Humboldt, including 4205 Mitchell Road (northeast of Eureka) and, if need be, a contingency disposal site at a garden located in McKinleyville at 3544 Dows Prairie Road. Before any vehicles

leave the site with the disposal soil, all bumpers, tailgates, tires and other vehicle parts with loose soil will be swept to prevent trackout onto the road. In the event an un-forseen spill or trackout of soil occurs on the surrounding roadway, the soil will be immediately swept up and disposed with the fill soil being hauled off the site. Within 30 days of fill removal, documentation will be provided to the Commission demonstrating completion of fill removal in accordance with this Restoration Plan.

7.5 Removal Parties and Timeline

Removal will be performed, under the guidance of Streamline Planning's environmental consulting staff, by volunteers between March 9 and April 30, 2015. A volunteer team will be selected between March 5 and March 20. This group will be briefed on the nature of the ecosystem being restored and trained in restoration techniques appropriate for the project. Work days will be organized according to consultant, project management and volunteer schedules until the project is completed by April 30. These dates are pending Commission approval and permit procurement. If the approval and permit procurement process extends into April, the removal portion of this project will be completed within 45 days of approval and permit procurement.

8. RESTORATION PROCEDURES

8.1 Restoration Goals and Performance Standards

The restoration goal on this site is to mimic the plant cover found immediately surrounding the two fill prisms. This goal shall be achieved within a threshold of +/- 10% for each of the three target species listed in Table 2, below. A final goal of 75% native plant cover and 85% total plant mass ground cover shall be achieved. The three target species are listed in the first column of Table 2. This percentage will be an improvement over current site conditions where non-native species such as *Plantago*, *Holcus* and *Rumex* make up a large portion of the minor species.

This plant community is represented by the plants found on Wetland Determination Data Forms 1, 2 and 5, which all lie within the same topographical region of the parcel as the two fill prisms. The vegetation on these sheets is representative of that which is found surrounding the two fill prisms. The highly dominant native specie in this area of the parcel is *Carex pansa*, followed by *Juncus lescurii* and *Festuca rubra*. The average percentage of each of these species in relation to the total cover provided by only these three dominant natives, as presented in column three of Table 2, below, is the ideal plant cover for the restored fill prism locations. The current % of total cover provided by the three target species in the second column is the realistic plant cover to be expected. The final column lists the reasonable goal based on the previous two columns.

Table 2. Restoration Plant Cover Goal (with Current %) Numbers represent the average of Wetland Data Forms 1, 2 & 5			
Specie	Current Total %*	Current % of the 3	Goal*
Carex pansa	45	68	50
Festuca rubra	9	13.5	11
Juncus lescurii	11	18.5	14
Minor, combined	35	NA	25
*Numbers based on specie's % of absolute cover; minor combined = non-dominant species both native and non-native			

8.2 Restoration Methodology

Upon completion of fill removal, jute placement and installation of protective fencing, the site will be monitored bi-monthly from spring through fall to observe the emergence of the native plants buried by fill. If less than 33% native plant cover is achieved within this time frame (April through September 2015), the alternative plan outlined in section 8.3, below, will be employed. The 33% threshold is realistic since the restoration planning and permitting process has taken the physical restoration work into mid to late spring, reducing the amount of time for viable growth to occur. It is hoped that the hardy plants buried by fill will resprout and vegetate the bare surface. During this monitoring period, weeds will be hand pulled to ensure re-establishment of native species. The Scotch broom along the western side of the parcel will be removed to prevent its encroachment into the restoration areas. If drought conditions ensue, a portable water tank may be used to water the restoration areas.

8.3 Alternative Restoration Methodology

If less than 33% native plant cover is achieved by September, 2015, the site will be visited by Streamline Planning to ascertain the best course of action. If the restoration plan outlined above appears to have failed (buried plant mortality), then any weeds will be killed by herbicide applied at label rates to ensure total kill of the weed bed without disturbing the soil surface. The nature of the broken asphalt concentration in the soil surface, combined with existing root systems, makes it imperative that soil disturbance be kept to a minimum. The smallest available size of containerized plants (plugs) from the list of three species in Table 2, at the percentages listed in the middle column, will be installed at 18-inch spacing in November of 2015, when temperatures and day-length decrease. This time is also the beginning of the wet season, when plants are more easily established. If drought conditions ensue, a portable water tank may be used to water the restoration areas.

9. MONITORING

Monitoring will be performed by the project manager or her agent on an average bi-monthly basis for a period of five years unless the Commission signs off on the success of the restoration project before that

time. Consultants from Streamline Planning Consultants will oversee monitoring to ensure the proper methodology and technical expertise is employed. Straw wattles and protective fencing will be inspected to ensure proper function. Any areas where jute netting is decomposing, but soil remains bare, shall be protected with a light layer of rice straw or similar mulch to allow plant emergence while protecting the soil surface from raindrop impact. Accumulated trash and debris will be removed during visits. Native plant cover should continue to increase over the five years and should remain as healthy as the surrounding vegetation according to climatic and seasonal conditions. If restoration is deemed complete by the consultant before July 1, 2019, a final report will be submitted, requesting project closing and Commission sign off.

Annual reports will be submitted to the Executive Director of the Commission by July 1 of each year for the five year responsibility period. A final report will be filed on July 1 of 2019 summarizing the progress and success of the project. If the project does not meet the goals set forth in this Restoration Plan, a Revised Restoration Plan and Monitoring Program will be created to achieve successful restoration of reasonable native plant cover for this site. This revised plan would be submitted by August 1, 2019, if necessary.

10. PROJECT SUMMARY & TIMELINE

Volunteer selection between March 5 and March 20
Fill removal between March 9 and April 30, 2015
    Pending approval & permit receipt
    If approval & permit receipt occur after March 31, work will be performed within 45 days
Submission of fill removal evidence by May 30, 2015, or within 30 days of removal if later than Apr. 30
First Annual Report submitted by July 1, 2015
Primary first growing season inspection, September 2015
    This inspection will determine if alternative revegetation is required (see Section 8.3)
    If revegetation is required, installation will occur per Section 8.3 in November of 2015
Second Annual Report submitted by July 1, 2016
Third Annual Report submitted by July 1, 2017
Fourth Annual Report submitted by July 1, 2018
Final report filed on July 1 of 2019
Revised plan, if necessary, submitted by August 1, 2019

Six monitoring site visits will occur per year, on average of once every two months, until the Commission deems the project complete and restoration successful

11. CONCLUSION

While restorationists face many challenges, Streamline staff feels this site can effectively be restored with appropriate native species. This plan sets forth the most feasible practices that will lead to the best likelihood of success.

12. REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe, 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

Munsell Color. 2000. *Munsell Soil Color Charts*. Gretamacbeth. New Windwor, NY.

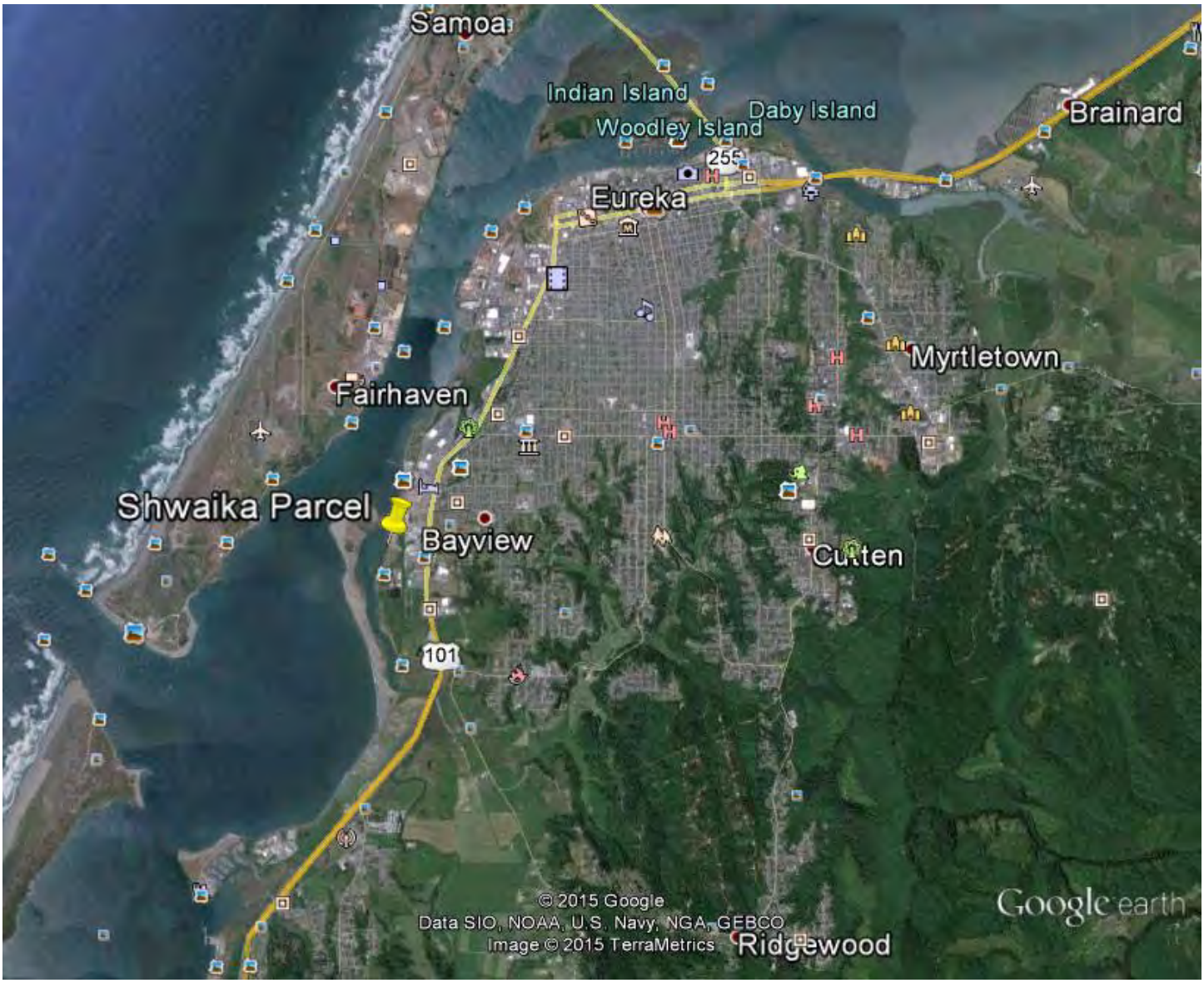
Streamline Planning Consultants. 2015. *Wetland Delineation: Shwaika Parcel.*

Western Region Climate Center. 2013. Eureka Station Weather Data page @ http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2910

ATTACHMENTS

ATTACHMENT 1: Site Location Map
ATTACHMENT 2: Aerial Photograph of Restoration Site
ATTACHMENT 3: Aerial Photograph of Restoration Plan
ATTACHMENT 4: Site Photographs
ATTACHMENT 5: Monitoring Form

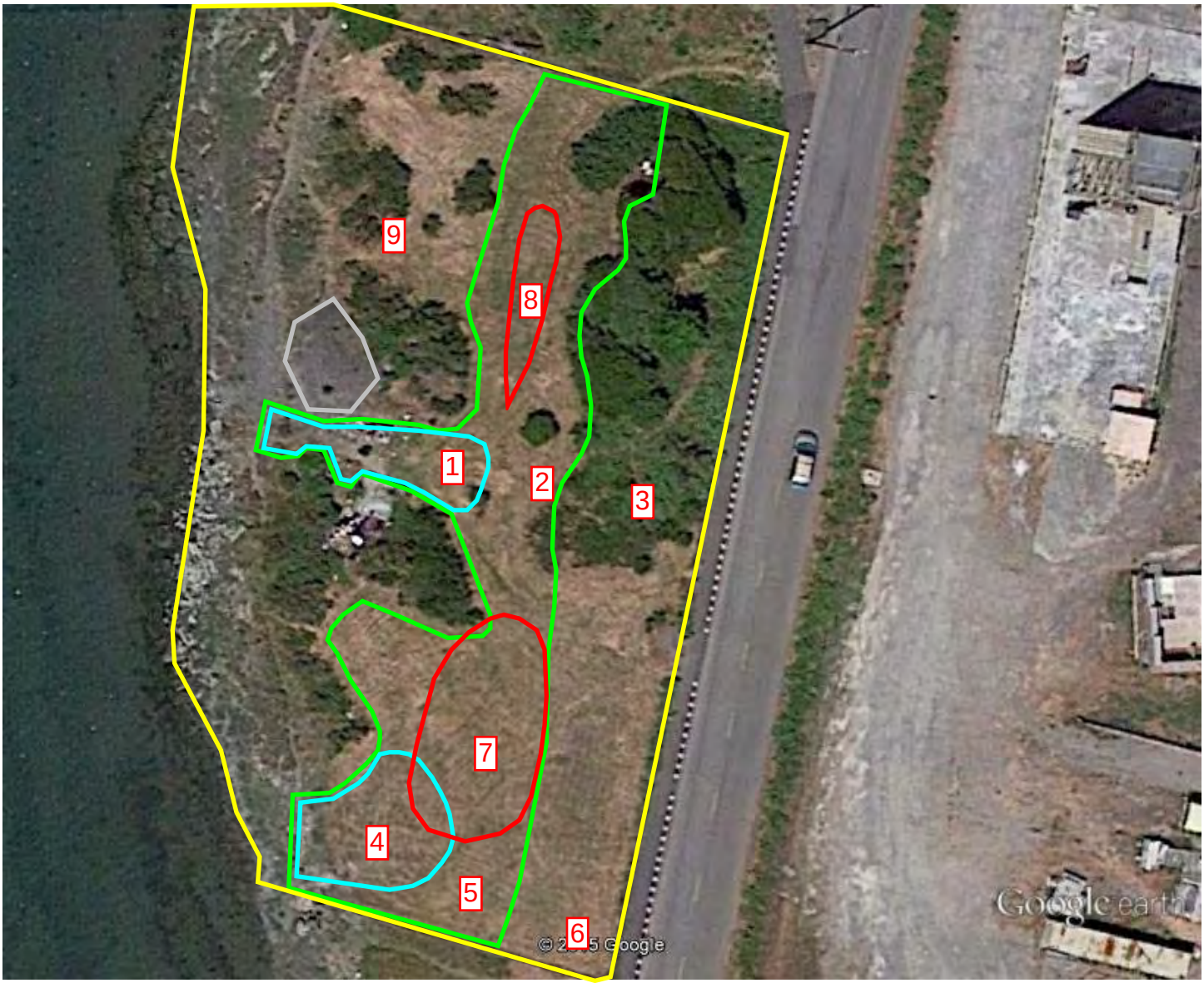
ATTACHMENT 1. SITE LOCATION MAP



Google earth

miles 4
km 6

ATTACHMENT 2. RESTORATION SITE AERIAL PHOTOGRAPH



Google earth

feet 100

meters 50

Note: Map not for survey purposes.

Coastal Zone Wetland

Jurisdictional 3-Parameter Wetlands

Radish-covered Fill Areas to be Fenced after fill removal

Existing Asphalt Pile

4 Soil Pit Locations from Wetland Delineation

Parcel Boundary

ATTACHMENT 3. RESTORATION PLAN AERIAL PHOTOGRAPH

Google earth feet 100
meters 50

Note: Map not for survey purposes.

Zone 3 Vegetation- Coastal Prairie Grassland; Note western and north half of eastern borders correspond to Coastal Zone Wetland Border (See Attachment 2)

Radish-covered Fill Areas to be Fenced & Covered with Jute after fill removal

Parcel Boundary, Fenced

Zone 1 Vegetation — Tall shrubs (+/- 12')

Zone 2 Vegetation — Medium shrubs (+/- 6')

Zone 3 Vegetation — Coastal Prairie Grassland

Entrance/Exit

Straw Wattle Sediment Control

ATTACHMENT 4. SITE PHOTOGRAPHS

Photograph 1. Soil Pit #4 revealing nearly pure sand with stray pieces of scrap metal simulating redoximorphic features. Notice small piece of iron in upper left corner.

Photograph 2. Heavy drift deposit characteristic of the two jurisdictional wetland areas. Note also depressed topography and adjacent bay at upper right.

Photograph 3. Wild radish patch indicating filled area. Notice surrounding, short *Carex pansa*.

Photograph 4. Fill profile at Pit #8 showing 7 inches of loamy fill soil on top of decomposing surface vegetation, underlain by original sand.

Photograph 5. Looking northwest toward Pit 9 from the Pit #2 flag. Notice the elevation increase and Scotch broom/Coyote Brush upland plant community. Bright green low-growing vegetation is wild radish on the northern fill area surrounding Pit #8.

Photograph 6. Looking southwest at Pit#4. Notice heavy drift deposits, pit full of water and standing water in two depressions at center and right.

Attachment 5

Revegetation Monitoring, BMP Inspection & Maintenance Log

GENERAL INFORMATION				
Project Name	Shwaika Parcel			
Signature of Satisfactory Inspection		This signature certifies BMPs are all functioning satisfactorily and any repairs/adjustments are done.		
Inspector's Name				
Inspector's Title				
Signature				
Date of Inspection				
Inspection Type (Check Applicable)	❒ Prior to forecast rain ❒ 24-hr intervals during extended rain ❒ Bi-Monthly		❒ After a rain event ❒ Quarterly; Type: _____ ❒ Other _____	
Season (Check Applicable)	❒ Rainy (May-Oct)		❒ Non-Rainy (Nov-Apr)	
Storm Data	Storm Start Date & Time:		Storm Duration (hrs):	
	Time elapsed since last storm (Circle Applicable Units)	Min. Hr. Days	Approximate Rainfall Amount (inches)	

PROJECT AREA SUMMARY AND DISTURBED SOIL AREA (DSA) SIZE		
Total Project Area	1.23	Acres
Field Estimate of Active DSAs	NA	Acres
Field Estimate of Non-Active DSAs	NA	Acres

Non-applicable BMPs and actions deleted from this form.				

INSPECTION OF BMPs				
Revegetation Progress, BMP Function	**Yes**	**No**	**N/A**	**Corrective Action**
Revegetation Progress				
Are revegetation areas filling in at an appropriate rate?				
Are plants healthy on revegetation areas, similar to adjacent areas?				
Is the plant composition close to the goal listed in the restoration plan?				
Location:				
Location:				
Preservation of Existing Vegetation				
Location:				
Location:				
Temporary Linear Sediment Barriers (Silt Fence, Fiber Rolls, Sandbag Barriers, Gravel Berms, etc.)				
Are temporary linear sediment barriers properly installed, functional and maintained?				
Are temporary linear sediment barriers free of accumulated litter?				
Is the built-up sediment less than 1/3 the height of the barrier?				
Are cross barriers installed where necessary and properly spaced?				
Location:				
Location:				
Tracking Control				
Are points of ingress/egress to public/private roads inspected and swept and vacuumed as needed?				
Are all paved areas free of visible sediment tracking or other particulate matter?				
Location:				
Vehicle & Equipment Fueling, Cleaning, and Maintenance				
Are vehicle and equipment cleaning areas reasonably clean and free of spills, leaks, spilled soil, or any other deleterious material?				
On each day of use, are vehicles inspected for loose soil and if necessary, swept off?				
Location:				
Location:				
Waste Management & Materials Pollution Control				
Is the site free of litter?				
Location:				
Location:				
Illicit Connection/ Discharge				
Is there any evidence of illicit discharges or illegal dumping on the project site?				
If yes, has the Owner/Operator been notified?				
Location:				
Location:				
General				

Are there any other potential concerns at the site?				
Location:				
Location:				
Location:				

Additional Notes/Comments:

INTRODUCTION

This addendum is for the Restoration Plan covering the topsoil fill removal at the property found at 2420 Hilfiker Lane, designated APN 019-321-06. This document addresses three items to be clarified or refined in the Restoration Plan, as discussed below.

1. Monitoring

The monitoring frequency set forth in the Restoration Plan was as follows, "Monitoring will be performed by the project manager or her agent on an average bi-monthly basis for a period of five years unless the Commission signs off on the success of the restoration project before that time." It was agreed between Commission staff and the consultant that after September of 2015, monitoring will only need to be performed twice annually to ensure revegetation is occurring as set forth in the Plan. Bimonthly monitoring will occur until September 2015.

2. Fill Calculations

A mistake was made in the conversion of cubic feet to cubic yards in the original Restoration Plan. The following table outlines the appropriate numbers, including the total fill of 53 cubic yards.

Table 1. Fill Characteristics (Final estimates)

Area	North	South	Total
Average Depth	3"	7"	
Surface area (ft^2)	990	2,043	3,033
Volume (ft^3)	248	1,192	1,440
Volume (yd^3)	9	44	**53**
Fill Type	Loam topsoil	Loam topsoil	

3. Fill Disposal Location

In addition to the two locations listed in the Plan, the property at 4103 Fieldbrook Road will be an additional location to receive the disposed fill soil, since a large area of upland is available and the site is a community garden that can use essentially unlimited topsoil.

4. Plant Cover Goal

Because the lower portions of this parcel were found to consist of dominantly native vegetation, the goal of restoration on the fill removal areas will be 85% native vegetation with a total plant cover of 95%.

INTRODUCTION

This addendum is for the Restoration Plan covering the topsoil fill removal at the property found at 2420 Hilfiker Lane, designated APN 019-321-06. This document addresses the methods for fill removal based on the revised calculations shown in Adendum 1.

1. Fill Removal

A mistake was made in the conversion of cubic feet to cubic yards in the original Restoration Plan. The following table outlines the appropriate numbers, including the total fill of 53 cubic yards.

Table 1. Fill Characteristics (Final estimates)

Area	North	South	Total
Average Depth	3”	7”	
Surface area (ft^2)	990	2,043	3,033
Volume (ft^3)	248	1,192	1,440
Volume (yd^3)	9	44	**53**
Fill Type	Loam topsoil	Loam topsoil	

Fifty three cubic yards is equivalent to five dump truck loads. This volume is not feasible to remove with hand tools and wheelbarrows. It is therefore proposed to remove approximately the top 90% of the soil with heavier equipment such as a mini excavator, bobcat or bucket loading tractor. Diligent care will be taken to avoid cutting into the original surface soil under the fill. Additionally, the equipment will avoid moving beyond the soil fill prisms where it could compact existing soil, but will maneuver only on the fill as a cushion, or on the access area between the entrance gate and the two fill prisms, since this area is already compacted from years of entry traffic. Care will be taken to avoid spills of soil and any spills will be cleaned up. The road surface will be kept clean and equipment will not be serviced onsite.

The remaining 10% of the soil closest to the original ground surface will be removed using hand tools.