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STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-18-0528**
Applicant:	**California Department of Fish and Wildlife**
Location:	Crescent City Marsh Wildlife Area (CCMWA), adjacent to Highway 101, Crescent City (Del Norte County) [APNs 115-020-29 and 115-020-18].
Project Description:	Excavate two ditches to maintain Highway 101 and restore habitat for the endangered Western Lily at Crescent City Marsh Wildlife Area.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Commission staff recommends approval with conditions of CDP Application No. 1-18-0528 to excavate two obstructed drainage ditches within the Crescent City Marsh adjacent to Highway 101. The Commission first approved the proposed project under CDP Application No. 1-13-0489 on January 7, 2015, but the permit expired prior to issuance.[1] The project proposed under the current application is identical to the project previously approved by the Commission.

Excavation of the two obstructed ditches is proposed to (1) maintain U.S. Highway 101 by preventing flooding and erosion of the roadway from blocked and ponded water and (2) restore

[1] The original staff report is accessible from the Commission's website.

habitat within the Marsh for the federally endangered Western Lily (*Lilium occidentale*), which has been adversely affected by high water levels associated with the abnormal ponding of water. The Crescent City Marsh contains the largest known population of the Western Lily, which has decreased by roughly 50% since 1997, and the population continues to decline. The ditch excavation project is one component of a plan developed by the California Department of Fish and Wildlife (CDFW, Applicant) in conjunction with the U.S. Fish and Wildlife Service to restore the Marsh to historic conditions that previously allowed the Western Lily to flourish.

Regarding the proposed excavation of the southern ditch that runs parallel to the highway, it constitutes a repair and maintenance project pursuant to Coastal Act section 30610(d) and section 13252 of the Commission's regulations. In its consideration of a repair and maintenance project, the Commission reviews whether the proposed method of repair or maintenance – not the underlying use of the development – is consistent with the Chapter 3 policies of the Coastal Act. The maintenance project would position excavation equipment along the highway shoulder, which itself contains specimens of the endangered Wolf's Evening Primrose (*Oenothera wolfii*). Staff evaluated several alternatives to the proposed project, but each alternative either is infeasible or would result in greater adverse environmental damage to either the marsh or the Wolf's Evening Primrose habitat. In addition, the applicant proposes various mitigation measures (Exhibit 7) including, among other measures, collecting seeds from the first-year rosettes of the Wolf's Evening Primrose and planting the seeds or transplanting the rosettes to another suitable location in the area.

Regarding the proposed excavation of the northern ditch, it involves enlargement of the ditch to increase its hydraulic capacity by using excavated material to build up berms along the sides of the ditch. As such, the northern ditch excavation does not qualify as repair and maintenance. However, as the northern ditch work is designed to restore habitat within the Marsh for the endangered Western Lily, staff believes that the proposed development constitutes permissible dredging and filling of wetlands for restoration purposes under Coastal Act section 30233.

Staff believes that the proposed project, with certain additional mitigation measures required by the recommended special conditions, is consistent with the Chapter 3 policies of the Coastal Act. Special Condition 1 requires submittal of a final erosion and runoff control to protect water quality and biological productivity. Special Condition 2 requires that the Applicant's mitigation proposal be revised to include further measures to protect the Wolf's Evening Primrose, such as covering the habitat within the work area and limiting the timing of construction until after the flowering season. Special Condition 3 requires monitoring of the replanted Wolf's Evening Primrose to ensure the mitigation is successful.

The motion to adopt the staff recommendation is found on Page 4.

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I. MOTION AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

> *I move that the Commission approve coastal development permit 1-18-0528 pursuant to the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

> *The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**: 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 of 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. Final Erosion Control Plan.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall submit a plan for erosion control to the Executive Director for review and approval.

(i) The Erosion Control Plan shall demonstrate that:

(a) During construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties and coastal resources; and

(b) Temporary erosion control measures shall be employed, including, but not limited to, scheduling the work during the dry season, installing silt fences or similar devices to contain or filter silt laden runoff, and limiting refueling of equipment to upland areas at least 100 feet away from wetlands;

(ii) The plan shall include, at a minimum, the following components:

(a) A narrative report describing all erosion control measures to be used;

(b) A site plan showing the location of all erosion control measures; and

(c) A schedule for installation and removal of the erosion control measures.

B. The Permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director issues a written determination that no amendment is legally required for any proposed minor deviations.

2. Revised Final Mitigation Measures Plan.

A. The Applicant shall mitigate for development impacts to water quality, wetlands, rare plant habitat, riparian habitat, and all other ESHA that exists at the site as proposed in the description or of mitigation measures contained in the section of the Applicant's coastal development permit application received on June 7, 2018, titled, "Mitigation Measures," on pages 14 through 17 and included as Exhibit 7 of the Coastal Commission July 20, 2018 Staff Recommendation, except that the mitigation measures section shall be revised to include the changes required in subsection (B) below.

B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, and prior to commencement of development, the Applicant shall submit, for the review and written approval of the Executive Director, a revised final mitigation measures plan. The revised final plan shall substantially conform to the Mitigation Measures section of the permit application, except that the revised final mitigation measures plan shall be revised to include, at a minimum, the following:

(i) Provisions for the placement of tarps, plywood and/or other covering materials on top of the Wolf's evening primrose habitat along the Highway 101 shoulder adjacent to the portion of the southern ditch to be excavated beneath where heavy equipment will

be operating to excavate the ditch to prevent excavated material spilling onto or otherwise entering the Wolf's evening primrose habitat; and

(ii) Provisions for limiting construction to the period between mid-September and mid-October to avoid the flowering season of the Wolf's Evening Primrose and the rainy season;

C. The Permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director issues a written determination that no amendment is legally required for any proposed minor deviations.

3. Wolf's Evening Primrose Monitoring Plan.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall submit, for the review and written approval of the Executive Director, a plan for monitoring the success of the restoration of Wolf's Evening Primrose habitat following project construction designed by a qualified biologist or ecologist to ensure that the area is restored to functional Wolf's Evening Primrose habitat as proposed. The plan shall demonstrate and include the following:

(i) Quantitative and qualitative success standards that assure achievement of the approved post-construction mitigation goals including (i) survival of no less than 150 pure-strain Wolf's Evening Primrose individuals and elimination of any hybrid strain Wolf's Evening Primrose;

(ii) Provisions assessing the initial biological and ecological status of the restoration site within 30 days of establishment of the restoration site;

(iii) Provisions for post-project monitoring the site annually for a minimum of 5 years for, at a minimum, the following attributes: (1) presence and cover of invasive plants, (2) population size and density of restored populations of Wolf's Evening Primrose, and (3) other criteria as appropriate;

(iv) Provisions for the submittal of annual reports of monitoring results to the Executive Director for the duration of the required monitoring period, beginning the first year after submission of the "as-built" assessment. Each report shall also include a "Performance Evaluation" section where information and results from the monitoring program are used to evaluate the status of the wetland mitigation project in relation to the performance standards; and

(v) Provisions for the submittal of a final monitoring report to the Executive Director at the end of the five-year reporting period. The final report must be prepared in conjunction with a qualified biologist or ecologist. The report must evaluate whether the restoration site conforms to the goals, objectives, and performance standards set forth in the approved final restoration program. The report must address all of the monitoring data collected over the five-year period.

B. If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved performance standards, the applicant shall submit a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved performance standards. 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.

C. The Permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director issues a written determination that no amendment is legally required for any proposed minor deviations.

4. **Development in Accordance with Approved Plans.** The Applicant shall ensure that all construction is performed in substantial conformance with the proposal set forth in the application for the permit as modified by the special conditions. The Executive Director may approve minor changes to the approved plans that are *de minimis* in nature and scope and are not inconsistent with the special conditions of this permit and consistency certification. Such minor changes may require an immaterial amendment approved by the Executive Director, unless the Executive Director determines no amendment is legally required. No other changes to the approved plans shall occur without a Commission approved material amendment to this coastal development permit.

5. **State Lands Commission Review.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall submit to the Executive Director, a written determination from the State Lands Commission that:
   A. No State lands are involved in the development; or
   B. State lands are involved in the development and all permits required by the State Lands Commission have been obtained; or
   C. State lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

6. **CDFW Approval.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall provide to the Executive Director a copy of a streambed alteration agreement approved by the Department of Fish & Wildlife, or evidence that no streambed alteration agreement is required. The Applicant shall inform the Executive Director of any changes to the project required by the Department. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

7. **Restoration Monitoring.** The Applicant shall submit to the Executive Director by June 1st of each year following commencement of the ditch excavation activities authorized by Coastal Development Permit (CDP) No. 1-18-0528 an annual monitoring report that discusses the progress of the project and how successful the project has been to date in achieving restoration goals. Success shall be assessed using the criteria proposed by the applicant in the monitoring provisions section of the application for CDP 1-18-0528 including: (1) the ability of the newly excavated ditches to reduce ponding within the marsh, (2) expected changes in plant species compositions, and (3) additional survival, reproduction, and dispersal of the western lily populations within the marsh and the Crescent City Marsh Wildlife Area. Five years after the commencement of the ditch excavation activities authorized by CDP 1-18-0528, the permittee shall submit a final monitoring report for the review and written approval of the Executive Director comparing pre- and post-restoration conditions and evaluating whether, in light of all the data collected in the annual monitoring reports the success criteria

have been achieved. For purposes of this special condition, pre-project baseline conditions shall be those established by the documents submitted by the permittee in support of the application for CDP 1-18-0528. If the Executive Director determines that the final monitoring report does not demonstrate such success, the permittee shall, within ninety (90) days after receipt of written notice of the Executive Director's determination, submit a complete application for an amendment to CDP 1-18-0528 to implement additional restoration activities or additional adaptive management measures necessary to achieve the required favorable restoration result.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. PROJECT LOCATION, BACKGROUND AND DESCRIPTION

Project Location and Setting

The Crescent City Marsh (hereinafter "Marsh") encompasses over 450 acres of freshwater wetlands located along the coast immediately south of Crescent City, Del Norte County, 30 miles south of the Oregon border (Exhibit 1). Approximately 200 acres of the Marsh are located within the Crescent City Marsh Wildlife Area (CCMWA) owned and managed by the California Department of Fish and Wildlife (CDFW). Hambro Forest Products, Inc. (Hambro) of Crescent City owns most of the remainder of the Marsh. The proposed work would be conducted on CDFW (APN 115-020-029) and Hambro (APN 115-020-018) properties with the permission of the property owner.

The project site encompasses two distinct drainage ditches. The northern ditch site is on the Hambro property and almost entirely outside the Caltrans 15-foot Highway 101 right-of-way. The northern ditch extends approximately 300 feet east of and perpendicular to Highway 101. The southern ditch site is within CDFW-owned and managed land and within the Caltrans Highway 101 right-of-way. The southern ditch extends approximately 150 feet along and parallel to Highway 101 (Exhibits 3-5).

Project Background

The Crescent City Marsh is a fragile freshwater wetland system. In 1991, the largest known population of the endangered Western Lily (*Lilium occidentale*) was discovered at the CCMWA. According to a 1998 Recovery Plan for the Western Lily, the lily occurs in early successional bogs or coastal scrub on poorly drained soils (Guerrant *et al*.1998). This species is considered endangered under both the Federal Endangered Species Act and California Endangered Species Act. In 1997, the number of plants was estimated at 2,660 individuals (Imper & Sawyer 2002), and the Marsh supported more than 75% of the total reproductive population for the species. However, since 2006, this population has declined to less than 50% of the previous estimate (USFWS 2009), and the lily has disappeared entirely from the lowest elevations of the Marsh. Principal threats to the lily at the CCMWA are considered to be: 1) increased secondary succession by encroaching woody scrub vegetation and coniferous forest trees (Imper & Sawyer 1992, USFWS 1998 and USFWS 2009); and 2) inundation of habitat by excess water resulting

from poor draining and flooding of critical and suitable habitats. The ponding over the past 12 years has reduced the population of the lily by roughly half. Without the proposed work, the once-largest population of Western Lily has the potential to die out completely. The ponding also serves to threaten the health of the overall system, including the diversity and reproduction of existing habitat types.

Project Description

The Commission first approved the proposed project under CDP Application No. 1-13-0489 on January 7, 2015, but the permit expired prior to issuance.[2] The project proposed under the current application is identical to the project previously approved by the Commission.

The proposed project includes removal of a total of 541 cubic yards of silt/muck material and overgrown marsh vegetation, over a combined 5,400 square foot area spanning a total of 465 linear feet of two ditches. One goal of the proposed project is to restore the Marsh to its condition prior to the ditch blockages, thereby restoring and enhancing the Western Lily's habitat. Another goal of the proposed project is to maintain the highway by reducing the abnormal extent of ponding in the marsh that occurs particularly during heavier late season storm events and threatens to flood the highway and erode the road base.

Dredge and Fill Development at the Northern Ditch

At the northern ditch site (Exhibits 3-4), the Applicant proposes to excavate deposited silt/muck material and remove overgrown vegetation from the two existing ditches for the purpose of allowing surface flows during rain events to flow west/south toward the existing culverts under Highway 101 to the beach and lower the late season water levels in the Marsh. CDFW believes the reduced late-season water levels will restore ideal conditions for the endangered Western Lily habitat within the Marsh and help maintain the functionality of the highway. Specifically, the Applicant proposes to excavate an existing plugged ditch that flows into a culvert (located at Mile Post [MP] 24.92) that carries surface water flows from the Marsh under the highway to the beach. The northern ditch extends perpendicular to the highway. A total of 291 cubic yards would be excavated over 3,150 square feet along 315 linear feet at the northern ditch site to a depth of 2-4 feet below current ground level. An excavator would be driven within the excavation footprint to its eastern extent and positioned on the centerline of the ditch to excavate in a manner proceeding back toward Highway 101. A small section of the ditch passes near Western Lily individuals. Accordingly, the ditch would be cleaned out starting at the existing southern extent of the ditch wall to avoid disturbance of the Western Lily. Muck soil and associated decomposed vegetation in the eastern 150 feet of the ditch (within the low marsh itself) would be spread within a like-sized area on either side of the ditch, raising the marsh surface approximately two feet or as necessary to create a more substantial channel for conveying excess water out of the marsh to support a slightly higher and more diverse marsh plant community. The surface would not be raised so high as to convert the affected wetland area to uplands, but would change the character of the affected area to emergent wetland to have a secondary benefit of improving biological diversity. Any driftwood collected and all other excavated materials not suitable for placement along the banks of the ditch would be removed to

[2] The original staff report is accessible from the Commission's website.

two approved disposal sites located outside of the coastal zone in Del Norte County – Lopez Rock Quarry (APN 101-021-40) and Hole Pit (APN 105-260-12).

Repair and Maintenance Activities at the Southern Ditch

At the southern ditch site (Exhibits 4-5), the Applicant proposes maintenance through excavation of an existing plugged ditch that flows into a separate culvert to the south (#MP24.46). The proposed work includes excavating 250 cubic yards over 2,250 square feet and 150 linear feet at the southern ditch site to a depth of 1-3 feet below current ground level. This ditch originates in the Marsh and runs immediately adjacent and parallel to Highway 101 to the existing culvert which flows west to the beach. Woody/scrub vegetation would be removed during ditch excavation. Excavated material would be stacked adjacent to the ditch within the marsh, until adequately dewatered, before being loading onto trucks. Caltrans would haul away all of the muck, sand and vegetation removed during excavation to approved off-site disposal sites. Caltrans would undertake all aspects of the ditch excavation and maintenance. The proposed work would require closure of the Highway 101 northbound lane for approximately 5-7 days. Traffic would be directed with intermittent stops along the southbound lane for both north and south bound traffic.

Table 1 summarizes the proposed excavation work:

Table 1. Information on amount of material excavated/dredged during maintenance of ditches.

Type of Water Body	Excavation Volume & Type (cubic yards)	Excavation Square Feet (Length x Width)	Linear Feet	Type of Impact
Wetland	Northern Ditch: 291 cubic yards Southern Ditch: 250 cubic yards	Northern Ditch: Square feet = 3,150 (315 ft long x 2.5 ft deep x 10 ft wide). Southern Ditch: Square Feet = 2,250 (150 ft long x 3 ft deep x 15 ft wide).	Northern Ditch: Linear feet = 315. Southern Ditch: Linear feet = 150.	
Total	541 cubic yards of muck soil & decomposed vegetation	5,400 sq ft	465 linear ft	Temporary

The Applicant proposes to undertake the project pursuant to several proposed mitigation measures related to protection of surrounding environmentally sensitive habitat areas (Exhibit 7).

B. STANDARD OF REVIEW

The proposed project area is bisected by the boundary between the retained CDP jurisdiction of the Commission and the CDP jurisdiction delegated to Del Norte County by the Commission through the County's LCP. The portion of the project within the Commission's retained jurisdiction includes the work at the southern ditch site. The proposed work at the northern ditch site is within the CDP jurisdiction of Del Norte County.

Section 30601.3 of the Coastal Act authorizes the Commission to process a consolidated coastal development permit application when requested by the local government and the Applicant and approved by the Executive Director for projects that would otherwise require coastal development permits from both the Commission and from a local government with a certified LCP. In this case, the Del Norte County Board of Supervisors adopted a resolution (#2008-072), and both the Applicant and the County submitted letters requesting consolidated processing of

the coastal development permit application by the Commission for the subject project, which was approved by the Executive Director.

The policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated CDP application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

C. OTHER AGENCY APPROVALS

U.S. Army Corps of Engineers
The Corps has regulatory authority over the proposed project under Section 404 of the Clean Water Act. Section 404 of the Clean Water Act regulates fill or discharge of materials into waters and ocean waters. The Corps has approved the necessary 404 permit for the project.

North Coast Regional Water Quality Control Board
The Regional Board requires a water quality certification for projects involving dredging and/or filling activities under Section 401 of the Clean Water Act. The Regional Board has approved the necessary 401 certification for the project (dated June 3, 2018).

California State Lands Commission
The project site is located in an area that is subject to the public trust. To assure that the Applicant has a sufficient legal property interest in the site to carry out the project consistent with the terms and conditions of this permit, the Commission attaches **Special Condition 5**. This condition requires that the Applicant submit evidence that any necessary authorization from the State Lands Commission has been obtained prior to issuance of the CDP.

California Department of Fish and Wildlife. The Department must issue a Streambed Alteration Agreement to Caltrans pursuant to Section 1603 of the California Fish and Game Code for the proposed project. **Special Condition 6** requires that the Applicant submit evidence that the necessary streambed alteration agreement has been obtained prior to issuance of the permit.

D. REPAIR & MAINTENANCE AND NEW DEVELOPMENT IN WETLANDS/ESHA

Section 30230 of the Coastal Act states the following:

> *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 following:

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, the following:

(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:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

…

(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. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.
[…]

Section 30108 of the Coastal Act defines “feasible” as follows:

> *'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.*

Section 30240 of the Coastal Act states the following:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Section 30107.5 of the Coastal Act defines "environmentally sensitive area" as follows:

> *'Environmentally sensitive area' means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in the ecosystem and which could be easily*

Section 30610 of the Coastal Act provides, in relevant part, the following:

> *Notwithstanding any other provision of this division, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas: . . .*
>
> *(d) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that <u>if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter</u>.* [Emphasis added]

Section 13252 of the Commission administrative regulations (14 CCR 13000 et seq.) provides, in relevant part, the following (<u>emphasis added</u>):

> *(a) For purposes of Public Resources Code section 30610(d), the following extraordinary methods of repair and maintenance shall require a coastal development permit because they involve a risk of substantial adverse environmental impact:…*
>
> *(3) <u>Any repair or maintenance</u> to facilities or structures or <u>work located in an environmentally sensitive habitat area, any sand area, within 50 feet of the edge</u>*

> *of a coastal bluff or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams that include:*
>
> *(A) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;*
>
> *(B) The presence, whether temporary or permanent, of mechanized equipment or construction materials.*
>
> *All repair and maintenance activities governed by the above provisions shall be subject to the permit regulations promulgated pursuant to the Coastal Act, including but not limited to the regulations governing administrative and emergency permits. The provisions of this section shall not be applicable to methods of repair and maintenance undertaken by the ports listed in Public Resources Code section 30700 unless so provided elsewhere in these regulations. The provisions of this section shall not be applicable to those activities specifically described in the document entitled Repair, Maintenance and Utility Hookups, adopted by the Commission on September 5, 1978 unless a proposed activity will have a risk of substantial adverse impact on public access, environmentally sensitive habitat area, wetlands, or public views to the ocean.…*

In partnership with Caltrans, the Applicant proposes to remove blockages in existing ditches that impede the conveyance of stormwater runoff out of the Crescent City Marsh for discharge to the ocean through culverts under the highway. The ditches to be excavated are within wetland areas of the Crescent City Marsh.

The proposed excavation of the northern ditch involves enlargement of the ditch to increase its capacity by using excavated material to build up berms along the sides of the ditch. As the development enlarges the northern ditch, the northern ditch excavation does not qualify as repair and maintenance under section 30610(d) of the Coastal Act and section 13252 of the Commission's regulations. The proposed excavation at the southern ditch is to maintain the highway by preventing flooding of the roadway from the ponded water and related erosion of the road base. The excavation equipment that will be used to excavate the southern ditch that runs parallel to the highway will be positioned along the road shoulder in an area containing a rare plant, the Wolf's Evening Primrose (*Oenothera wolfii*). Caltrans maintenance crews will perform the work. As the excavation of the southern ditch qualifies as repair and maintenance and the excavation of the northern ditch does not, the two parts of the project are reviewed separately below for conformance with the Coastal Act wetland filling diking and dredging policies and with the ESHA protection policies.

1. Repair and Maintenance Activities at Southern Ditch

Coastal Act section 30610(d) generally exempts from Coastal Act permitting requirements repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities. However, the Commission retains authority to review certain extraordinary methods of repair and maintenance that involve a risk of substantial adverse environmental impact, as enumerated in section 13252 of the Commission regulations.

The excavation of the southern ditch that runs parallel to the highway qualifies as a repair and maintenance project under section 30601(d) of the Coastal Act and section 13252 of the Commission's regulations, because the development in this ditch does not involve an addition to or enlargement or expansion of either the highway or the ditch. The ditch will only be cleared of the built up sediment and overgrown marsh vegetation. However, the excavation of the southern ditch involves a risk of substantial adverse impact as the proposed development involves the placement of mechanized equipment within wetland and rare plant ESHA. Therefore, the proposed excavation of the southern ditch requires a CDP under section 13252(a)(3) of the Commission's repair and maintenance regulations.

In considering a permit application for a repair or maintenance project pursuant to the above-cited authority, the Commission reviews whether the proposed method of repair or maintenance is consistent with the Chapter 3 policies of the Coastal Act. The Commission's evaluation of such repair and maintenance projects does not extend to an evaluation of the conformity with the Coastal Act of the underlying existing development. As such, the applicable provisions of sections 30230, 30231, 30233, and 30240 of the Coastal Act cited above require that the method of proposed repair and maintenance: (1) use the least environmentally damaging feasible alternative; (2) provide feasible mitigation measures to minimize adverse environmental effects; (3) minimize disruption of habitat values; (4) protect the biological productivity and the quality of coastal wetlands and waters; and (5) protect adjacent environmentally sensitive habitat areas against any significant disruption of habitat values.

The maintenance activities at the southern ditch will be performed using heavy equipment within and adjacent to wetlands and upland rare plant habitat. If not properly undertaken with appropriate mitigation, the necessary highway maintenance activities could have adverse impacts on coastal resources, in this case coastal wetlands, rare plant habitats, and the associated wildlife that use the wetlands and rare plant habitats.

a. Summary of Impacts

i. Direct Wetland Impacts

The proposed work will be conducted within freshwater wetlands and adjacent to certain sensitive plant and animal species. The proposed repair and maintenance therefore has the potential to directly impact sensitive habitat within the construction area and excavation footprint. In this case, construction staging and excavation equipment at the southern ditch will be confined to the roadbed area. No heavy equipment will enter the southern ditch and the adjoining marsh area except for the bucket of the excavator that will reach over from the roadbed into the ditch to perform the excavation.

The majority of the southern ditch project footprint consists of barren mud during low water conditions. At the inflow of the culvert, approximately 208 cubic yards will be excavated. This area supports scattered willow shrubs (up to 10 feet tall) and slough sedge. This willow and sedge vegetation make up a small percentage of such vegetation found throughout the approximately 450-acre marsh and is expected to repopulate the ditch over time by natural recruitment of willow and slough sedge from vegetation immediately surrounding the

excavation. Thus, the temporary removal of this relatively small amount of willow/alder scrub will not significantly disrupt wetland habitat values in the marsh.

Additionally, wetland areas of the Marsh contain 20 endangered, threatened, rare or special species of special concern. These include 11 plants, seven birds, one amphibian and one fish. Of the 11 plants, only the Western Lily is known to occur within wetlands near the excavation footprint. Of the seven birds and one amphibian, three are known to occur adjacent to the excavation footprint – Yellow-breasted Chat (*Icteria virens*), Northern Red-Legged Frog (*Rana aurora aurora*) and Willow Flycatcher (*Empidonax traillii Brewster*). All special status plants found within wetland areas of the Marsh will be avoided.

ii. Transitional Wetland Vegetation Impacts

Over the past several years of increased ponding, certain non-sensitive sedge species within the Marsh have flourished. The applicant submitted Lidar mapping demonstrating the various water levels throughout the relevant portion of the Marsh and an analysis comparing those levels to the Marsh habitat types (Exhibit 6). Currently, during the rainy season (late fall into spring), there is more residual water contained within the 4 to 5 foot contour areas than during the dry season. The water remains longer because the ditches are plugged. The excess retention of water initiated during the rainy season combined with longer soil saturation conditions has not adversely affected the survival and growth of the Western Lily. The proposed project will effectively reduce the duration of the ponding by unplugging the ditches. However, as a result of nearly a decade-long period of increased inundation, the Lily has declined and other species have expanded their territory. The proposed project will reduce the ponding to return the site to more suitable Western Lily conditions. Accordingly, it is anticipated that lower late-season surface water levels resulting from the proposed project will cause a maximum of 1.9 acres of sedge marsh scattered throughout the roughly 450 acre property to transition to drier Willow/Alder scrub (1.1 acres) and Spruce (0.8 acres) habitat. The change in habitat will occur in locations scattered throughout the Marsh, depending on the particular topography and related hydrology. The sedge habitat recently increased in the area due to the increase in ponding caused by the blocked ditches. While some transition of wetland habitat type is anticipated, this transition will not amount to a significant disturbance of the habitat value, because the habitat value will be restored and enhanced to habitat consistent with the historic record.

iii. Wolf's Evening Primrose Impacts

Construction activities are proposed to take place, in part, on special status Wolf's Evening Primrose habitat, which grows in uplands along the shoulder of Highway 101 adjacent to the marsh wetlands. The Wolf's Evening Primrose has a two-year life cycle and thrives in areas of disturbance. After the first year, the plant disperses seeds and then goes to flower the second year.

The Primrose has been identified in other nearby areas, including elsewhere along the foredune just east of Highway 101 and southwest of Highway 101 along the upper coastal strand. Impacts to pure-strain Primrose constitute a significant disruption to the Primrose habitat, because the hybrid-strain is beginning to take over and degrade the sensitive pure-strain habitat. The identified Primrose plants within the shoulder at the south culvert excavation site are believed to be sensitive pure-strain plants.

The Wolf's Evening Primrose is an early successional plant species that thrives in disturbed environments. In this location, the shoulder/roadbed area between the highway and the lower marsh area has soil conditions and a level of disturbance in which the Primrose thrives. The proposed positioning of construction equipment and materials in the shoulder/roadbed area could have the potential to cause significant disturbance of this rare plant ESHA in two primary ways. First, excavated soil material from the ditch that is allowed to spill from the excavator equipment within the rare plant habitat and mix with the existing roadbed/shoulder soils could change the soil conditions in a manner that would be unsuitable for the Primrose or be more favorable for other species that could outcompete and crowd out the Primrose. Covering the existing roadbed/shoulder soils prior to the commencement of excavation would help avoid this impact. Second, disturbance of the Primrose habitat prior to the natural dispersal of seed from the Primrose would impair the regeneration of Primrose at the site. If the Primrose individuals are allowed to naturally disperse seed prior to construction, the subsequent disturbance is less likely to cause any significant adverse harm to the Primrose. Accordingly, covering and direct disturbance (machines operating on top of plants) will not adversely impact the Primrose habitat areas as plants would regenerate from the dispersed seeds after the expected week-long construction period has ended.

iv. Nesting Bird Habitat Impacts

Birds such as the Northern Harrier, Oregon Vesper Sparrow, and some species of waterfowl may nest within the marsh. Ground disturbance and removal of vegetation that affects breeding or nesting could cause significant disturbance of marsh bird habitat.

v. Water Quality Impacts

The proposed repair and maintenance activities will be conducted in sensitive marsh and upland habitat areas. Accordingly, the construction activities have the potential to cause adverse impacts to the water quality of the wetlands and the ocean to which stormwater runoff from the marsh would normally drain. Specifically, potential impacts are likely to arise due to sedimentation from excavation activities within the marsh and along the roadway (which borders the subject freshwater marsh), and contamination from storage/fueling/washing of the excavators and other tools/machinery used to conduct the work.

b. Least Environmentally Damaging Feasible Alternative

As previously discussed, the applicable provisions of sections 30231, 30233 and 30240 of the Coastal Act that the Commission must consider in its review of the methods of proposed repair and maintenance require that the proposed methods be the least environmentally damaging feasible alternative. Alternatives to the proposed project that were examined include (1) the no-project alternative; and (2) alternative sites; and (3) alternative methods. As explained below, each of these alternatives are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project.

i. No Project Alternative

The no project alternative would involve not excavating the southern ditch. Some surface flows currently flowing through the southern ditch reach the culvert at the southern site. However, if the southern drainage ditch is not excavated, vegetation, muck and debris will continue to build

up, further preventing surface flows to drain west to the beach. Additionally, the backed up material will eventually extend deep into the Western Lily habitat. The Applicant has identified a serious threat to the federally and state listed Western Lily caused by a higher degree than normal of ponding water in the marsh. The blocked southern ditch site, which runs parallel to Highway 101 also threatens to flood the roadway, blocking traffic and eroding the roadbed with the high surface water flows that result of a severe storm event.

The Applicant has identified potential threats to the Highway due to high surface water levels during late season monsoonal periods. Given the importance of the highway and the existence of the culverts/previously excavated areas leading up to culverts, inaction would constitute failure to properly maintain the highway. Therefore, the no-project alternative is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

ii. Alternative Sites

Another alternative involves excavating new ditches and/or culverts to carry the ponding water away from the marsh at alternative sites to both the northern and southern ditch sites. The proposed identified ditches were targeted by CDFW because they are historic ditch channels connected to the only two existing culverts that could successfully drain surface water flows from within the Marsh. The creation of new ditches or new culverts would be more environmentally damaging. Additionally, direct flows inland or north/south of the Marsh is counter-productive, as the surface flows within the Marsh flow naturally to the west. While marsh vegetation has grown within the ditches, excavating ditches at other sites would require more extensive removal of established marsh vegetation, possibly including endangered or threatened species. The proposed project makes use of the existing ditch and culvert infrastructure. Therefore, excavating new ditches is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

iii. Alternative Methods to Reduce the Level of Ponding Water

A final alternative considered involves alternative methods to achieve the identified goal of reducing the level of ponding water to protect the highway from flooding and erosion. Hoses and pumps could conceivably be used to transfer water from the marsh to the beach. This method would require active management throughout the year, including frequent intrusion deep into the Marsh to manipulate hoses and pumps to optimize drainage of the Western Lily and other marsh habitat. This method also would likely be more energy intensive and destructive to the resources as a result of frequent disturbance to marsh vegetation from the passage of humans and equipment. Additionally, this method would require significant monitoring and regulation that would be difficult to sustain. The proposed project is a single event that minimizes intrusion into the Marsh and allows the natural drainage of ponded water to the existing channels. Other alternative methods, such as reducing the amount or depth of excavation would not adequately address the ponding issue. Excavating only a small portion of either ditch will result in the need for more frequent additional excavation activities. Therefore, implementing the project using alternative methods is not a less environmentally damaging feasible alternative than the proposed project as conditioned.

iv. Alternative Methods in order to Avoid Wolf's Evening Primrose

The Applicant explored alternatives to avoid the Wolf's Evening Primrose habitat altogether. One alternative would be to place the excavator in the marsh east of the highway, within the footprint of proposed excavation activities, similar to the excavation method proposed for the northern ditch. However, at the southern ditch, the marsh elevation is much lower than the roadbed elevation (3-4 feet at least), making ingress/egress to and from the excavation site very difficult. In addition, the southern ditch is almost always inundated with surface water, which would 1) make operating a machine in standing water difficult, 2) expose the surface waters to any chemical/oil residue on the excavator, and 3) likely lead to greater destruction of marsh habitat surrounding the ditch as the excavator is moved in and out of position. Therefore, placing the excavator in the marsh to avoid the roadbed is not a less environmentally damaging feasible alternative to the proposed development at the southern ditch.

Another alternative to minimize intrusion into the Wolf's Evening Primrose habitat would be to limit the excavator to the eastern northbound lane of Highway 101, avoiding the roadbed/should area altogether. Although this method avoids the placement of heavy equipment in the habitat, the extra reach of the excavator reduces the precision of excavation, likely causing greater impacts to the marsh habitat surrounding the ditch and increasing the likelihood of excavated materials spilling over the added distance. As discussed previously, mixing excavated material with the soil of the Primrose habitat could cause changes to soil conditions unfavorable to the growth and survival of the Primrose. Therefore, this alternative is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

In contrast to the environmental damage and feasibility concerns of the alternative, the proposed method will involve covering the plants with tarp or other material to prevent mixing of soils. Additionally, once the plants go to seed, placement of heavy equipment on top of the habitat will not actually adversely impact their habitat value. Lastly, placement on top of the roadbed will ensure a more successful and quicker excavation, further limiting exposure of excavated material to the roadbed soils.

Conclusion

For all of the reasons discussed above the Commission finds that there are no less environmentally damaging feasible alternatives to the proposed project as conditioned.

c. Feasible Mitigation Measures

The Commission must ensure that the method of repair and maintenance (a) minimizes adverse environmental wetland effects consistent with section 30233; (b) minimizes significant disruption of habitat values consistent with section 30240(a); (c) protects the biological productivity and the quality of coastal wetlands consistent with the requirements of sections 30230-30231; and (d) protects adjacent environmentally sensitive habitat areas from impacts that would significantly degrade those areas consistent with section 30240(b).

While the proposed project is the least environmentally damaging feasible alternative, the project still has the potential for adverse environmental impacts. As discussed above in the summary of impacts, the proposed method of repair and maintenance could have several significant adverse environmental effects, including: (i) direct impacts to wetlands resulting from excavation; (ii)

adverse effects to Wolf's Evening Primrose; (iii) water quality impacts, and (iv) impacts to nesting bird habitat. The applicant has proposed various mitigation measures as part of the application submitted for CDP 1-18-528 to protect coastal resources from the impacts of the project (Exhibit 7). While the Applicant has proposed some mitigation measures to protect coastal resources, more specific measures are needed to further minimize the expected and potential impacts of the excavation of the southern ditch on wetlands, ESHA, and water quality, as discussed below.

i. Mitigation Measures for Direct Wetland Impacts

As discussed above, palustrine emergent and scrub/shrub wetland vegetation that has become established on accumulated sediments over the past decade (since past maintenance activities), will be eliminated within the project footprint of the southern ditch. This area will eventually re-vegetate naturally, but will be replaced with unconsolidated bottom wetland for a period of 5 to 10 years, until sediment deposition refills the ditches adequate to support emergent vegetation from the areas immediately surrounding the excavation. Once natural revegetation occurs, the ditch will need to be excavated and maintained again.

The Applicant plans to have personnel on site during Caltrans' construction activities to supervise all planned woody/scrub and conifer vegetation removal associated with the ditch excavations. Prior to any vegetation removal, CDFW will conduct surveys of all woody/scrub and conifer vegetation removal sites for Western Lily and any other federal or state special status taxon or California Rare Plant Rank List 1 or List 2 species within the vicinity of the project footprint. No trees larger than 10 inches dbh will be removed. The project also includes five meter buffers between ditch excavation activities and any identified special status plants within the vicinity, as plants would regenerate from the dispersed seeds after the expected week-long construction period has ended. Individual plant specimens normally live only for a 2-year life cycle.

ii. Mitigation Measures for Wolf's Evening Primrose

The proposed project will still pose potential impacts to the Wolf's Evening Primrose. The Applicant has proposed certain mitigation measures to avoid significant impacts to the Primrose. First, the Applicant will conduct a pre-construction survey in mid to late summer prior to the late September construction window, to identify the Primrose plants in order to both flag the pure-strain plants and to collect seeds (5,000 to 10,000 seeds). CDFW proposes to collect seeds from the Primrose within the road shoulder and other genetically pure reproductive plants in the general area during flowering season prior to construction. These seeds will be stored in a cool/dry location and then replanted near the impacted location once the roadbed is restored (following construction). The seed harvest ensures that seeds that have not yet naturally dispersed will be planted (following construction activities). The seeds will be stored and planted in the area between November and February.

During excavation activities, biologists will be present on site to monitor the activities near the Primrose and to ensure all efforts are made to avoid the pure-strain plants where feasible. While the Applicant has proposed some mitigation measures to protect the Wolf's Evening Primrose, additional feasible mitigation measures are available and needed to further minimize impacts to the Wolf's Evening Primrose habitat. As discussed above, tarps or other materials could be

installed along the road shoulder at the southern culvert site to prevent, to the greatest extent feasible, co-mingling of excavated material and the Primrose habitat within the shoulder/ roadbed, which could create soil conditions unfavorable for the continued growth and survival of Wolf's Evening Primrose. Therefore, **Special Condition 2** requires that the final mitigation plan include provisions for the placement of tarps, plywood, and/or other covering materials on top of the Wolf's Evening Primrose habitat to prevent spillage of excavated material into the existing soil within the habitat to avoid compromising growing conditions for the Primrose.

In addition, limiting the season when repair and maintenance activities are conducted would help minimize impacts to the Primrose habitat. As discussed above, disturbance of the Primrose habitat prior to the natural dispersal of seed from the Primrose would impair the regeneration of Primrose at the site. If the Primrose is allowed to naturally disperse seed prior to construction, Primrose plants would have the opportunity to regenerate in accordance with the plant normal life cycles. Therefore, **Special Condition 2** requires that the final mitigation plan include provisions for limiting construction to the period between mid-September and mid-October to avoid the flowering seasons of the Wolf's Evening Primrose. Furthermore, monitoring of the success of the Applicant's proposed replanting efforts is needed to ensure that the replanting program has been successful in reestablishing the population of Wolf's Evening Primrose as proposed. Thus, **Special Condition 3** requires the Applicant to submit for the review and approval of the Executive Director a monitoring plan that establishes quantitative and qualitative success standards to assure achievement of the mitigation goals and provides for post-project monitoring for a minimum of five years. In addition, the special condition requires the submittal of a final monitoring plan at the end of the five year period and if the final report indicates that the restoration project has not been successful, the Applicant must submit a revised or supplemental restoration program to compensate for any lack of success. The revised restoration plan must be processed as an amendment to the permit, unless the Executive Director determines that no amendment is legally required.

As conditioned in the manner discussed above, the Commission finds that the method of repair and maintenance minimizes significant disruption of Wolf's Evening Primrose habitat values consistent with the requirements of section 30240(a) of the Coastal Act.

iii. Mitigation Measures to Protect Water Quality

The repair and maintenance activities have the potential to cause adverse impacts to the wetlands within the marsh in the project area and downstream coastal waters. The Applicant also proposes several measures to mitigate water quality impacts during construction, staging and excavation activities. Caltrans will perform the excavation in the dry season concluding before October 15. The work would be conducted pursuant to Caltrans Construction Site Best Management Practice Manual (CCSBMPM) to control silt and erosion. All diversion and dewatering will use water bladders, sandbags and no concrete pouring. At the south ditch, the excavator will be positioned along the Highway 101 roadbed. At the north site, the excavator will move from the roadbed east along the 300 foot ditch. As proposed, no debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement, or concrete or concrete washings, welding slag, or oil or petroleum products, or other organic or earthen material from any construction or associated activity shall be allowed to enter into or be placed where it may be washed by rainfall into water of the State. No rubbish shall be deposited within 100 feet of waters of the U.S. or state. Fueling, lubrication, maintenance,

storage and staging of vehicles and equipment shall be outside of waters of the U.S. and state. **Special Condition 2** requires the Applicant to undertake development in accordance with the approved final mitigation plan which includes the applicant's proposed water quality mitigation measures. **Special Condition 1** requires a final erosion control plan necessary to ensure erosion on site is controlled to avoid sedimentation and other adverse water quality impacts on coastal waters. **Special Condition 4** requires the Applicant to perform proposed work in accordance with the approved plans, as modified by the other special conditions.

As conditioned in the manner discussed above, the Commission finds that the proposed method of repair and maintenance will sustain the biological productivity of coastal waters consistent with sections 30230, 30231 and 30233 of the Coastal Act.

iv. Mitigation Measures for Nesting Birds

The repair and maintenance activities have the potential to cause adverse impacts to bird species that nest within the marsh by directly disturbing nests in the vicinity of the project. Birds such as the Northern Harrier, Oregon Vesper Sparrow, and some species of waterfowl may nest within the marsh. The project as proposed will avoid impacts to nesting avian species. During the March-July breeding season, authorized personnel will survey potentially affected areas for grassland ground nesting birds prior to commencement of work. Any nests found during the surveys, or incidentally by other project personnel, will be protected by a 100m avoidance buffer for the remainder of the nesting and breeding season. Removal of woody/scrub and encroaching conifer vegetation will not take place during the breeding or nesting period. Vegetation removal will be conducted during the dry season (September-November). **Special Condition 2** requires the Applicant to undertake development in accordance with the approved final mitigation plan, which includes the applicant's proposed mitigation measures to avoid disturbance to nesting birds.

As conditioned in the manner discussed above, the Commission finds that the method of repair and maintenance minimizes adverse environmental wetland effects on nesting birds within the wetlands of the Crescent City Marsh consistent with section 30233 of the Coastal Act.

d. Conclusion

The Commission finds that the method of proposed repair and maintenance as conditioned herein (1) uses the least environmentally damaging feasible alternative; (2) provides feasible mitigation measures to minimize adverse environmental effects; (3) minimizes disruption of habitat values; (4) protects the biological productivity and the quality of coastal wetlands and waters; and (5) protects adjacent environmentally sensitive habitat areas against any significant disruption of habitat values, consistent with sections 30230, 30231, 30233, and 30240 of the Coastal Act.

2. Dredge and Fill Development at Northern Ditch

As discussed above, the development at the northern ditch involves enlargement of the ditch to increase its capacity by using excavated material to build up berms along the sides of the ditch and therefore does not qualify as repair and maintenance under section 30610(d) of the Coastal Act and section 13252 of the Commission's regulations. To be approved, the dredging and filling associated with the proposed development at the northern ditch must be found to be consistent with the limitations of section 30233 of the Coastal Act regarding wetland diking, filling, and

dredging, including the limitations on permissible uses for such activities. In addition, the proposed development within wetlands must also be found to be consistent with sections 30230 and 30231 of the Coastal Act. These policies require, in part, that marine resources and coastal wetlands be maintained, enhanced, and where feasible restored. These policies specifically call for the maintenance of the biological productivity and quality of marine resources, coastal waters, streams, wetlands, and estuaries necessary to maintain optimum populations of all species of marine organisms and for the protection of human health.

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) the purpose of the filling, diking, or dredging is for one of the seven uses allowed under section 30233; (b) the project has no feasible less environmentally damaging alternative; (c) feasible mitigation measures have been provided to minimize adverse environmental effects; and (d) the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

a. Permissible Use for Diking, Dredging, & Filling

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. As described above, the Marsh has become increasingly inundated with late season ponding from surface water flows. The higher water levels have negatively impacted suitable Western Lily habitat, because the Lily requires shallower waters. The proposed development at the northern ditch entails construction activities within a freshwater marsh wetland, including excavation of wet muck/mud/silt, removal of certain overgrown vegetation and the placement of much of the excavated material in berms along the top of the sides of the ditch to raise the ditch and increase its capacity. The excavation, for purposes of this analysis, is a form of dredging in wetlands and the build-up of the berms is a form of filling in wetlands.

The relevant category of use listed under section 30233(a) that relates to the proposed project is "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."[3] 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."[4] 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"[5] that may not necessarily result in a return to historic locations or conditions within the subject wetland area.

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

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

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

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 proposed diking, filling, and dredging constitute "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 be recognized as being for "restoration purposes," the project must demonstrate that it either: (1) 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.

Before the existing ditch channels became blocked, the Marsh contained less water throughout the year, consistent with historical patterns of a thriving Western Lily population. The blocked ditch channels prevent surface water flows from reaching the existing Highway 101 culverts. Accordingly, the Marsh retains late season rainwater. Increased ponding in the Marsh creates unsuitable habitat for Western Lily. Flooding and inundation of critical/suitable Western Lily habitat caused the documented significant decline of the historic Western Lily population within the Marsh. CDFW identified the raised surface flows as uncharacteristic of this marsh and as one of the primary causes for the decline of the Western Lily. CDFW developed the above described proposal to restore the Marsh to more historic conditions in order for the Western Lily to thrive.

The proposed excavation will remove built up material to allow late season surface water flows to drain to the beach. The excavation will not extend beyond existing ditches. Additionally, the excavation will remove only built up decomposed vegetation muck/mud and is not intended to go below historic ditch depth levels. Therefore, the project is designed to return the marsh system to what it was prior to the build-up of the debris, mud/muck and overgrown vegetation. Moreover, the work will serve to reestablish optimal conditions for endangered Western Lily.

The project will not return the marsh entirely to its condition that existed before man-made changes to the landscape occurred. Prior to the construction of Highway 101, the Marsh drained to the west and the water levels were accordingly regulated based upon natural topography. When the Highway was constructed, the road bed served as a dam and retained all surface flows within the Marsh. As a result, culverts were installed and later, the subject ditches were excavated to carry excess flows to the beach to allow the Marsh to function much like it did prior

to the Highway. Restoring drainage patterns in the marsh to its condition prior to modification by man would require removing and relocating U.S. Highway 101 - the principal road connecting Crescent City to areas of the coast to the south which would require Caltrans to acquire additional property and entail considerable cost for which there is no identified funding. Therefore, while it is possible to restore habitat for the Western Lily in much of the Crescent City Marsh by excavating and reconstructing the northern ditch along with excavation of the southern ditch to reduce excess ponding, it is infeasible to totally restore drainage. However, the proposed development in wetlands at the northern ditch will result in the reestablishment of landscape-integrated ecological processes associated with the wetland habitat that historically existed in the area.

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 restoring various historic habitats and processes as proposed and increasing habitat values. Specifically, the habitat restoration includes excavating and reconstructing a channel to reduce ponding within the Crescent City Marsh to restore acres of Western Lily habitat. However, as stated above, if the project is unsuccessful or actually results in long-term degradation of the habitats, the proposed filling and dredging would not be for "restoration purposes." To ensure that the proposed project achieves the objectives for which it is intended as summarized above, the Commission attaches Special Condition 7. **Special Condition 7** requires the applicant to submit a final monitoring plan for the review and approval by the Executive Director prior to permit issuance. The monitoring plan is required to outline a method for measuring and documenting the improvements in habitat value at the site over the course of five years following project completion, including in part (a) the ability of the newly excavated ditches to reduce ponding within the marsh, and (b) the additional survival, reproduction, and dispersal of the western lily populations within the marsh and the Crescent City Marsh Wildlife Area. Furthermore, Special Condition 7 requires the monitoring plan to include provisions for remediation to ensure that the goals and objectives of the wetland restoration project are met.

Therefore, the Commission concludes that the proposed dredging and filling of palustrine emergent wetlands for the restoration and enhancement of the Western Lily as conditioned is permissible under section 30233(a)(6) for "restoration purposes."

b. Alternatives Analysis

The second test set forth by the Commission's dredging and fill policies is that the proposed dredging or fill project must have no less environmentally damaging feasible alternative. Coastal Act section 30108 defines "feasible" as follows:

> *"Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, social, and technological factors.*

Alternatives to the proposed project that were examined include (i) the no-project alternative; and (ii) alternative sites; and (iii) alternative methods. As explained below, each of these alternatives are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project as conditioned.

i. No Project Alternative

The "no project" alternative would involve not excavating the northern ditch. If the proposed northern drainage ditch is not excavated, vegetation, muck and debris will continue to build up, further preventing surface flows to drain west to the beach. Prior to the construction of Highway 101, the Marsh drained to the west and the water levels were accordingly regulated based upon natural topography. When the Highway was constructed, the road bed served as a dam and retained all surface flows within the Marsh. As a result, culverts were installed and later, the subject ditches were excavated to carry excess flows to the beach to allow the Marsh to function much like it did prior to the Highway. If the ditch remains unmaintained and blocked, the ditch cannot relay water to the culvert.

The Applicant has identified a serious threat to the federally and state listed Western Lily. Given the value of the habitat, particularly the Western Lily population, inaction at the northern ditch would constitute a failure to maintain and enhance the biological productivity of the Marsh. Therefore, the no-project alternative is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

ii. Alternative Sites

Another alternative is to excavate new ditches and/or culverts to convey the ponding water away from the marsh alternative sites to both the northern and southern ditch. As discussed above in the alternatives analysis within the "Repair and Maintenance Activities at Southern Ditch" section of this Finding, this alternative is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

iii. Alternative Methods

There are alternative methods that could be employed to achieve the identified goal of reducing the level of surface flows in order to restore and otherwise benefit the Western Lily and overall marsh system. As discussed above in the alternatives analysis within the "Repair and Maintenance Activities at Southern Ditch" section of this finding, alternative methods such as (a) using hoses and pumps to transfer water from the marsh, and (b) reducing the amount or depth of excavation are not less environmentally damaging feasible alternatives than the proposed project as conditioned. An additional alternative method can be considered for the northern ditch. Unlike the proposed development at the southern ditch, the development in wetlands at the northern ditch includes the placement of material excavated from the ditch, placed on either side of the eastern 150 of the ditch, raising the marsh surface approximately two feet as necessary to create a more substantial channel for conveying excess water out of the marsh. The raised berms on either side of the northern ditch would be similar to berms created when the ditch was first excavated decades ago but which appear to have long since eroded away. The berms would not be so high as to convert the berm areas to uplands. The berms would retain wetland hydrology and would continue to support emergent wetland vegetation. An alternative method to the proposed project would be to not place the excavated materials alongside the ditches in berms but haul the material away to an off-site disposal site.

According to the Applicant, recreating the berms is necessary to allow proper functioning of the ditch to adequately convey water and reduce the ponding that is adversely affecting the Western Lily habitat, and ensure its integrity and longevity. The northern ditch is intended to convey

water from an area of ponding east of the inland extent of the ditch through an area that is not experiencing excess ponding to the highway culvert. Excavating the northern ditch without building up the berms would reduce the overall capacity of the planned ditch and allow water entering the ditch to overflow the ditch more frequently and pond other areas of the marsh adjoining the ditch that are not experiencing ponding. This ponding in different areas would adversely affect the Western Lily in a manner similar to how the existing ponding is adversely affecting the Western Lily. In addition, hauling the excavated material away rather than using the material to build up the berms would require several additional vehicle trips through the marsh to transport the material, thus 1) further impacting the integrity of the ditch, 2) disturbing marsh vegetation, and 3) compacting the surrounding wetland soil, thereby reducing the suitability of the affected area to support wetland vegetation. Therefore, eliminating the proposed berms along the northern ditch would not be a less environmentally damaging feasible alternative than the proposed project as conditioned.

For all of the reasons discussed above the Commission finds that there is no less environmentally damaging feasible alternative to the proposed dredging and filling development at the northern ditch as conditioned, as required by section 30233(a).

c. Feasible Mitigation Measures

The third test set forth by section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. The development would be located within and around coastal waters and wetlands. Depending on the manner in which the proposed project is conducted, the significant adverse impacts of the project may include (i) direct impacts to wetland vegetation resulting from excavation activities; (ii) water quality impacts; (iii) impacts to nesting bird habitat; and (iv) changes in wetland vegetation. Overall, the project will restore and enhance wetland habitat values and will produce generally only beneficial environmental effects. However, the proposed project has been conditioned to ensure that habitat restoration results and potentially significant adverse impacts are minimized, as discussed below.

i. Direct Impacts to Wetland Vegetation

As discussed above, palustrine emergent and scrub/shrub wetland vegetation that has become established on accumulated sediments over the past decade (since past maintenance activities), will be eliminated within the project footprint of the northern ditch. As a result of the project, 0.07 acres at the northern ditch of emergent wetland will be removed. Vegetation within the western portion of the north ditch consists of scattered spiraea, willows, spruce, salt rush, slough sedge, blackberry, English ivy, and small willow shrubs. Within the eastern 150 ft. of the north ditch, vegetation consists of spiraea, slough sedge, water parsnip, knotweed, skunk cabbage, cattail, and bulrush. To reduce the potential for impacts to Marsh habitat adjacent to and surrounding the northern ditch, the applicant proposes to begin the excavation with the excavator at the eastern extent of the proposed north ditch. The excavator will be driven along the center line of the proposed ditch. Once at the easternmost end of the proposed ditch, Caltrans will excavate west toward the Highway. This method will minimize the number of passes of heavy equipment through the marsh and minimize the footprint of disturbance. All areas that are disturbed by construction will eventually re-vegetate naturally, but will be replaced with unconsolidated bottom wetland for a period of 5 to 10 years, until sediment deposition refills the ditches adequate to support emergent vegetation from the areas immediately surrounding the

excavation. Once natural revegetation occurs, the ditches will need to be excavated and maintained again.

To avoid impacts to wetland vegetation including sensitive species that exist adjacent to the development area, CDFW will have a biologist on site during construction to supervise all planned vegetation removal activities. In addition, prior to any vegetation removal, CDFW will conduct vegetation surveys of the removal site and adjoining areas for Western Lily and any other special status species and flag any such plants found for avoidance. The project also includes establishing five meter buffers between excavation activities and any identified special status species. As discussed above, **Special Condition 2** requires the Applicant to implement the mitigation measures specific in the permit application.

ii. Impacts to Water Quality

The proposed development activities will be conducted in sensitive marsh habitat areas. Accordingly, the construction activities have the potential to cause adverse impacts to water quality. As discussed above within the "Feasible Mitigation Measures" portion of the "Repair and Maintenance Activities at Southern Ditch" section of this finding, the applicant proposes a number of Best Management Practices (BMPs) to minimize water quality impacts. **Special Condition 2** requires the applicant to implement the mitigation measures specific in the permit application. **Special Condition 1** requires a final erosion control plan necessary to ensure erosion on site is controlled to avoid sedimentation and other adverse water quality impacts on coastal waters. **Special Condition 4** requires the applicant to perform proposed work in accordance with the approved plans, as modified by the other special conditions.

iii. Impacts to Nesting Birds

Birds such as the Northern Harrier, Oregon Vesper Sparrow, and some species of waterfowl may nest within the marsh. As discussed above within the "Feasible Mitigation Measures" portion of the "Repair and Maintenance Activities at Southern Ditch" section of this finding, the Applicant proposes a number of measures to minimize impacts to nesting birds, including surveying for nests during the breeding and nesting season and establishing 100 meter avoidance buffers around any nests found. **Special Condition 2** requires the Applicant to implement the mitigation measures specific in the permit application.

iv. Changes in Wetland Vegetation

The objective of the project is to reduce ponding to return portions of the marsh to more suitable habitat for Western Lily. The lower surface water levels resulting from the proposed project will cause a maximum of 1.9 acres of sedge marsh to transition to drier willow/alder scrub and spruce habitat more favorable for the Western Lily. As discussed above within the "Summary of Impacts" portion of the "Repair and Maintenance Activities at Southern Ditch" section of this finding, this transition of wetland habitat type will not amount to a significant disturbance of habitat values because the habitat values will be restored and enhanced consistent with the historic record.

As conditioned in the manner discussed above, the Commission finds that feasible mitigation measures have been provided to minimize adverse environmental effects consistent with section 30233 of the Coastal Act.

d. Maintenance & Enhancement of Biological Productivity & Functional Capacity

The fourth general limitation set by section 30233 and 30231 is that any proposed dredging or filling in coastal wetlands must maintain, enhance and where feasible restore the biological productivity and functional capacity of the habitat. Section 30233(c) states that the diking, filling, or dredging of wetlands shall maintain or enhance the functional capacity of the wetland. Sections 30230 and 30231 state that marine resources shall be maintained, enhanced, and where feasible, restored. Sections 30230 and 30231 also state 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.

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 the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. In addition, as described above, the proposed excavation work is intended to restore the Marsh system to its more natural condition. Specifically, once the ditches are cleared and excavated, late season surface water flows will be carried through the ditches and the existing culverts to the beach, reducing the ponding that has adversely impacted sensitive Western Lily habitat and the system as a whole. The reduced open surface water areas visible in aerial photos will recede and once again become inhabited with Western Lily and other species. In turn, other plant and wildlife species will inhabit newly vegetated and protected areas. Accordingly, while the focus is on the lily, the goal is to improve the system in its entirety. Therefore, the proposed project will restore biological productivity and the functional capacity of the wetland by maintaining water levels more conducive to the Western Lily.

Therefore, the Commission finds that the project, as conditioned, will maintain and enhance the functional capacity of the habitat, maintain and restore optimum populations of marine organisms and protect human health consistent with the requirements of sections 30233, 30230, and 30231 of the Coastal Act.

E. PUBLIC ACCESS

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 30212 of the Coastal Act 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 30211 of the Coastal Act requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act 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 repair and maintenance excavation activities will require the temporary closure of the northbound lane of Highway 101 between MP 24.46 and MP 24.92 and the use of flaggers and one-way traffic control during construction, a period of approximately five to seven days. Caltrans, the agency that will be conducting the excavation activities, estimates one to two days will be needed for the excavation of the southern culvert area at MP 24.46, and four to five days for the excavation of the northern culvert area at MP 24.92.

In this location, Highway 101 is the first public road paralleling the sea and is the major through route providing access along the coast. The road also provides the primary access to South Beach, an approximately five-mile-long beach that extends from Crescent City into Redwood National Park. Thus, the lane closure could potentially affect use of the highway for public access purposes. However, the temporary impacts of the project as proposed on use of the highway will not be significant for several reasons. First, the lane closures will only delay traffic along this stretch of the highway rather than close the highway to use. Second, the temporary lane closures will not occur on weekends or holidays which are high volume public access periods. The lane closures will be limited to normal work hours. Accordingly, while some weekday commute period will be impacted, the lane closures will not interfere or otherwise prevent beachgoers from reaching the shoreline across highway 101 or north at the Harbor. Therefore, the Commission finds that the proposed project as proposed without new public access is consistent with the requirements of Coastal Act sections 30210, 30211, and 30212.

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The Applicant served as the lead agency for the CDFW project for CEQA purposes. The applicant adopted a mitigated negative declaration dated July 23, 2012. 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 Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed development has been conditioned to be consistent with the policies of Chapter 3 of the Coastal Act. The 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 specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the method of proposed repair and maintenance, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

1. Application File for Coastal Development Permit No. 1-18-0528
2. Application File for Coastal Development Permit No. 1-13-0489
3. Guerrant, Jr., E.O., D.K. Imper, and S.T. Schultz. 1998. Recovery Plan for the Endangered Western Lily (*Lilium occidentale*). Prepared for Region 1 US Fish and Wildlife Service. Portland, Oregon.
4. Imper, D.K. and J.O. Sawyer. 2002. 2001 Status Report, Western Lily Vegetation Strategy. California State University/California Department of Fish and Game.
5. U.S. Fish and Wildlife Service. 2009. Region 8 Spotlight Series action plan 2010-2014: Western Lily (*Lilium occidentale*). Sacramento, California.
6. Del Norte County certified Local Coastal Program (LCP)