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STAFF REPORT: REGULAR CALENDAR

Application No.: 1-12-036

Applicant: Humboldt County Department of Public Works, Aviation Division

Location: At the Murray Field airport located southeast of Highway 101 at the north end of Eureka, at 4100 Jacobs Avenue, Eureka, Humboldt County (APN 017-102-011).

Project Description: *Murray Field Airport Improvements Project*, comprising: (1) construction of an 8- to 11-foot-high, green vinyl coated chain-link wildlife exclusion fence located on existing raised levees and an abandoned railroad bed around the perimeter of the airport property; (2) replacement of the runway and taxiway lighting system and upgrades to the Visual Approach Slope Indicator (VASI) navigation system; (3) construction of ten pre-fabricated aircraft hangars within the existing paved aircraft tie-down area; and (4) installation of an Automated Weather Observation System (AWOS).

Staff Recommendation: Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Commission staff recommends approval of Coastal Development Permit Application No. 1-12-036 subject to the attached recommended special conditions.

The Humboldt County Department of Public Works – Aviation Division proposes the construction of a perimeter wildlife exclusion fence, ten new aircraft hangars, and lighting, navigation, and weather observation system improvements at the Murray Field Airport located southeast of Highway 101 at the north end of Eureka and east of developed portions of the City. **(Exhibits 1-3)**. The proposed project involves implementing three of the Phase 1 projects identified in the Master Plan—lighting and weather observation improvements, and hangar construction—and construction of a wildlife exclusion fence. The primary objective of the fence is to exclude wildlife, specifically deer and other large terrestrial mammals, from the airport to reduce the potential for impacts with aircraft.

The primary issues raised by the proposed project include: (1) whether the proposed fill project is the least environmentally damaging feasible alternative; and (2) the visual compatibility of the development with the character of the surrounding area. Staff believes the proposed project as conditioned minimizes fencing construction through wetlands and thus is the least environmentally damaging feasible alternative. Furthermore, staff believes the proposed chain link fencing is similar to existing fencing at the airport and the relatively small size and height of the proposed airport weather observation improvements in proximity to other development at the airport will be visually compatible with the character of the surrounding area.

Staff recommends five special conditions requiring: (1) implementation of water quality Best Management Practices as proposed by the applicant during the construction period; (2) implementation of the ESHA protective measures to install the perimeter wildlife exclusion fence using non-mechanized construction methods; (3) submittal of final plans for the Automated Weather Observation System for the Executive Director’s review to ensure that effects on visual resources are minimized; (4) mitigation measures to ensure that the development will not adversely impact archaeological resources; and (5) submittal of evidence that all necessary approvals and authorizations have been secured from the State Lands Commission, or evidence that no such approvals are required.

Commission staff believes that the proposed development, as conditioned, is consistent with all applicable Chapter 3 policies of the Coastal Act.

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APPENDICES

[Appendix A – Substantive File Documents](#)

EXHIBITS

Exhibit 1 – Regional Location Map

Exhibit 2 – Vicinity Map

Exhibit 3 – Project Site Aerial

Exhibit 4 – Project Narrative Description and Plans

Exhibit 5 – Excerpts, *Murray Field Airport, Delineation of Wetlands and Water-Associated Habitats*

Exhibit 6 – Project Correspondence

I. MOTION AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve coastal development permit 1-12-036 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 amount 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. **Best Management Practices and Construction Responsibilities.** The permittee shall comply with the following construction-related requirements:
 - A. Fiber rolls, and/or an erosion control blanket with weed-free straw shall be installed as proposed prior to, and maintained throughout, the construction period to contain runoff from construction areas, trap entrained sediment and other pollutants, and prevent discharge of sediment and pollutants to coastal waters and wetlands;
 - B. Any excess excavated material, including soil removed from fence post holes, and other construction debris resulting from construction activities shall be removed immediately upon completion of component construction and shall be disposed of at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit;
 - C. On-site vegetation shall be maintained to the maximum extent possible during construction activities;
 - D. All ground disturbing activity shall be limited to the dry season between April 15th and October 31st;
 - E. All on-site stockpiles of soil and construction debris shall be contained at all times; and
 - F. All disturbed areas shall be replanted with native vegetation immediately following project completion obtained from local genetic stocks within Humboldt County. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist on the parcel. No plant species listed as a ‘noxious weed’ by the State of California or the U.S. Federal Government shall be utilized within the property. Hydro-mulching and/or hydro-seeding of disturbed areas shall avoid the use of invasive exotic vegetation. Mulches may include vegetable fibers, wood bark chips, or hydraulic mulches from recycled paper, wood fiber, and bonded fiber matrices.
2. **Perimeter Fence Construction Restrictions.** The perimeter wildlife exclusion fence authorized under CDP No. 1-08-019 shall be constructed according to the following restrictions as proposed by the applicant:

- A. Vegetation within the 5-foot-wide construction corridor shall be cleared without the use of mechanized equipment except mowing equipment; and
- B. Hand augers shall be used to install fence posts along the fence alignment shown in Exhibit No. 4.

3. Final AWOS Design and Construction Plans.

- A. PRIOR TO ISSUANCE OF THE PERMIT, the applicant shall submit to the Executive Director for review and written approval final design and construction plans for the Automated Weather Observation System (AWOS) which are consistent with: (1) all special conditions of Coastal Development Permit No. 1-12-036; and (2) the approved project narrative and preliminary site plans titled “Murray Field Airport Wildlife Exclusion Fence and Associated Projects - Updated Project Description for Coastal Development Permit,” dated December 17, 2012, as prepared by Humboldt County Department of Public Works – Aviation Division, attached as Exhibit No. 4, comprising: (a) an approximately 20-foot-tall instrumentation tower mounted on a four-foot by four-foot concrete slab, located approximately 200 feet southeast of the existing segmented circle and lighted wind cone; (b) up to four additional foundation pads, each two feet by two feet in size, for mounting meteorological sensors; and (c) associated utility trenching for underground electrical service to the facility.
- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final site plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

4. **Protection of Archaeological Resources** If an area of cultural deposits or human remains is discovered during the course of the project, all construction shall cease and shall not re-commence until a qualified cultural resource specialist analyzes the significance of the find and prepares a supplementary archaeological plan for the review and approval of the Executive Director, and either: (a) the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan’s recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, or (b) the Executive Director reviews the Supplementary Archaeological Plan, determines that the changes proposed therein are not *de minimis*, and the permittee has thereafter obtained an amendment to coastal development permit 1-12-036 approved by the Commission.

5. **State Lands Commission Review.** PRIOR TO ISSUANCE OF THE 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.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. PROJECT DESCRIPTION AND BACKGROUND

As described in detail below, the proposed project includes (1) installation of a maximum 11-foot-high, chain-link wildlife exclusion fence around the perimeter of the airport property; (2) replacement of the runway and taxiway lighting system and upgrades to the Visual Approach Slope Indicator (VASI) navigation system; (3) construction of ten aircraft hangars within existing paved and developed areas of the airport; and (4) installation of an Automated Weather Observation System (AWOS). The purpose of the proposed project is to enhance airport safety and to improve airport operations.

1. Wildlife Exclusion Fence

The proposed project involves the installation of approximately 7,250 feet of 8 to 11-foot-high, green vinyl-coated chain link fencing around the general perimeter of the airport property. The primary objective of the fence is to exclude wildlife, specifically deer, from the airport and to reduce the potential for wildlife strikes with aircraft. The FAA identifies deer as the species that poses the greatest threat to aviation, as collisions may occur during arrival and departure activities.

The proposed fence would be constructed on the periphery of the airfield runways, on existing elevated levees, and areas of abandoned railroad bed along the property boundaries. The fence has been sited and designed to minimize the placement of fencing or fence support structures within wetland ESHA. The fence alignment would cross drainage ditches and their associated wetland habitat in two places, traversing a total width of approximately 60 feet of perennial scrub-shrub and permanently flooded emergent wetlands. The fence would aerially span some of these areas above the surface of the water and ground with no direct structural fill. However, to ensure the fence's integrity as a barrier to wildlife, curtains of additional chain-link material would be placed across the peripheral drainage courses along the northern side of the runway at two crossings. To prevent the fence from being breached at these locations, the chain-link curtain would be staked into the channel of the drainage swales with metal "T"-posts.

To minimize construction phase impacts to these drainage course wetlands and other adjacent wetland ESHA, the applicant proposes to install the fence segments on elevated levees and across the drainage swales using non-mechanized tools and methods. A five-foot-wide construction corridor (i.e., 2½ feet on either side of the fence alignment) of maintained grassland and scrub vegetation would be temporarily disturbed during fence construction. Following completion of the fence construction, the outboard portion of the corridor would be allowed to reestablish its native vegetation cover, while the runway side of the corridor would be

maintained as a mowed grass cover area to allow for visual inspection of the fence line by airport workers. No trees or other major vegetation would be removed.

2. Lighting and Navigation System Improvements

The proposed project also involves the replacement of runway and taxiway lighting fixtures and upgrades to the Visual Approach Slope Indicator (VASI), a navigational aid on Runway 11/29. New lighting fixtures would be installed in existing underground light cans or vaults and associated new wiring would be installed within existing conduit. No additional underground ducts or vaults would be excavated as part of the proposed lighting and VASI improvements. The Mitigated Negative Declaration prepared for the proposed project indicates that the proposed project would not result in increased light or glare.

3. Aircraft Hangar

The proposed project also involves the construction of ten new aircraft hangars located adjacent to one another within a 50' x 450' area of the existing paved and developed aircraft tiedown area. The area would be reconfigured to separate transient and site-based aircraft, provide clear access to and from the runway and taxiway system, and to accommodate the new hangars. The proposed pre-fabricated hangars would be constructed of blue and white metal siding, and would be 25 feet high.

4. Automated Weather Observation System (AWOS)

The applicant also proposes to install an Automated Weather Observation System (AWOS) to provide on-site weather information to pilots. An AWOS contains sensor systems to provide meteorological data such as temperature, dew point, wind speed and direction, cloud coverage and ceiling, and visibility. The purpose of the AWOS is to aid pilots and enhance airport safety by providing an FAA-approved weather reporting system suitable for visual and instrument operations. The precise configuration and location of the AWOS has not been determined at this time. However, preliminary plans show the AWOS would be generally located approximately 200 feet southeast of the existing segmented circle and lighted wind cone (Exhibit 4, pp. 7 & 8). The AWOS would consist of an approximately 20-foot-tall instrumentation tower mounted on a four-foot by four-foot concrete slab. Depending upon the precise AWOS configuration installed, the facility would also include up to four additional foundation pads for sensors each two feet by two feet in size. The total disturbed area for the tower and sensors would be approximately ten feet by fifteen feet. A utility trench would be excavated between the existing wind cone and new AWOS to place underground electrical conduit, after which the trench would be backfilled and re-seeded. As shown on the site plan, construction of the AWOS and associated trenching would occur on upland areas along the airfield.

The *Murray Field Airport Improvements Project* developments, with the exception of the AWOS facility, was originally authorized by the Commission in the conditional approval of Coastal Development Permit No. 1-08-019 on September 12, 2008. However, due to complications with: (1) designing the wildlife exclusion fencing so as to fully avoid wetlands; and (2) perfecting property rights to construct a portion of the fence across adjoining privately held

property, the development authorized by CDP 1-08-019 was never undertaken before the permit expired. The applicant has now reapplied for authorization after revising the design of the fencing alignment to construct the fence wholly on County airport property and to propose the two staked fence curtain crossings of the drainage courses. In addition, the County secured funding to include the AWOS facility as part of this phase of Airport Master Plan improvements.

B. ENVIRONMENTAL SETTING

The project site is the Murray Field Airport (airport), a Humboldt County airport established in 1938 that serves cargo, business, corporate, and personal aircraft. The airport is located at the northern end of the City of Eureka and east of developed portions of the city. The airport is bound to the northwest by Highway 101, to the northeast by commercial development and the Fay Slough Wildlife Area, to the southeast by open space and agricultural lands, and to the southwest by Eureka Slough. The airport is accessed via Highway 101 and Jacobs Avenue, which follows the airport's southwest boundary. (See Exhibit Nos. 1 & 2.)

Murray Field consists of approximately 131 acres that support airport and land-side facilities. Existing development at the airport site includes one operating runway ("11/29"), multiple hangar units, an administrative building/restaurant, vehicle parking, and aviation support facilities such as taxiways, a lighting system, fueling station, and illuminated wind sock. A former alternate runway ("7/25"), running along the northwestern side of the airfield, was closed in 1997 due to non-standard design conditions. (Exhibit No. 3).

Murray Field is located on level fill adjacent to Humboldt Bay in an area that was historically tidal marsh. The airport is separated from the Bay by the levee supporting Highway 101 and a railroad alignment. Substantial alteration of the habitats and hydrology at and near the site began approximately 100 years ago with construction of the railroad line and accompanying levee along the Bay's edge, and the placement of fill throughout most of the area to support agricultural uses. The site ranges in elevation from sea level to 15 feet above mean sea level (msl) at the top of the levees.

Wetlands and water-associated habitats that occur at the airport property include estuarine, palustrine, and riverine systems. Estuarine systems comprise approximately 8.8 acres of subtidal sloughs and channels, intertidal mudflats, and intertidal emergent salt marsh wetland. Palustrine systems comprise approximately 17.2 acres of perennial emergent wetlands and seasonal emergent wetlands. Riverine systems comprise drainage channels with a collective surface area of approximately 1.1 acres. Much of the southern airport property boundary is adjacent to the estuarine habitats of Eureka and Fay sloughs. Vegetation communities at the site consist of Introduced Perennial Grassland, disturbed Coastal Scrub, Fresh-Brackish Water Marsh, Pickleweed Wetland, and Northern Coastal Salt Marsh. (Exhibit Nos. 4, pp. 15-19 & 25-27; and 5.)

C. OTHER AGENCY APPROVALS

State Lands Commission Approval

The project site is located in an area subject to the public trust. Therefore, to ensure that the applicant has the necessary authority to undertake all aspects of the project on these public lands, the Commission attaches [Special Condition No. 5](#), which requires that the project be reviewed,

and where necessary approved, by the State Lands Commission prior to the commencement of construction.

D. STANDARD OF REVIEW

The project site (Murray Field Airport) is bisected by the Coastal Commission’s retained permit jurisdiction and the City of Eureka’s coastal permit jurisdiction. Coastal Act Section 30601.3 authorizes the Commission to process a consolidated coastal development permit, 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 a local government with a certified LCP. The City of Eureka City Council adopted Resolution #2008-29 to grant the Coastal Commission permitting authority for the proposed development pursuant to Coastal Act Section 30601.3. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

E. DREDGING AND PLACEMENT OF FILL IN COASTAL WATERS

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

- 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 on 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.*

The applicant provided a wetland delineation entitled “*Murray Field Airport, Delineation of Wetlands and Water-Associated Habitats,*” prepared by ESA dated June 11, 2007. Wetlands and water-associated habitats found to occur at the airport property include estuarine, palustrine, and

riverine systems. Estuarine systems comprise approximately 8.8 acres of subtidal sloughs and channels, intertidal mudflats, and intertidal emergent salt marsh wetland. Palustrine systems comprise approximately 17.2 acres of perennial emergent wetlands and seasonal emergent wetlands. Riverine systems comprise drainage channels with a collective surface area of approximately 1.1 acres. Much of the southern airport property boundary is adjacent to the estuarine habitats of Eureka and Fay sloughs. (Exhibit No. 5.)

Although encroachment into wetlands is largely avoided by the project's design, small segments of the wildlife exclusion fence will cross several wetland areas on the periphery of the airfield. The proposed fence alignment would cross drainage channels and associated wetlands in two locations along the northwest portion of the perimeter fence, traversing a total width of approximately 17 feet of perennial emergent wetland and 44 feet of drainage channel. The proposed fence installation will require the placement of a total of eight metal "T" posts to secure the fencing across the channel of the two drainage swales to prevent incursions by deer or other wildlife onto the runway. These eight fence posts, while limited to approximately 10 square-inches of fill in the aggregate, nonetheless constitute the placement of fill in wetlands. Coastal Act Section 30233(a) restricts the Coastal Commission from authorizing a project that includes fill of open coastal waters unless it meets four tests. The first test requires that the proposed activity must fit into one of seven categories of uses enumerated in Coastal Act Section 30233(a). The second test requires that there be no feasible less environmentally damaging alternative. The third test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects. Finally, any authorized dredging, diking, or filling of wetlands must be shown to maintain or enhance the functional capability of the wetland.

Allowable Use Test

One of the seven allowable uses of fill under 30233(a) is "incidental public service purposes." To qualify as an incidental public service purpose, the fill of coastal waters being undertaken must demonstrate that: (a) it is for a "public service" purpose; and (b) is "incidental," to an existing public service purpose).

The proposed fill is for a public service purpose because it would increase the operational safety of Murray Field by lowering its vulnerability to potential runway collisions between wildlife and aircraft during landings and take-offs. Specifically, the proposed fence posts would provide secure anchoring of fencing materials across the drainage channel cross-sections such that entry onto the airfield through the swale channels by deer or other terrestrial wildlife would be curtailed. Nationwide, collisions between aircraft and wildlife have increased five-fold over the last two decades. While the majority of these collisions involve bird-strike incidents, human fatalities and injuries, and significant aircraft damage has resulted from collisions with larger mass deer and other terrestrial mammals, such as coyotes and dogs. Based on data collected by the Federal Aviation Administration's (FAA) Wildlife Hazards Mitigation Program, three incidents of collisions between deer and landing or departing aircraft have occurred at Murray Field over the last eight years. The project would thus support the airport by providing an enhanced level of public safety to the air field by preventing future intrusions onto the runway by terrestrial animals.

The proposed project is incidental to an existing public service purpose because it is being proposed in support of overall operational safety of an existing public aviation facility and is thereby incidental to the primary transportation purpose of the existing facility and because it would not increase the transportation capacity of the existing airfield. Therefore, the Commission finds that the proposed project meets the allowable use test of Coastal Act Section 30233(a).

Alternatives

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed placement of fill in open coastal waters. Alternatives to the siting and alignment and design of the proposed perimeter fence were considered to ensure that the proposed project would minimize impacts to wetland ESHA.

Alternatives to the proposed fence alignment are limited by the fact that the fence must: (1) be of sufficient height and design and provide a complete enough barrier to effectively restrict wildlife from entering the airport operations area, and (2) be a sufficient distance from the runway so that the fence does not pose a safety hazard to aircraft. The height and proximity of structures in relation to runways are precisely codified in FAA regulations. Due to the extensive nature of wetland habitat at the site, no alignment exists that would entirely route the fence through wetland ESHA while still meeting the objective of excluding deer and other large terrestrial mammals from the operational areas of the airport.

Alternatives to the design of the proposed fence are limited in part by the FFA's Item F-163 standards for Wildlife Deterrent Fencing. These standards direct that the integrity of such fencing be maintained at all times, and that no excavation be left under the fence which would permit access by wildlife intended to be excluded. Alternatives to securing the fence curtains across the drainage channels with T-posts placed in the channels as proposed were considered, such as cantilevering fencing materials from the at-grade fence framing rails outside the wetlands. This alternative was rejected in part because such semi-rigid fencing would likely be breached by wildlife intent upon entering the airfield (e.g., attracted by runway perimeter browsing vegetation). In addition, the semi-rigid cantilevered fencing materials would be vulnerable to becoming dislodged or bent out of shape, necessitating repeated entry by maintenance crews and equipment to repair the fencing resulting in cumulative degrading effects on the wetlands habitat that would be more significant than the adverse effects of one-time installation of the permanent T-posts. As noted above, the proposed T-posts will only require a total of 10 square-inches of wetland fill.

Therefore, given the limitations imposed by the FAA fencing criteria and the lack of another fencing alignment or design that would further avoid the need for wetland fill, the Commission finds that the proposed fence alignment and design is the least environmentally damaging feasible alternative, and therefore meets the second test of Coastal Act section 30233(a).

Mitigation

Coastal Act Section 30233(a) also requires that filling of coastal waters may only be permitted if feasible mitigation measures have been provided to minimize any adverse environmental effects associated with that fill. The potential adverse environmental effects associated of the proposed

fill include: (1) water quality impacts associated with the construction of the fence in and around wetland areas, and (2) the displacement of wetland areas by the proposed fence posts.

With regard to water quality impacts, construction activities could contribute to erosion and sedimentation of the water courses where fill is proposed. To minimize erosion and sedimentation impacts, the Commission attaches [Special Condition 1](#) requiring implementation of a number of erosion and sediment control water quality best management practices, including (a) installing fiber rolls and/or an erosion control blanket with weed-free straw prior to, and maintained throughout, the construction period to contain runoff from construction areas, trap entrained sediment and other pollutants, and prevent discharge of sediment and pollutants to coastal waters and wetlands; (b) removing and disposing of any excess excavated material and construction debris resulting from construction activities at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit; (c) maintaining on-site vegetation to the maximum extent possible during construction activities; (d) limiting all ground disturbing activity to the dry season between April 15th and October 31st; (e) containing all on-site stockpiles of soil and construction debris at all times; and (f) replanting any disturbed areas with native vegetation immediately following project completion.

Given the relatively modest quantity of fill (ten square inches), the manner of its installation, and the flow-through character of chain-link fencing materials, neither the T-post fence anchors nor the segments of fencing being placed across the channel cross-section will affect the flow of water of the drainage course or otherwise degrade the habitat afforded by the swale. Accordingly, the impacts associated with the displacement of wetland habitat area by the fence posts are not significant.

Therefore, as conditioned to require implementation of sedimentation and erosion control measures to protect water quality, the Commission finds that feasible mitigation measures have been provided to minimize adverse environmental effects consistent with the requirements of Coastal Act Section 30233(a).

F. PROTECTION OF ADJACENT ESHA AND WATER QUALITY

Section 30230 of the Coastal Act states that:

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 that:

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 30240(b) of the Coastal Act states, in part:

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.

The proposed project involves installing a perimeter wildlife exclusion fence around the airport property, replacing existing lighting along the runway/taxiways, constructing ten new hangars within the existing aircraft tiedown area, and installing an Automated Weather Observation System (AWOS). As discussed in the preceding findings section, portions of the proposed wildlife exclusion fence would involve development within wetland environmentally sensitive habitat areas (ESHA). All other project elements (lighting and navigational system improvements, hangar construction) would be located entirely within existing paved and developed areas of the site and would not require any new or extensive excavation or other ground disturbance. However, all of the project components would be located adjacent to wetland ESHA that exists throughout the airport property and on adjoining lands.

In addition to the direct impact to wetland areas discussed in the preceding findings section, the portions of the site adjacent to the wetlands also support potential habitat for sensitive aquatic species including the federally listed endangered tidewater goby (*Eucyclobius newberryi*) and northern red-legged frog (*Rana aurora aurora*), an amphibian listed as a “Species of Special Concern” by the California Department of Fish and Game (which, unlike red-legged frogs in other areas of the state, is not listed as threatened or endangered in the north coast). Several sensitive fish species may utilize the sloughs bordering the airport site, including the federally threatened coho salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead trout (*Oncorhynchus mykiss*), and the coast cutthroat trout (*Oncorhynchus clarkia clarkia*), a Species of Special Concern. As discussed below, the proposed development is sited and designed to prevent impacts which would significantly degrade this adjacent ESHA, and the development would be compatible with the continuance of the adjacent habitat areas.

i. Wetlands

Wetland habitat generally surrounds the entire airport and also occurs among undeveloped areas between the runway and tiedown areas (see Exhibit No. 5). The extensive presence of wetlands and coastal waters at the site largely constrains where development can occur at the airport. The proposed perimeter fence would be constructed primarily in upland areas along an existing elevated perimeter levee and abandoned railroad bed except where the fence crosses two drainage swales and two other emergent wetland areas. The fence would be located, on average, approximately 30 feet from adjacent wetlands. The fence would be sited as close as 10 feet to adjacent wetlands at a “pinch point” along the northwest fence line, and as far as 80 feet from

wetlands along a portion of the northeast fence line. The runway/taxiway lighting, which would be replaced in its existing location, would continue to be located approximately 20 feet from adjacent wetlands. The proposed hangars, which would be located in the existing developed operational area of the airport, would also be as close as 30 feet from adjacent wetlands. The proposed AWOS facility would be located approximately 20 feet from adjacent wetlands.

Although the proposed project would largely avoid development within wetlands, construction of the proposed perimeter fence adjacent to wetland ESHA presents the potential for adverse impacts to the adjacent ESHA resulting from sedimentation, and the potential encroachment of construction equipment and debris into coastal waters and wetlands. Removal of vegetation from the 5-foot-wide construction corridor necessary to facilitate fence construction, would expose underlying soils and cause increased potential for the release of sediment into adjacent wetland ESHA.

Sediment is considered a pollutant that affects visibility through the water, and affects plant productivity, animal behavior (such as foraging) and reproduction, and the ability of animals to obtain adequate oxygen from the water. Sediments may physically alter or reduce the amount of habitat available in a wetland or watercourse by replacing the pre-existing habitat structure with a bottom habitat composed of substrate materials unsuitable for the pre-existing aquatic community. In addition, sediment is the medium by which many other pollutants are delivered to aquatic environments, as many pollutants are chemically or physically associated with these sediment particles.

To avoid such impacts, the applicant proposes to implement general erosion control measures during and following construction, including the use of standard Best Management Practices (BMPs) such as installing fiber rolls or straw wattles, revegetating disturbed soils, and limiting ground disturbance during the rainy season. The implementation of these types of Best Management Practices (BMPs) would result in the interception and containment of sediment during the construction of the project and would also reduce potential erosion prior to the full establishment of vegetation along the fence construction corridor. To ensure that Best Management Practices (BMPs) are implemented during the project, the Commission imposes [Special Condition No. 1](#), which sets forth construction-related responsibilities. These required BMPs include (a) installing fiber rolls and/or an erosion control blanket with weed-free straw prior to, and maintained throughout, the construction period to contain runoff from construction areas, trap entrained sediment and other pollutants, and prevent discharge of sediment and pollutants to coastal waters and wetlands; (b) removing and disposing of any excess excavated material and construction debris resulting from construction activities at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit; (c) maintaining on-site vegetation to the maximum extent possible during construction activities; (d) limiting all ground disturbing activity to the dry season between April 15th and October 31st; (e) containing all on-site stockpiles of soil and construction debris at all times; and (f) replanting any disturbed areas with native vegetation immediately following project completion.

To further minimize potential significant adverse impacts to the adjacent wetland ESHA associated with sediment mobilization, the applicant proposes to install the perimeter wildlife exclusion fence using non-mechanized construction methods including manual equipment to remove vegetation and hand augers to prepare post holes. Use of manual construction methods

for installation of the proposed fence would avoid construction impacts associated with the staging and operation of heavy equipment on top of the existing levee, or from within the adjacent wetland habitat. To ensure that the perimeter fence is constructed as proposed by the applicant to minimize the potential for adverse impacts to adjacent wetland ESHA, the Commission imposes [Special Condition No. 2](#) which requires the implementation of the protective measures proposed by the applicant, including: (1) clearing vegetation when the five-foot-wide construction corridor for the exclusion fence without the use of mechanized equipment other than mowers, and (2) installing fence posts using hand augers instead of mechanized post hole diggers.

The Mitigated Negative Declaration prepared for the proposed project indicates that the lighting replacement and improvements to the VASI navigation system would not result in adverse impacts due to increased light or glare. The applicant indicates that the existing lighting and VASI equipment is outdated and prone to failure during inclement weather. The proposed improvements are limited to replacing components that are not functioning properly in the same location and would not involve any expansion of the existing lighting or VASI system. Therefore, these project components would not degrade the surrounding wetland ESHA.

ii. Sensitive Aquatic Species

The muted tidal channel located parallel to Highway 101 provides potential habitat for the federally listed tidewater goby (*Eucyclogobius newberryi*). Construction-related activities that result in changes in persistence, depth, movement, salinity, and substrate characteristics of aquatic habitat can potentially adversely affect tidewater goby.

The USFWS reviewed the proposed project and provided a letter dated February 26, 2008 that states, “After consideration of the proposed Best Management Practices...to be implemented to prevent the degradation of water quality and construction debris from entering nearby wetlands or water bodies, the Service has determined that Phase I of the proposed improvements at Murray Field Airport will not effect (*sic*) the federally listed tidewater goby.”

The construction-related requirements of **Special Condition Nos. 1 and 2** described above would minimize adverse impacts to sensitive aquatic species, such as tidewater goby, that potentially utilize the drainages and sloughs by minimizing sedimentation and maintaining the water quality and biological productivity of the habitat.

Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Coastal Act Section 30240(b), as the project is sited and designed to prevent impacts which would significantly degrade adjacent ESHA, and the development would be compatible with the continuance of the adjacent habitat areas.

G. VISUAL RESOURCES

Section 30251 of the Coastal Act requires that the scenic and visual qualities of this coastal area shall be protected. Section 30251 of the Coastal Act states, in part:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas...

The project site is located at the northern end of the City of Eureka and east of developed portions of the city. The airport is bound to the northwest by Highway 101, to the east by the Fay Slough Wildlife Area, to the south by open space and agricultural lands, and to the west by Eureka Slough. The Highway 101 corridor adjacent to the project area provides views of Humboldt Bay and its associated mudflat and marsh habitats to the north and northwest. Views from the Highway to the south and southeast, across and beyond the project site, are dominated by the drainage feature directly adjacent to the highway, the airport development itself, the surrounding expansive grazed seasonal wetlands, and the forested slopes of the coastal range that form the distant backdrop.

Views to and along Humboldt Bay from Highway 101 would not be affected by the proposed project, as the development would be located entirely on the southeast side of the highway at the existing airport. The airport property is also bordered by Jacobs Avenue, a highway frontage road used to access the airport and other commercial development along Highway 101 north of Eureka. While Jacobs Avenue affords some views of Humboldt Bay, this road is not a coastal viewing destination for the public.

Additionally, the proposed project would not result in any significant alterations to landforms, as none of the proposed development would require significant grading. The proposed perimeter fence would primarily be located along the top of the existing perimeter levee and a portion of an abandoned railroad bed and would follow existing contours of these features. The proposed new aircraft hangars would be constructed on the existing paved and developed operational area of the airport. Additionally, the lighting replacement, VASI navigational improvements, and AWOS array components would be constructed at-grade with no extensive grading being involved. Therefore, the proposed project is consistent with Coastal Act Section 30251 to the extent that alterations to landforms would be minimized.

The primary visual issue raised by the proposed project is whether the perimeter wildlife exclusion fence, the aircraft hangars, the replacement runway and taxiway lighting, and the AWOS array would be visually compatible with the character of the surrounding area as viewed from public vantage points along Highway 101. The character of the area is largely defined by the undeveloped, grazed seasonal wetlands that surround the airport and by the airport development itself, and the backdrop of the forested slopes of the Coastal Range.

i. Perimeter Wildlife Exclusion Fence

As discussed previously, a total of 7,250 feet of 8 to 11-foot-high, green vinyl coated chain-link fencing would be constructed around the perimeter of the airport property to exclude wildlife from entering the operational areas of the airport and causing a risk of a collision with aircraft.

The majority of the proposed perimeter fence, as it extends southeastward away from Highway 101, would be largely set against the backdrop of the existing airport development and would not be visibly prominent from the highway, or from any other public vantage points. However, the portion of the proposed perimeter fence located along the northeast property boundary would be located as close as 110 feet to the edge of Highway 101 and would be highly visible due to its close proximity to the highway and its location in an area where no fencing, other development, or screening vegetation currently exists.

As noted above, the County and Commission staff considered several alternatives to the siting and design of the perimeter wildlife exclusion fence that would potentially minimize visual impacts. However, feasible alternatives to the height, design, and siting of the fence are largely limited by the specifications required by the FAA to meet the wildlife exclusion and safety objectives of the project. For example, a shorter, open-style fence would not provide an adequate barrier to deer and thus, would not be a feasible alternative. As discussed previously, the choice of fence location is also constrained by the need to avoid environmentally sensitive wetland ESHA to ensure consistency with Section 30240 of the Coastal Act. Commission staff and the County also considered the alternative of fencing all property boundaries except for the northeast boundary adjacent to the highway since the highway itself acts as a barrier to wildlife entering the airport property. While this alternative would avoid locating the fence directly adjacent to Highway 101 where it is most visible, it would not satisfy FAA safety objectives and requirements.

With respect to compatibility with surrounding area character, some fencing currently exists at the site in an area adjacent to Jacobs Avenue and extending in and among several of the existing airport buildings and parking area along the southwest portion of the site. This existing cyclone fencing is approximately six feet high with additional angled barbed wire along the top and is coated with green vinyl, similar to the County's proposed fence design for the perimeter fence. In addition, the open-style fence structure itself seems to blend into the passing view of a motorist, similar to the way a passing view from a car of the vertical members of a bridge railing seem to disappear from view. Therefore, the Commission finds that the proposed perimeter fence would be similar to the fencing that exists at the airport and as the open style chain-link will be largely transparent to passing motorists, the proposed exclusion fence would be visually compatible with the character of the surrounding area.

ii. Aircraft Hangars

The proposed project also involves the construction of ten 25-foot-high hangars within a 50' x 450' area of the existing paved operational area of the airport. The proposed hangars would be sited in approximately the middle of the airport property to the southeast of, and among, existing airport buildings. The proposed new hangars would be located over 0.2 miles (1,000 feet) from Highway 101 and would be only minimally visible from the highway due to the distance from public vantage points. Additionally, the proposed hangars would be sited adjacent to one another and perpendicular to the highway, rather than scattered throughout the site, such that any view of the hangars from the highway would be further minimized by consolidating the hangars in one area. Moreover, the hangars would be similar to existing airport buildings at the site with regard to size and bulk, and the proposed hangars would not exceed the height of any existing structures. As the existing airport facilities themselves comprise, in large part, the character of

the area, the Commission finds that the proposed hangars would be visually compatible with the character of the surrounding area.

iii. Lighting and Visual Approach Slope Indicator (VASI) Improvements

The proposed lighting replacement and improvements to the VASI navigation system would not result in adverse visual impacts. The new runway and taxiway lighting system would replace existing lighting equipment in the same location. Similarly, the VASI system would be upgraded in its current location. Therefore, these project components would not result in any changes to the visual character of the site or result in increased light or glare beyond what currently exists at the site.

iv. Automated Weather Observation System (AWOS)

The proposed AWOS facility will introduce a new visual element to the airfield in the form of a 20-foot-high, warning light-illuminated instrumentation tower and, depending upon the particular model chosen, up to four additional three- to six-foot-high sensor arrays. The AWOS would be erected on the northern side of Runway 11/29 near its mid-point, in proximity to the existing lighted wind sock. This location is approximately 1,000 feet from Highway 101 and approximately 700 feet from publicly accessible portions of the airfield terminal buildings. Given the relatively modest size and bulk of the AWOS instrumentation, their distance from public vantage points, and the presence of other similar structures in the vicinity, the proposed facility would be visually compatible with the character of the surrounding area. To ensure that the finalized location and design of the AWOS facility does not significantly adversely impact visual resources and is consistent with the facility's preliminary design, the Commission attaches [Special Condition 3](#) requiring that final site plans be submitted for the review and approval of the Executive Director.

Therefore, the Commission finds that the proposed development, as conditioned by [Special Condition 3](#) to provide for final site plan review by the Executive Director of the finalized design and location of the AWOS facility, is consistent with Coastal Act Section 30251, as the project has been sited and designed to minimize the alteration of natural landforms, protect public views to and along the ocean and scenic coastal areas, and to be visually compatible with the character of surrounding areas.

H. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

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

The project area includes lands formerly occupied by the Wiki division of the Wiyot tribe. The tribe is understood to have been composed of three tribal divisions (Patawat, Wiki, and Wiyot), each associated with a water-related resource (the Mad River, Humboldt Bay, and the lower Eel River, respectively) and each speaking a common language (Selateluk). The ancestral Wiyot

territory extended from the Little River (near McKinleyville) to the Bear River Mountains (near Ferndale) and inland approximately 15 miles to the first mountain ridgeline. Humboldt Bay (Wiki) was the central division of the territory. The pattern of Wiyot settlements, located along river terraces, the Humboldt Bay margin, and tidewater sloughs, means that much of the bay margin, tributary sloughs, and adjacent uplands have the potential to hold archaeological resources.

To ensure protection of any cultural resources that may be discovered at the site during construction of the proposed project, the Commission attaches [Special Condition No. 5](#). This condition requires that if an area of cultural deposits is discovered during the course of the project, all construction must cease, and a qualified cultural resource specialist must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the permittee is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are de minimis in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that the proposed project is consistent with Coastal Act Section 30244, as the proposed development includes reasonable mitigation measures to ensure that construction activities within the project area will not result in significant adverse impacts to archaeological resources.

I. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The County of Humboldt Department of Public Works, Division of Aviation, prepared a Mitigated Negative Declaration pursuant to CEQA requirements for the proposed project.

Section 13906 of the Commission's administrative regulations requires Coastal Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development 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 project has been conditioned to be consistent with the policies of the Coastal Act. 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 proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Application file for Coastal Development Permit (CDP) Application No. 1-12-036

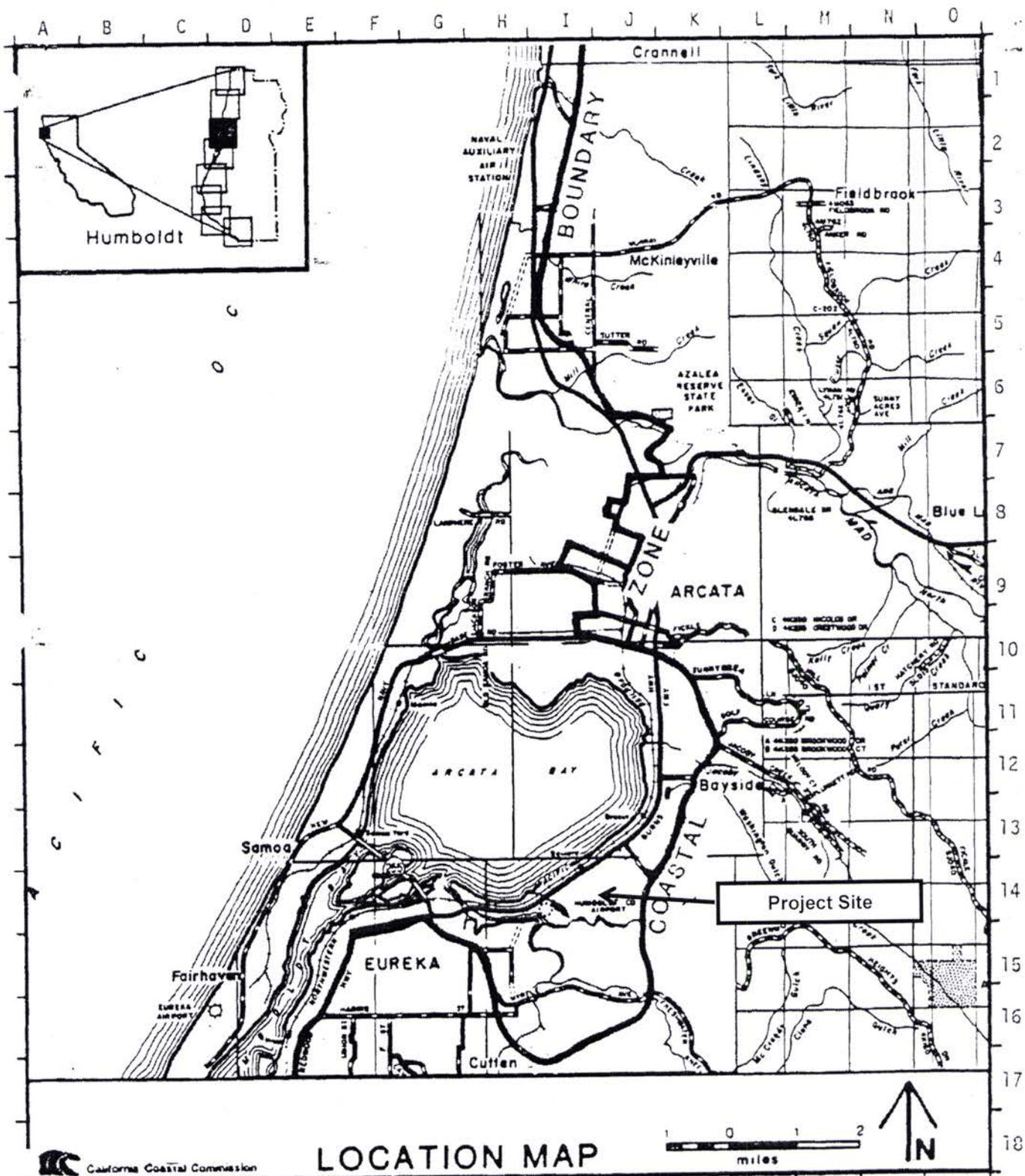
Murray Field Airport Master Plan Report

FAA Airport Construction Standards – Part 8, Item F-163 Wildlife Deterrent Fence

FAA Advisory Circular 150/5340-30G – Design and Installation Details for Airport Visual Aids

FAA Order 6560.20B – Siting Criteria for Automated Weather Observing Systems (AWOS)

City of Eureka Local Coastal Program

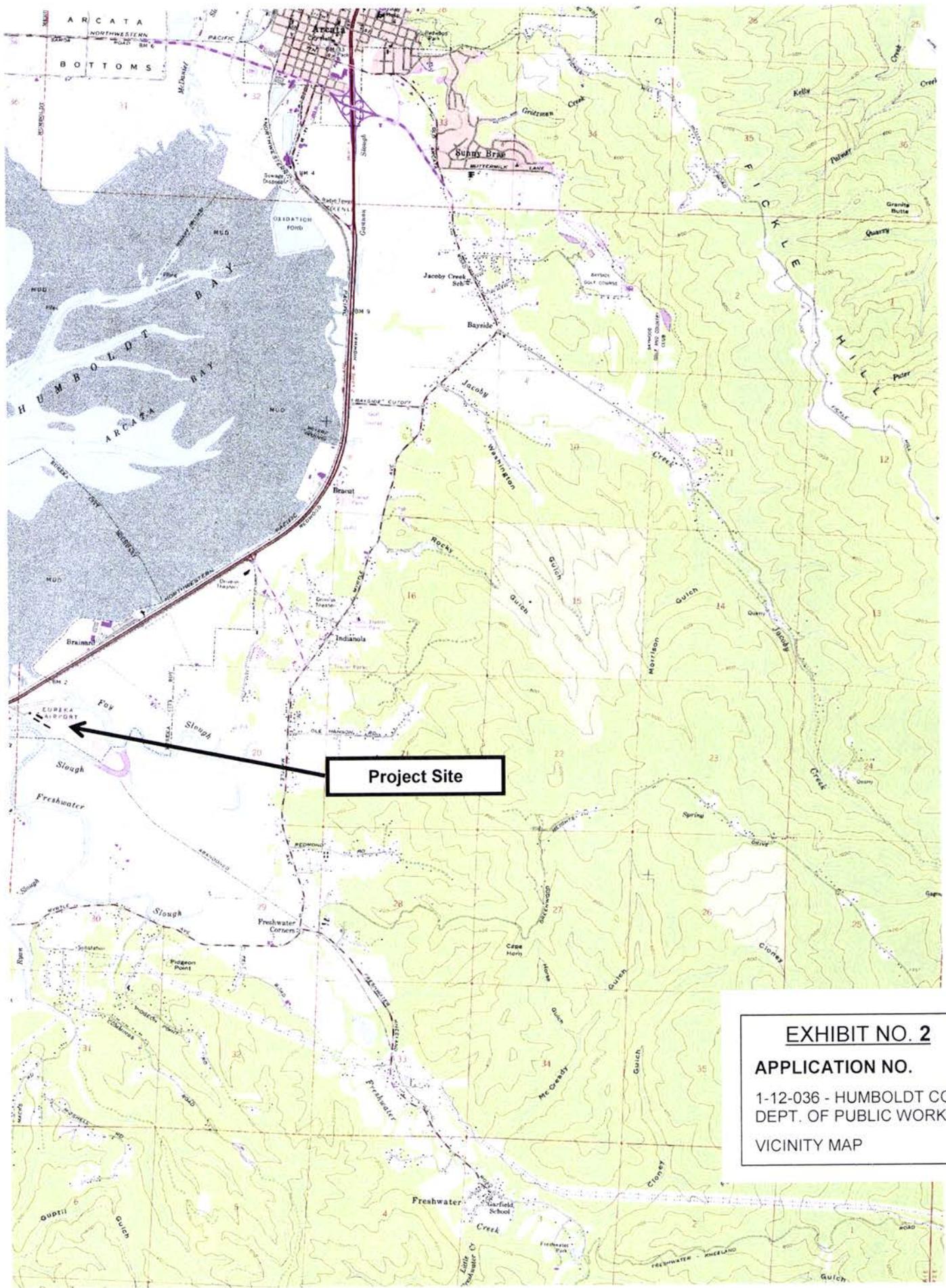


California Coastal Commission

LOCATION MAP

County of Humboldt

EXHIBIT NO. 1
APPLICATION NO.
 1-12-036 - HUMBOLDT CO.
 DEPT. OF PUBLIC WORKS
 LOCATION MAP



Project Site

EXHIBIT NO. 2
APPLICATION NO.
1-12-036 - HUMBOLDT CO.
DEPT. OF PUBLIC WORKS
VICINITY MAP



Project Site

EXHIBIT NO. 3
APPLICATION NO.
1-12-036 - HUMBOLDT CO.
DEPT. OF PUBLIC WORKS
SITE AERIAL



DEPARTMENT OF PUBLIC WORKS

COUNTY OF HUMBOLDT

MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579
AREA CODE 707 / FAX 445-7409

ARCATA-EUREKA AIRPORT TERMINAL
McKINLEYVILLE 839-5401

PUBLIC WORKS BUILDING
SECOND & L ST., EUREKA

ADMINISTRATION	445-7491	NATURAL RESOURCES	445-7741
BUSINESS	445-7652	PARKS	445-7651
ENGINEERING	445-7377	ROADS & EQUIP MAINT.	445-7421
ARCHITECT	445-7493		

CLARK COMPLEX
HARRIS & H ST., EUREKA
LAND USE 445-7205

**Murray Field Airport Wildlife Exclusion
Fence and Associated Projects**

**AIP 03-06-0072-09
HCO 919216**

Eureka, Humboldt County

**Updated Project Description for Coastal Development Permit
Reference: CDP No. 1-08-019**

December 17, 2012

EXHIBIT NO. 4

APPLICATION NO.

1-12-036 - HUMBOLDT CO.
DEPT. OF PUBLIC WORKS
NARRATIVE & SITE PLANS
(1 of 38)

Background

The Murray Field Airport Master Plan Report (Humboldt County, 2007) identified proposed capital improvement projects to be implemented in phases through 2025 based on available funding. Humboldt County retained Environmental Science Associates (ESA) to perform a comprehensive delineation of wetlands at Murray Field Airport under both federal and state jurisdictions to assist project planning and design (ESA, 2007a; ESA, 2007b). In April 2008, Humboldt County submitted an application to the California Coastal Commission for a coastal development permit for Phase I improvements at Murray Field Airport, including construction of a perimeter wildlife exclusion fence; replacement of the runway and taxiway lighting system and Visual Approach Slope Indicator; and erection of ten new airplane hangars along with reconfiguration of the paved aircraft tie-down area. The wildlife exclusion fence project had the highest priority among this set of projects.

The Coastal Commission issued a letter dated May 6, 2008, requesting additional information regarding ten items. Humboldt County replied via e-mail on items 1, 2, 3, and 5 and submitted a letter dated June 2, 2008, with additional information. There was additional e-mail correspondence in August 2008 between ESA on behalf of Humboldt County and Coastal Commission staff.

A portion of Murray Field is situated within the City of Eureka's jurisdiction under to the City's Local Coastal Program. The City of Eureka submitted a letter dated June 24, 2008, to the Coastal Commission transmitting Resolution 2008-29 from the Eureka City Council recommending that the Commission issue a consolidated coastal development permit for the project.

The Humboldt County Board of Supervisors adopted an Initial Study and Mitigated Negative Declaration for the Murray Field Airport Master Plan Update on July 22, 2008, for compliance with the California Environmental Quality Act (CEQA). A CEQA Notice of Determination was submitted to the Humboldt County Clerk on July 25, 2008.

The Coastal Commission prepared a staff report dated August 28, 2008, and an addendum dated September 11, 2008, for the Commission's consideration as item F-7b at its meeting on September 12, 2008. The initial staff report contained five proposed special conditions (Conditions 1 through 5) and the addendum contained an additional proposed special condition (Condition 6). At the September 12, 2008 meeting, the Coastal Commission approved the Murray Field project with the adoption of Conditions 1, 2, and 4 through 6 but overruled the staff-proposed Condition 3 pertaining to fence color. Condition 1 specified best management practices and construction responsibilities. Condition 2 specified restrictions on the perimeter fence construction. Conditions 4 through 6 required the following actions by Humboldt County prior to issuance of the permit:

- Condition 4 – Submit evidence of project approval from the Department of Fish and Game or evidence that no approval is required.
- Condition 5 – Submit a written determination from the State Lands Commission regarding jurisdiction and leasing, if applicable.
- Condition 6 – Submit written documentation demonstrating property interests to install the fence over the entire proposed alignment (in particular, near the Harper Motors property).

Project approval from the Coastal Commission allowed the Federal Aviation Administration (FAA) to complete its environmental compliance obligations under the National Environmental Policy Act (NEPA). FAA prepared and circulated an Environmental Assessment for near-term airport master plan projects at Murray Field Airport and issued a Finding of No Significant Impact on April 7, 2009. Following completion of the NEPA process, FAA and Humboldt County administered a grant agreement to provide funding for Humboldt County to prepare design plans and specifications for the wildlife exclusion fence project. Review of the airport's deeds for fee title ownership and easements and preliminary design to determine the fence alignment were necessary to allow completion of Conditions 4 through 6.

Humboldt County retained RS&H, Inc. to prepare design drawings, contract documents and specifications, and an engineer's report for the wildlife exclusion fence project in accordance with FAA requirements and standards (RS&H, 2012a, b). RS&H performed a topographic survey of the airport to provide the basis for the engineering design. The fence alignment was developed to ensure that all placement of fill material is located outside of any delineated wetland area, including tidal sloughs, drainage ditches, and low-lying portions of the grasslands surrounding the airport runways.

Humboldt County contacted Coastal Commission staff via e-mail in April 2011 during the fence project design phase to request clarification regarding a permit condition. Coastal Commission staff notified Humboldt County that the September 2008 project approval from the Coastal Commission had expired in September 2010 (two years following the approval date), and re-application would be required.

Humboldt County submitted a letter dated July 13, 2011, to the Department of Fish and Game containing preliminary (90% complete) design information and requesting a determination whether an agreement with the Department of Fish and Game was required for the fence project. Michael Van Hatten with the Department of Fish and Game replied via e-mail on August 24, 2011, indicating that no agreement would be required. This e-mail fulfills Condition 4 from the Coastal Commission's September 12, 2008 project approval.

Humboldt County submitted a letter dated July 15, 2011, to the State Lands Commission (SLC) requesting a determination on the State's jurisdiction, if any, for the fence project. SLC replied with a letter dated January 9, 2012, identifying an unresolved property title issue at the airport. The SLC's letter references an Exchange and Boundary Line Agreement dated April 1, 1969, between SLC and Humboldt County that was entered into with the intent of eliminating any state interest within Murray Field. However, SLC determined during its file review that (1) SLC had not filed a quitclaim for a parcel associated with the airport as intended under the 1969 Boundary Line Agreement; (2) SLC has not taken action to free the lands conveyed to the County from the public trust; and (3) any residual state interest in Murray Field was subsequently granted to the City of Eureka by act of the state legislature in 1970.

Following additional file review and exchange of documents via e-mail, a conference call was held between Humboldt County, SLC, and City of Eureka on June 19, 2012, to discuss remedy of the clouded title issues. On this call there was consensus for a two-phase solution. First, SLC would issue a letter stating that the SLC is not opposed to the County moving forward with the wildlife exclusion fence project and does not believe the project is inconsistent with the public trust. This position was conveyed in letters dated June 26, 2012, and August 16, 2012. Second, SLC would prepare an amendment to the 1969 that would be executed by the SLC, Humboldt County, and City of Eureka. Completion of the amendment is in process pending further technical review and updating of the legal description for the airport property.

Along the northwestern airport boundary and parallel to Highway 101, Humboldt County holds a deeded easement for a 50-foot-wide strip on land owned in fee title by the adjacent landowner (Harper). The easement is depicted on the Airport Layout Plan (Humboldt County, 2012a). The Airport Layout Plan and the August 16, 2012 letter from SLC fulfill Conditions 5 and 6 from the Coastal Commission's September 12, 2008 project approval.

Design Aspects of Wildlife Exclusion Fence

The fence project was designed to avoid penetration into the regulated airspace defined by Federal Aviation Regulations (FAR) Part 77 to the greatest extent possible and to avoid placement of fill material in regulated wetlands. The proposed wildlife exclusion fence is a green, six-foot-high, vinyl-coated chain link fence with one-foot-high barbed wire extension arms and designated access gates at locations necessary for ingress/egress (RS&H, 2012).

All primary fence posts will be mounted in upland (non-wetland) areas. The chain-link fence will span two drainage ditches which have wetland characteristics and are therefore regulated wetlands. Barbed wire will be mounted on rancher-style T-posts beneath the chain-link fence at the ditch crossings to prevent deer and other wildlife from entering. The crossings over the drainage ditches are shown on Sheets C302, C303, and C500.

The fence alignment in the final engineered design largely matches the alignment identified in the conceptual design that was the basis for the original CDP application. Minor adjustments were made to minimize penetrations into FAR Part 77 surfaces and to minimize the length of the crossings over the two drainage ditches. The fence layout plan is shown on Sheets C200 through C204. Also enclosed is a set of drawings for the fence layout plan (dated June 24, 2011, but showing the same alignment as the final design dated May 7, 2012) with the delineated wetlands shaded in blue for enhanced legibility.

Penetration into FAR Part 77 surfaces could not be avoided at five locations due to terrain considerations. FAA requires placement of red obstruction lighting on the fence at locations where the FAR Part 77 surface is penetrated (RS&H, 2012a, b; FAA, 2012). The project has been modified to include extension of electrical service to the lighting locations as well as service to the airport's wind cone for a separate project to install an Automated Weather Observing System (see below). Electrical conduit will be laid by directional boring (beneath the runway) or excavated trenches. The alignment for all electrical service runs is situated outside of wetlands. The layout and detailed drawings for the obstruction lighting and electrical components are shown on Sheets E100 through E103 and Sheets E400 through E403.

General construction BMP's are designated on the General Contract Notes on Sheet C002. Erosion control BMP's are designated on Sheet C400.

Status of Project Elements from Original Application

The wildlife exclusion fence project is a high-priority safety project. Funding for construction of the wildlife exclusion fence has been allocated, and construction will begin in 2013 following issuance of the coastal development permit.

Replacement of the runway and taxiway lighting system is planned to be designed in 2013 and constructed in 2015.

The Visual Approach Slope Indicator system was recently damaged by an airplane and will be replaced in 2013.

Construction of new airplane hangars has been deferred for more than two years due to market conditions.

New Project Element – Automated Weather Observing System

Humboldt County proposes to install an Automated Weather Observation System (AWOS) at Murray Field Airport to provide on-site weather information to pilots. An AWOS contains sensor systems to provide meteorological data such as temperature, dewpoint, wind speed and

direction, cloud coverage and ceiling, and visibility. The purpose of the AWOS is to enhance airport safety by providing an FAA-approved weather reporting system suitable for visual and instrument operations in order to improve weather reports to pilots. The AWOS is planned for design 2013 and construction in 2014.

The AWOS will be located approximately 200 feet southeast of the existing segmented circle and lighted wind cone as shown on the site plan (Humboldt County, 2012b). The AWOS will include an approximately 20-foot-tall tower mounted on a new concrete slab (four feet by four feet), along with up to four new foundation pads (each two feet by two feet) for sensors. The total disturbed area for the tower and sensors will be approximately ten feet by fifteen feet. A utility trench will be excavated between the existing wind cone and new AWOS to place underground electrical conduit, after which the trench will be backfilled and re-seeded. As shown on the site plan, construction of the AWOS and associated trenching will not affect wetlands.

Runway 29 Hazard Trees

Information regarding proposed removal of hazard trees located in the vicinity of Runway 29 will be transmitted separately, to avoid any potential delay in processing the permit for the wildlife exclusion fence.

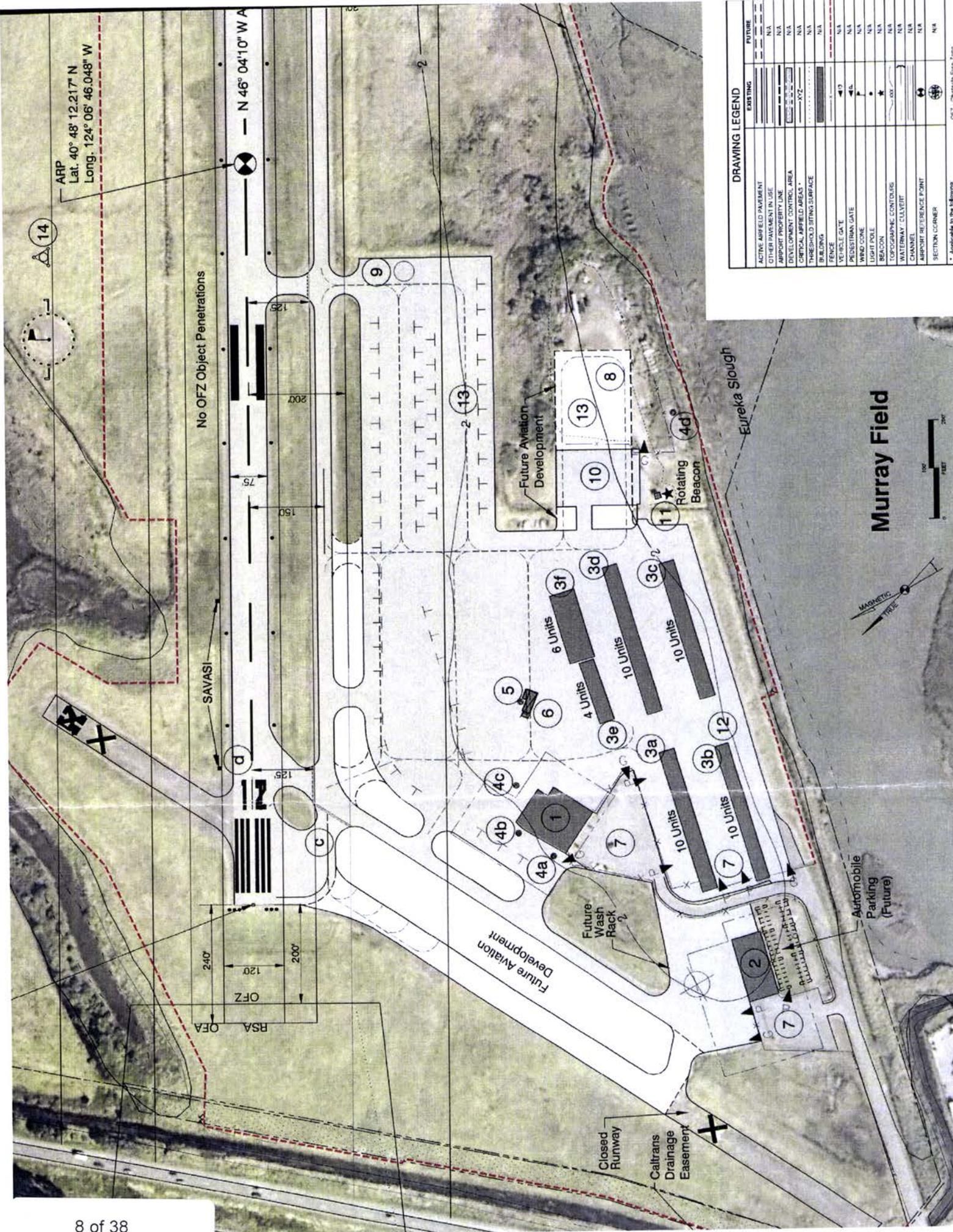
References

1. California Coastal Commission (2008). Staff report and addendum for Item F-7b, meeting of September 12, 2008.
2. California Department of Fish and Game (2011). E-mail from Michael Van Hattem (CDFG) to Hank Seemann (Humboldt County). August 24, 2011.
3. California State Lands Commission (2012a). Letter from James R. Frey (SLC) to Hank Seemann (Humboldt County) and David Tyson (City of Eureka). January 9, 2012.
4. California State Lands Commission (2012b). Letter from Brian Bugsch (SLC) to Hank Seemann (Humboldt County). June 26, 2012.
5. California State Lands Commission (2012c). Letter from Brian Bugsch (SLC) to Hank Seemann (Humboldt County). August 16, 2012.
6. ESA (2007a). Murray Field Airport – Delineation of Waters of the United States. April 13, 2007.
7. ESA (2007b). Murray Field Airport – Delineation of Wetlands and Water-associated Habitats. June 11, 2007.
8. Federal Aviation Administration (2011). Final Determination Letter to Jacquelyn Hulsey (Humboldt County).
9. Humboldt County (2007). Murray Field Airport Master Plan Report (May 2007). Prepared by Mead & Hunt, Inc.
10. Humboldt County (2008a). Application for Coastal Development Permit, Murray Field Airport – Phase I Improvements (April 2008). Prepared by ESA.
11. Humboldt County (2008b). Initial Study and Mitigated Negative Declaration. Adopted July 22, 2008.
12. Humboldt County (2011a). Letter from Hank Seemann (Humboldt County) to Michael Van Hattem (DFG). July 13, 2011.

13. Humboldt County (2011b). Letter from Hank Seemann (Humboldt County) to SLC Land Management Division. July 15, 2011.
14. Humboldt County (2012a). Airport Layout Plan. Revised January 2012 (Drawing Date: February 2009). Prepared by Mead & Hunt, Inc. 3 sheets, plus close-up view of western and eastern portions of the airport.
15. Humboldt County (2012b). Figure 1 – Proposed AWOS Location (January 19, 2012).
16. RS&H (2011). Fence Layout Plan for Wildlife Exclusion Fence (wetlands shaded in blue). June 24, 2011. 5 sheets.
17. RS&H (2012a). Final Design Plans for Wildlife Exclusion Fence. May 7, 2012. 28 sheets.
18. RS&H (2012b). Engineer's Report for Wildlife Exclusion Fence. May 7, 2012. 15 pages plus appendices.

Attachments

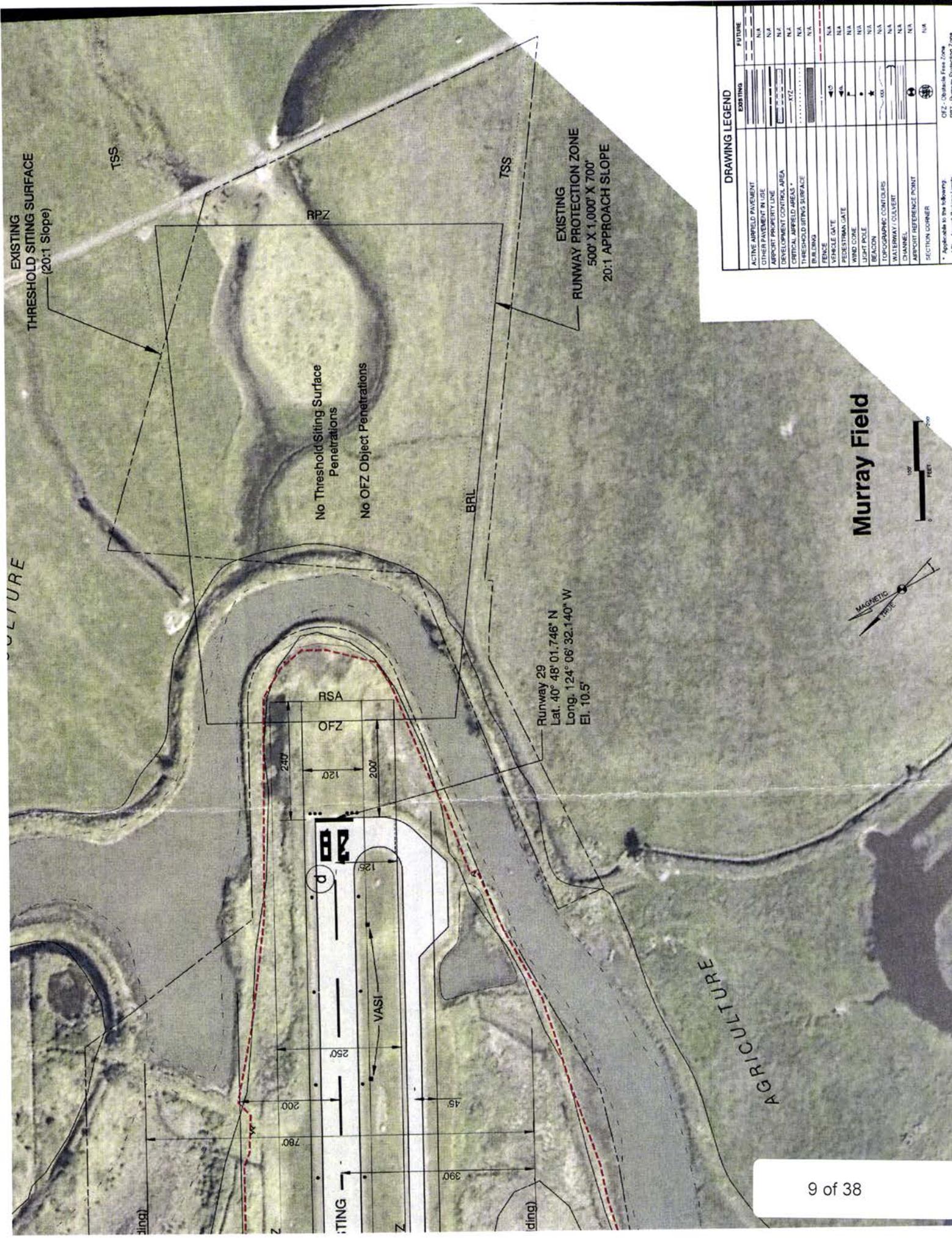
Copies of Reference No. 2, 3, 4, 5, 8, 12, 13, 14, 15, 16, 17, 18 (w/o appendices) are attached. Reference No. 6, 7, 10, and 11 were previously transmitted. Reference No. 9 is available on-line (<http://www.co.humboldt.ca.us/aviation/>).



DRAWING LEGEND

EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	---
OTHER PAVEMENT IN USE	---
AIRPORT PROPERTY LINE	---
DEVELOPMENT CONTROL AREA	---
CRITICAL AIRFIELD AREAS *	---
THRESHOLD SITING SURFACE	---
BUILDING	---
FENCE	---
VEHICLE GATE	---
PEDESTRIAN GATE	---
WIND CONE	---
LIGHT POLE	---
BEACON	---
TOPOGRAPHIC CONTOURS	---
WATERWAY - CULVERT	---
CHANNEL	---
AIRPORT REFERENCE POINT	---
SECTION CORNER	---

* Applicable to the following:



DRAWING LEGEND

EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	N/A
OTHER PAVEMENT IN USE	N/A
AIRPORT PROPERTY LINE	N/A
DEVELOPMENT CONTROL AREA	N/A
CRITICAL AIRFIELD AREAS *	N/A
THRESHOLD SITING SURFACE	N/A
BUILDING	N/A
FENCE	N/A
VEHICLE GATE	N/A
PEDESTRIAN GATE	N/A
WIND CONE	N/A
LIGHT POLE	N/A
BEACON	N/A
TOPOGRAPHIC CONTOURS	N/A
WATERWAY / CULVERT	N/A
CHANNEL	N/A
AIRPORT REFERENCE POINT	N/A
SECTION CORNER	N/A

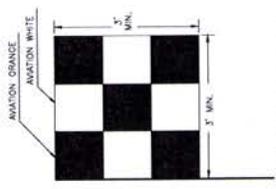
* Applicable to the following:
 OFZ - Obstacle Free Zone
 RPZ - Runway Protection Zone
 AOB - Airway Obstacle Limits





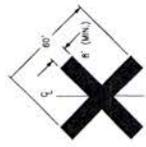
MURRAY FIELD AIRPORT

WILDLIFE EXCLUSION FENCE



CONSTRUCTION SAFETY FLAG

NOTE: SAFETY FLAGS BURNING BRIGHTLY VISIBILITY CONSTRUCTION BEACONS MUST BE USED TO MAINTAIN VISIBILITY ON ALL CONSTRUCTION EQUIPMENT WITH NO EXCEPTIONS.



RUNWAY CLOSURE MARKING

- NOTES:**
- RUNWAY WILL BE CLOSED FOR THE DURATION OF CONSTRUCTION PHASE 1A. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN AND REMOVE RUNWAY CLOSURE MARKINGS THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN AND REMOVE RUNWAY CLOSURE MARKINGS THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN AND REMOVE RUNWAY CLOSURE MARKINGS THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY MARKINGS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

CONTRACTOR'S SAFETY AND SECURITY REQUIREMENTS

SECURITY

- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT ENGINEER, IN WRITING, THE NAME OF HIS CONTRACTOR SAFETY AND SECURITY OFFICER (CSO), THE CSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONSTRUCTION PROJECT.
- CONTRACTOR PERSONNEL SHALL BE RESPONSIBLE FOR PROVIDING ALL CONSTRUCTION SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA.
- ACCESS TO THE SITE: CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. ALL CONTRACTOR PERSONNEL SHALL BE ADVISED BY THE AIRPORT ENGINEER OF ANY CHANGES TO THE ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE.
- CONSTRUCTION AREA LIMITS: CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE.

GENERAL CONTRACT NOTES

- GENERAL REQUIREMENTS: THE CONTRACTOR, SUBCONTRACTORS, AND VENDORS SHALL MEET ALL REQUIREMENTS ESTABLISHED BY THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
- HAZARDOUS MATERIALS: CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND REMEDIATING HAZARDOUS MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND REMEDIATING HAZARDOUS MATERIALS.
- UNDERGROUND UTILITIES: CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROTECTING UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROTECTING UNDERGROUND UTILITIES.
- CONSTRUCTION AREA LIMITS: CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE.

SAFETY

- CONTRACTOR SHALL ACQUAINT HIS SUPERVISORS AND EMPLOYEES OF THE AIRPORT ACTIVITY AND OPERATIONS THAT ARE NEARBY TO THIS ACTIVE AIRPORT AND SHALL CONDUCT THE CONSTRUCTION PROJECT IN ACCORDANCE WITH THE AIRPORT SAFETY AND SECURITY REQUIREMENTS AND REGULATIONS AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- ALL OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE AIRPORT SAFETY AND SECURITY REQUIREMENTS AND REGULATIONS AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE. CONTRACTOR SHALL MAINTAIN AND CONTROL ACCESS TO THE SITE.
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**MURRAY FIELD
AIRPORT**

**WILDLIFE EXCLUSION
FENCE**

NO.	DESCRIPTION	DATE

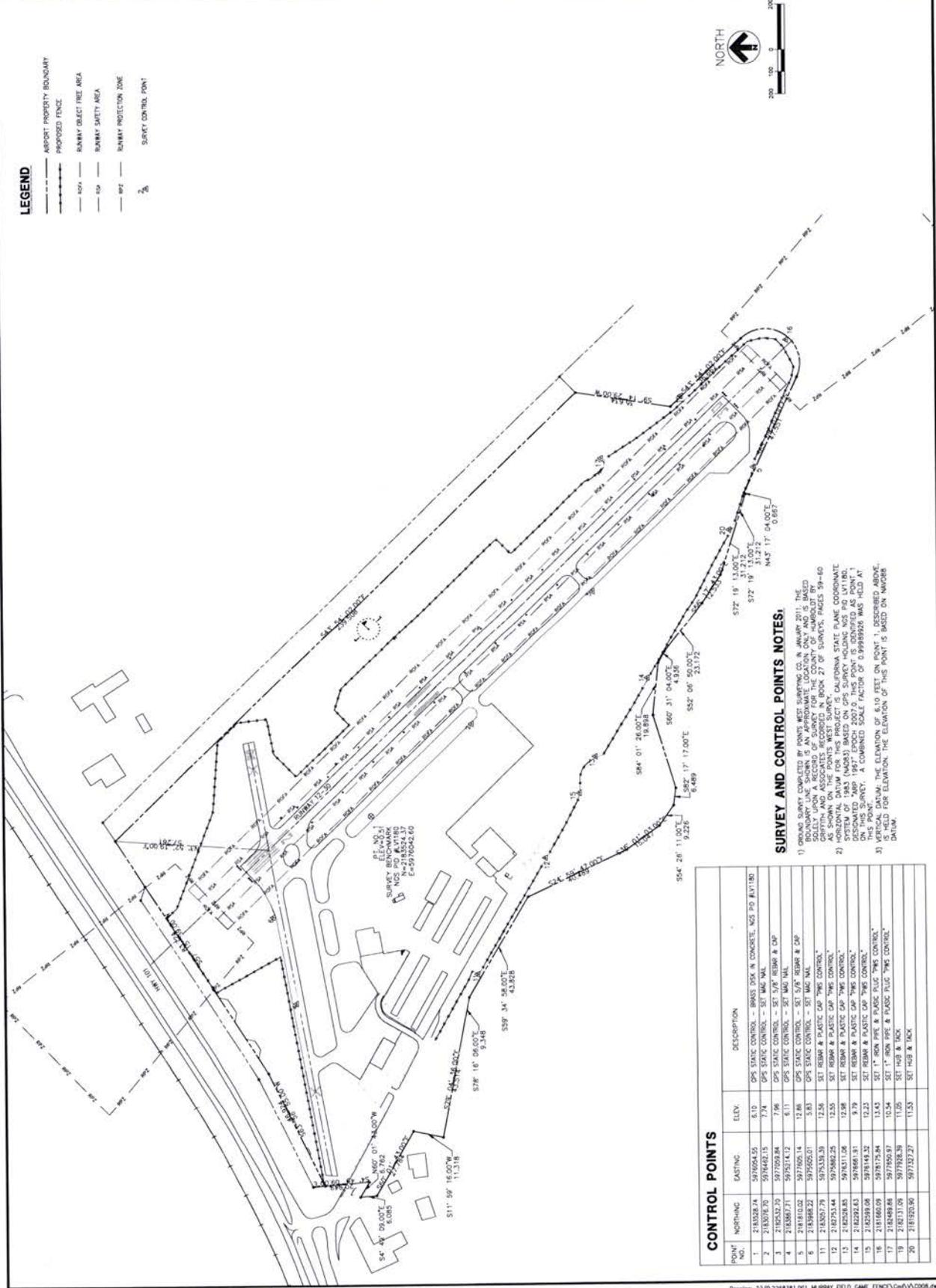
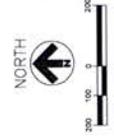
DATE ISSUED: MAY 31, 2013
REVIEWED BY: GPR
DRAWN BY: SHC
DESIGNED BY: GPR
ALP PROJECT NUMBER
206-8881-001
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**HORIZONTAL
AND VERTICAL
CONTROL PLAN**

SHEET NUMBER
C008
SHEET 8 OF 28
DOCUMENTS

LEGEND

---	AIRPORT PROPERTY BOUNDARY
---	PROPOSED FENCE
---	RUNWAY SELECT FIRE AREA
---	RUNWAY SAFETY AREA
---	RUNWAY PROTECTION ZONE
---	SURVEY CONTROL POINT



SURVEY AND CONTROL POINTS NOTES:

- GROUND SURVEY COMPLETED BY POINTS WEST SURVEYING CO. IN JANUARY 2011. THE BOUNDARY LINE SHOWN IS AN APPROXIMATE LOCATION ONLY AND IS BASED ON THE 1983 NAD83 DATUM. THE SURVEY WAS CONDUCTED USING GPS SURVEYING TECHNIQUES AND ASSOCIATED RECORDS IN BOOK 27 OF SURVEYS, PAGES 59-60 AS SHOWN ON THE POINTS WEST SURVEY, CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983 (NAD83) BASED ON GPS SURVEY HOLDING NOS RID LV1180, DESIGNATED "M83 1987 EPOCH 2007.0". THIS POINT IS IDENTIFIED AS "CON 1" ON THIS PLAN. A COMBINED SCALE FACTOR OF 0.9999926 WAS USED AT THIS POINT.
- VERTICAL DATUM: THE ELEVATION OF FIELD FEET ON POINTS WEST SURVEYING CO. FOR ELEVATION. THE ELEVATION OF THIS POINT IS BASED ON NAVD83 DATUM.

POINT NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	5182025.51	5976264.59	6.10	GPS STATIC CONTROL - BRASS DISK IN CONCRETE, NOS PD #A1180
2	5182025.70	5976262.15	7.74	GPS STATIC CONTROL - SET MAG NAIL
3	5182025.25	5976262.84	7.66	GPS STATIC CONTROL - SET 5/8" REBAR & CAP
4	5182087.21	5975514.12	6.11	GPS STATIC CONTROL - SET MAG NAIL
5	5181810.02	5977605.14	12.86	GPS STATIC CONTROL - SET 5/8" REBAR & CAP
6	5181808.22	5975505.01	5.83	GPS STATIC CONTROL - SET MAG NAIL
11	5182025.78	5975319.39	12.58	SET REBAR & PLASTIC CAP "TMS CONTROL"
12	5182025.44	5975862.25	12.58	SET REBAR & PLASTIC CAP "TMS CONTROL"
13	5182025.83	5976111.08	12.58	SET REBAR & PLASTIC CAP "TMS CONTROL"
14	5182025.63	5976661.81	9.79	SET REBAR & PLASTIC CAP "TMS CONTROL"
15	5182025.08	5976149.24	12.23	SET REBAR & PLASTIC CAP "TMS CONTROL"
16	5181665.08	5976175.84	12.43	SET 1" IRON PIPE & PLUGS PLUG "TMS CONTROL"
17	5181649.88	5977905.97	10.54	SET 1" IRON PIPE & PLUGS PLUG "TMS CONTROL"
18	5181311.08	5977908.39	11.05	SET IRON & IRON
19	5181925.86	5977527.27	11.53	SET IRON & IRON

Drawing: 1:\p\2264381.001 MURRAY FIELD GAME FENCE\Con\A\C008.dwg
Plotted by: Cooper, Shannon
Printed on: 5/13/2013 4:01 PM



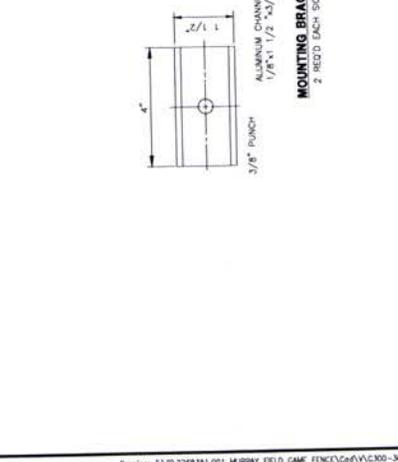
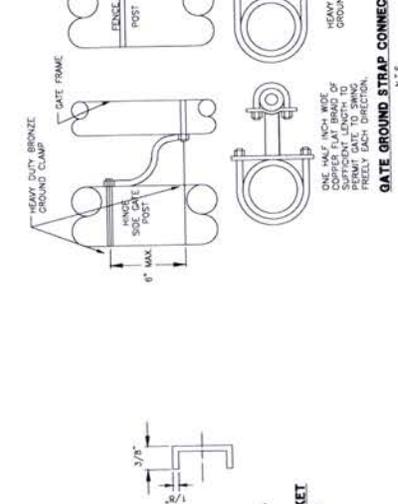
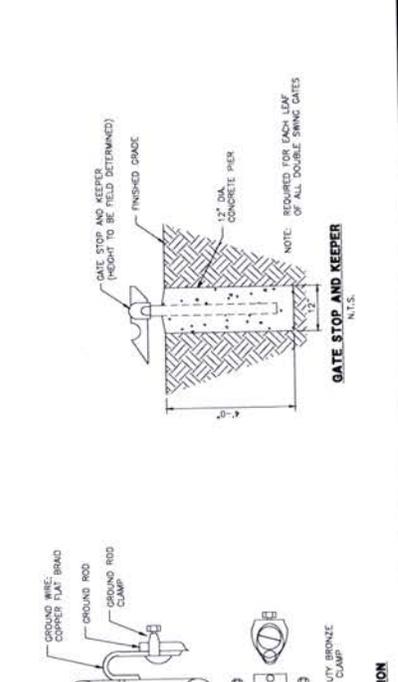
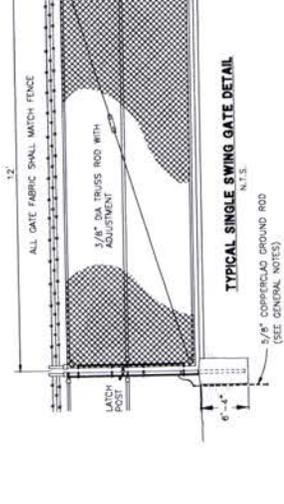
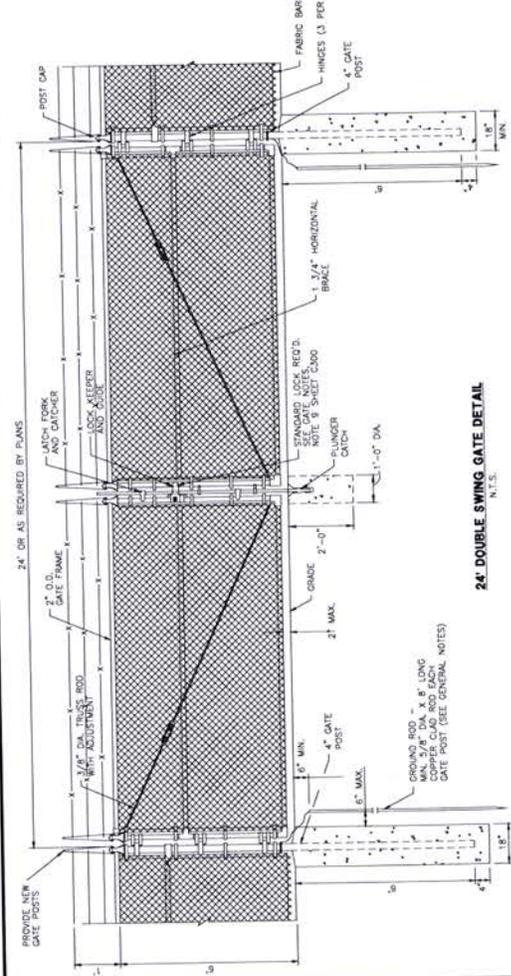
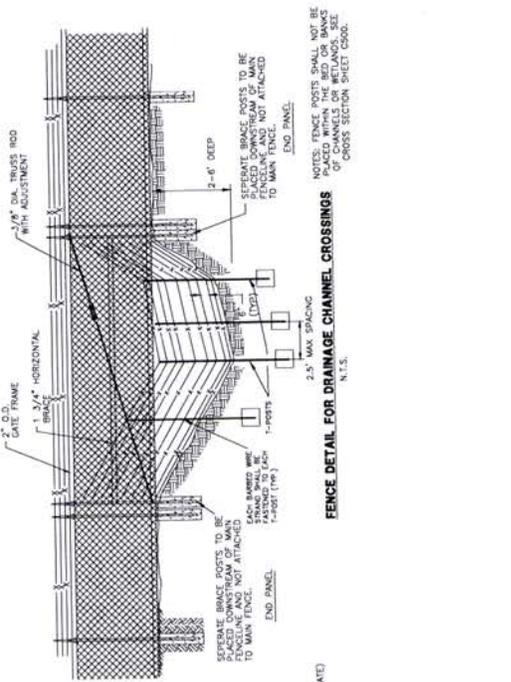
MURRAY FIELD AIRPORT

WILDLIFE EXCLUSION FENCE

NO.	DESCRIPTION	DATE

DATE ISSUED: MAY 31, 2019
 REVIEWED BY: GPR
 DRAWN BY: SHC
 DESIGNED BY: GPR
 AEP PROJECT NUMBER
 228-4381-001
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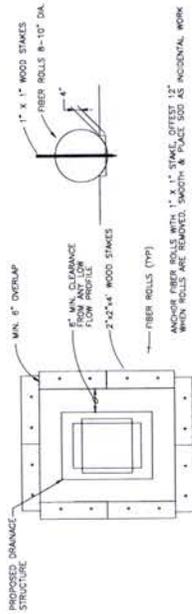
GATE DETAILS
 (SHEET 1 OF 2)
 SHEET NUMBER
 C302
 SHEET 13 OF 28
BID DOCUMENTS





NO.	DESCRIPTION	DATE

DATE ISSUED: MAY 31, 2013
REVIEWED BY: GPR
DRAWN BY: SHC
DESIGNED BY: GPR
ALP PROJECT NUMBER 208-6881-001
SHEET TITLE EROSION CONTROL NOTES AND DETAILS
SHEET NUMBER C-400
SHEET 15 OF 28
BID DOCUMENTS



FIBER ROLL SEDIMENT CONTROL AT EXISTING INLETS IN SOIL
N.I.S.

NOTE: METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET SPANS A RELATIVELY FLAT AREA (SLOPES NOT GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 CFS) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDANS.

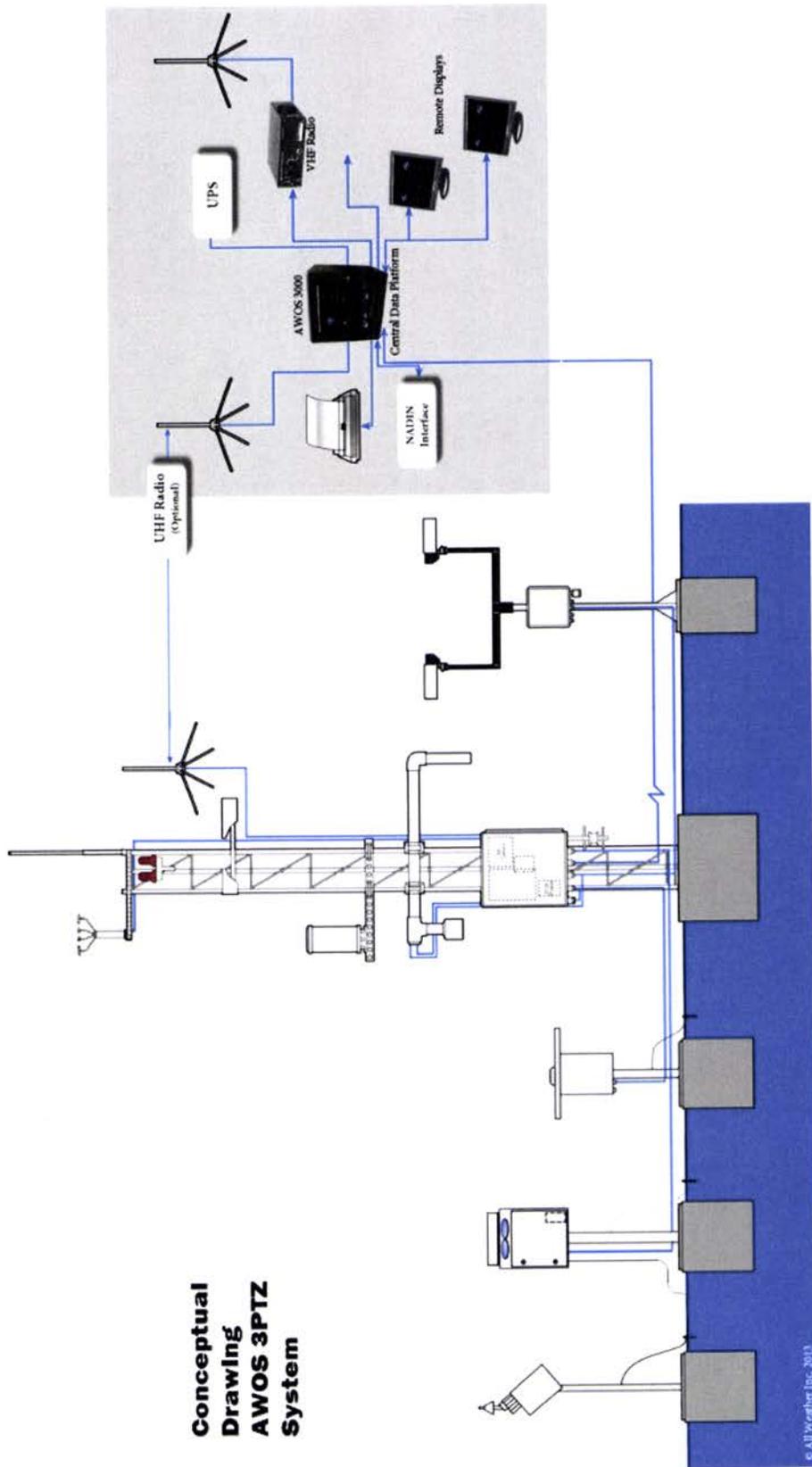
GENERAL EROSION CONTROL NOTES

1. THE PURPOSE OF EROSION CONTROL IS TO PREVENT POLLUTION OF BODIES OF WATER, ON OR ADJACENT TO THE PROJECT SITE. IN ADDITION, EROSION CONTROL SHALL PREVENT DAMAGE TO ADJACENT PROPERTY, AIRPORT PROPERTY AND WORK IN PROGRESS.
2. CONTRACTOR IS RESPONSIBLE FOR STORM WATER POLLUTION PREVENTION PLAN AND STATE OF CALIFORNIA CONFORMANCE REQUIREMENTS.
3. ALL EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN EROSION CONTROL DEVICES PERSONALLY AND CONTINUOUSLY THROUGHOUT THE CONSTRUCTION PERIOD OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES.
5. ADDITIONAL PROTECTION - ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE REMOVED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT COMPANES DUE TO UNSEEN CONDITION OF ACCIDENTS.
6. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PILES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
7. STORM DRAIN INLET PROTECTION SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
8. NECESSARY REPAIRS OR REPLACEMENT TO BARRIERS OR REPLACEMENT SHALL BE ACCOMPLISHED PROMPTLY.
9. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE STORM DRAIN INLET PROTECTION IS NO LONGER REQUIRED SHALL BE DISSECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE PROMPTLY.
10. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE PROMPTLY.
11. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
12. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DISSECTED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
13. DURING CONSTRUCTION, ALL STORM DRAIN INLETS WILL BE PROTECTED BY SILT TRAPS, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
14. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
15. ALL DISTURBED AREAS TO BE STABILIZED THROUGH COMPACTION, SILT SCREENS, STRAW BALS, AND SEEDING, AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.
16. ALL DISTURBED AREAS TO BE STABILIZED THROUGH COMPACTION, SILT SCREENS, STRAW BALS, AND SEEDING, AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.
17. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
18. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXCESS SILT FROM SITE, CONSTRUCTION ACTIVITIES SHALL NOT BE PERFORMED DURING STORM EVENTS.
19. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXCESS SILT FROM SITE, CONSTRUCTION ACTIVITIES SHALL NOT BE PERFORMED DURING STORM EVENTS.
20. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXCESS SILT FROM SITE, CONSTRUCTION ACTIVITIES SHALL NOT BE PERFORMED DURING STORM EVENTS.
21. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXCESS SILT FROM SITE, CONSTRUCTION ACTIVITIES SHALL NOT BE PERFORMED DURING STORM EVENTS.
22. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXCESS SILT FROM SITE, CONSTRUCTION ACTIVITIES SHALL NOT BE PERFORMED DURING STORM EVENTS.

INLET PROTECTION NOTES

1. FIBER ROLLS SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ADJUTING THE ADJACENT ROLLS.
2. EACH BALE SHALL BE DISSECTED IN THE SOIL A MINIMUM OF FOUR INCHES.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY DRIVING 2x4s THROUGH THE BALES TO FORCE BALES TOGETHER.
4. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 4 INCHES.
5. SEDIMENTS TRAPPED SHALL BE DISPOSED IN AN APPROVED LOCATION IN A MANNER WHICH WILL NOT CONTRIBUTE ADDITIONAL SILTATION.
6. INSPECTION SHALL BE PROMPT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY CONTRACTOR.
7. ALL RESTORATION OF THE SITE SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT WORK.
8. RESTORATION TO INCLUDE SOIL AND BALE REMOVAL, MINOR GRADING, PLACEMENT OF SEED AS PER CONTRACT REQUIREMENTS.
9. INLET PROTECTION ON PAVEMENT SHALL BE ANCHORED TO PREVENT MOVEMENT.

**Conceptual
Drawing
AWOS 3PTZ
System**



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MURRAY FIELD AIRPORT

Delineation of Wetlands and
Water-Associated Habitats

EXHIBIT NO. 5

APPLICATION NO.

1-12-036 – HUMBOLDT CO.
DEPT. OF PUBLIC WORKS
WETLANDS DELINEATION
(1 of 42)

Prepared for
County of Humboldt
Division of Aviation
Department of Public Works

June 11, 2007



MURRAY FIELD AIRPORT

Delineation of Wetlands and Water-Associated Habitats

Prepared for
County of Humboldt
Division of Aviation
Department of Public Works

June 11, 2007

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205093



EXECUTIVE SUMMARY

Introduction

This delineation report documents the extent of wetlands and water-associated habitats within a portion of the Murray Field Airport (Airport), located in Eureka, Humboldt County, California. The approximately 131-acre Airport is located adjacent to the northern portion of Humboldt Bay, separated from it by State Highway 101. Tidal sloughs form most of the remaining Airport boundaries. The Study Area includes all areas of the Airport that are in the vicinity of, and may be potentially affected by, near-term development at the Airport.

The Study Area is within California's Coastal Zone, and the following delineation was based on the California Coastal Act definition of wetlands and performed in accordance with wetland delineation methodology recommended by the California Coastal Commission (CCC). This report summarizes the extent and functional capacity of wetlands and water-associated habitats in the Project Area that are subject to review by the CCC. In addition, it reviews the relevant mitigation measures being developed for the project Environmental Assessment (EA) that would be implemented to avoid potential impacts to wetland habitat and sensitive species.

Proposed Project Description

The Airport Master Plan proposes staging development in three phases. The phases are: *Existing Core Area – Phase I (0 to 5 years)*, *North Building Area – Phase II (5 to 10 years)*, and *South Building Area – Phase III (10 to 20 years)*. This report addresses the following Phase I projects, which would be constructed during the next five years (2007 to 2011) in order to enhance airport safety and improve the function of the core area at the airport:

- Installation of a perimeter fence to provide a much-needed barrier to restrict deer migration onto the airfield.
- Reconfiguration of the tiedown apron to facilitate hangar construction and to separate small single-engine planes from medium-to-large business jets and to set apart transient aircraft from based aircraft.
- Replacement of runway and taxiway lighting and improvements to the Visual Approach Slope Indicator (VASI), a navigational aid, on Runway 11.

The project components represent the near-term improvements subject to FAA approval for project implementation. The perimeter fence alignment was designed concurrently with this wetland delineation to avoid wetland areas to the greatest extent practicable.

Wetland Delineation

In May 2006 and March 2007, biologists from Environmental Science Associates (ESA) and Gedik Biological Associates (GBA) conducted a field delineation of potential wetlands and water-associated habitats as defined by the California Coastal Act (CCA) Section 30121. Detailed data on vegetation, soils and hydrology were collected on a series of six transects spaced arbitrarily across the Study Area.

Wetlands and water-associated habitats found to occur in the Study Area include estuarine, palustrine, and riverine systems. Estuarine systems within the Project Area comprise approximately 8.83 acres of subtidal sloughs and channels, intertidal mudflats, and intertidal emergent salt marsh wetland.

Palustrine systems comprise approximately 17.174 acres of perennial emergent wetlands and seasonal emergent wetlands. Riverine systems comprise drainage channels with a collective surface area of approximately 1.112 acres. The total length of estuarine sloughs and channels is approximately 3,925 linear feet. Total length of riverine drainage channels is approximately 6,790 linear feet. Although not in the Project Area (except for a few minor inclusions), much of the southern parcel boundary is adjacent to more than 5,000 linear feet of the estuarine habitats of Eureka and Fay sloughs. Although these areas are outside of the Airport boundary, they were included in the Study Area.

The results of the delineation indicate that no wetlands subject to CCC review would be filled as a result of the proposed project. Based on the results of the delineation, less than 0.01 acre of perennial emergent wetland and drainage channel are subject to potential temporary impacts from two fence alignment crossings of drainage channels with associated wetland. Otherwise, project components are located entirely in upland areas. However, due to the abundance of wetlands and water-associated habitats toward the perimeter of the Project Area, much of the perimeter fence alignment is within close proximity of these features. Based on the relatively low impact of fence construction procedures and the proposed avoidance measures discussed in this report, no impacts to these wetlands and water-associated habitats are anticipated.

All conclusions presented in this report are drawn from the results of this preliminary delineation and are pending review by the CCC.

CHAPTER 1

Introduction

1.1 Objective

Humboldt County has proposed near-term improvements to Murray Field Airport to enhance safety and improve functions in the core area of the airport. This report summarizes the biological data required to evaluate the extent and functional capacity of wetlands and water-associated habitats in the vicinity of proposed project activities that are subject to review by the California Coastal Commission (CCC). In addition, it provides an analysis of potential project impacts to wetlands and the County's plans avoid and minimize potential impacts. Additional information regarding project design, potential impacts, and avoidance measures are included in order to provide components of the information required by the CCC for evaluation of an eventual Coastal Development Permit Application.

1.2 Responsible Party

The County of Humboldt operates Murray Field Airport. Contact information is provided below:

County of Humboldt
Division of Aviation
Department of Public Works
3561 Boeing Avenue
McKinleyville, CA 95519

Contact:
Jacquelyn Hulseley, Airport Manager
Phone: (707) 938-5401
E-mail: jhulsey@co.humboldt.ca.us

1.3 Project Description

The Airport Master Plan proposes staging development in three phases: Existing Core Area – Phase I (0-5 years), North Building Area – Phase II (5-10 years), and South Building Area – Phase III (10-20 years). This report addresses the Phase I projects, which would be constructed during the next five years (2007-2011) to enhance airport safety and the function of the existing core area. Three projects are proposed:

- Installation of a perimeter fence to provide a much-needed barrier to restrict wildlife migration onto the airfield;

- Reconfiguration of the tiedown apron to facilitate hangar construction, separate small single-engine planes from medium-to-large business jets, and set apart transient aircraft from based aircraft; and
- Replacement of runway and taxiway lights and improvement of the Visual Approach Slope Indicator (VASI), a navigational aid near the end of Runway 11.

The project components represent the near-term improvements subject to FAA approval for project implementation. The perimeter fence alignment was designed concurrently with this wetland delineation in order to maximize avoidance of wetland areas.

Each component of the proposed action would enhance safety and operations. Specific purposes would:

- Improve runway safety by constructing an exclusion fence at the Airport perimeter to keep wildlife, especially deer, off Runway 11/29;
- Improve runway safety by replacing runway and taxiway lighting and improving the VASI on the Runway 11 end; and
- Enhance the function of the existing core area by providing ten new hangars and reconfiguring the tie down area. This reconfiguration would separate small single-engine planes from medium-to-large business airplanes and separate transient aircraft from based aircraft.

The proposed 11-foot-tall exclusion fence would enclose most of the Airport property bounded by US 101 and the sloughs. The fence would provide a much-needed barrier to restrict deer migration onto the airfield and Runway 11/29. The perimeter fence alignment was designed concurrently with this wetland delineation in order to maximize avoidance of wetland areas.

Replacing the runway and taxiway lighting and improving the VASI on the Runway 11 end would increase runway safety. Reconfiguring the tiedown area would increase safety and enhance the function of the core area. Each of these project components would be located entirely within the existing facility footprint.

The County has also identified potential long-term projects in its Master Plan, but these projects will not be designed and constructed until after 2012 based on demand. Additional studies will be performed when such facilities are determined to be necessary.

1.4 Regulatory Overview

Wetlands and other environmentally sensitive habitats in California's coastal zone are regulated under the California Coastal Act (CCA) of 1976. The proposed project site falls within the portion of the coastal zone that is under State jurisdiction and, therefore, is subject to the requirements of the CCA. Coastal Act Section 30121 provides a broad definition of wetlands, stating that "Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."

CCC procedures and guidelines concerning wetlands are generally based on definitions and criteria developed by the federal government. Federal agencies have developed two differing wetland definitions that are used by government agencies. The definition developed by the United States Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA) requires the presence of three parameters to identify a wetland: hydrology, hydrophytic vegetation, and hydric soils must all be present. Because of the Corps' direct permitting authority over development in wetlands and other waters, this is the definition used most frequently by federal, State, and local agencies.

The definition of wetlands developed by the U.S. Fish and Wildlife Service (FWS) and provided by Cowardin *et al.* (1979) provides a more inclusive approach:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered with shallow water at some time during the growing season of each year.

The Cowardin definition requires the presence of proper hydrology and *either* the presence of hydric soils *or* hydrophytic vegetation, except in nonsoil areas, such as rocky intertidal areas, where only the presence of proper hydrology is required (CCC, 1994).

The CCC Administrative Regulations (Title 14 California Code of Regulations Section 13577(b)) further define wetlands:

Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.

In the coastal zone, the CCC, with assistance from the California Department of Fish and Game (CDFG), is responsible for determining the presence and size of wetlands subject to regulation under the Coastal Act (CCC, 1994). The CDFG generally relies on the Cowardin (USFWS) definition and classification of wetlands. However, the CDFG only requires the presence of one of the attributes (the presence of wetland hydrology *or* hydric soils *or* hydrophytic vegetation). The CDFG approach to wetland definition and classification is generally followed by the CCC in wetland delineation methodology.

The FWS has developed the following definition for hydrophytic vegetation as “plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (Cowardin et al. 1979). Federal agencies concerned with wetlands have all adopted this definition. An area is considered to contain a predominance of hydrophytic vegetation when more than 50% of the plant species present are tolerant of anaerobic conditions. The Natural Resources Conservation Service (NRCS) has defined hydric soils as those that form under conditions of saturation, flooding, or ponding for long enough during the growing season that anaerobic conditions develop in the upper part of the soil profile.

CHAPTER 2

Setting

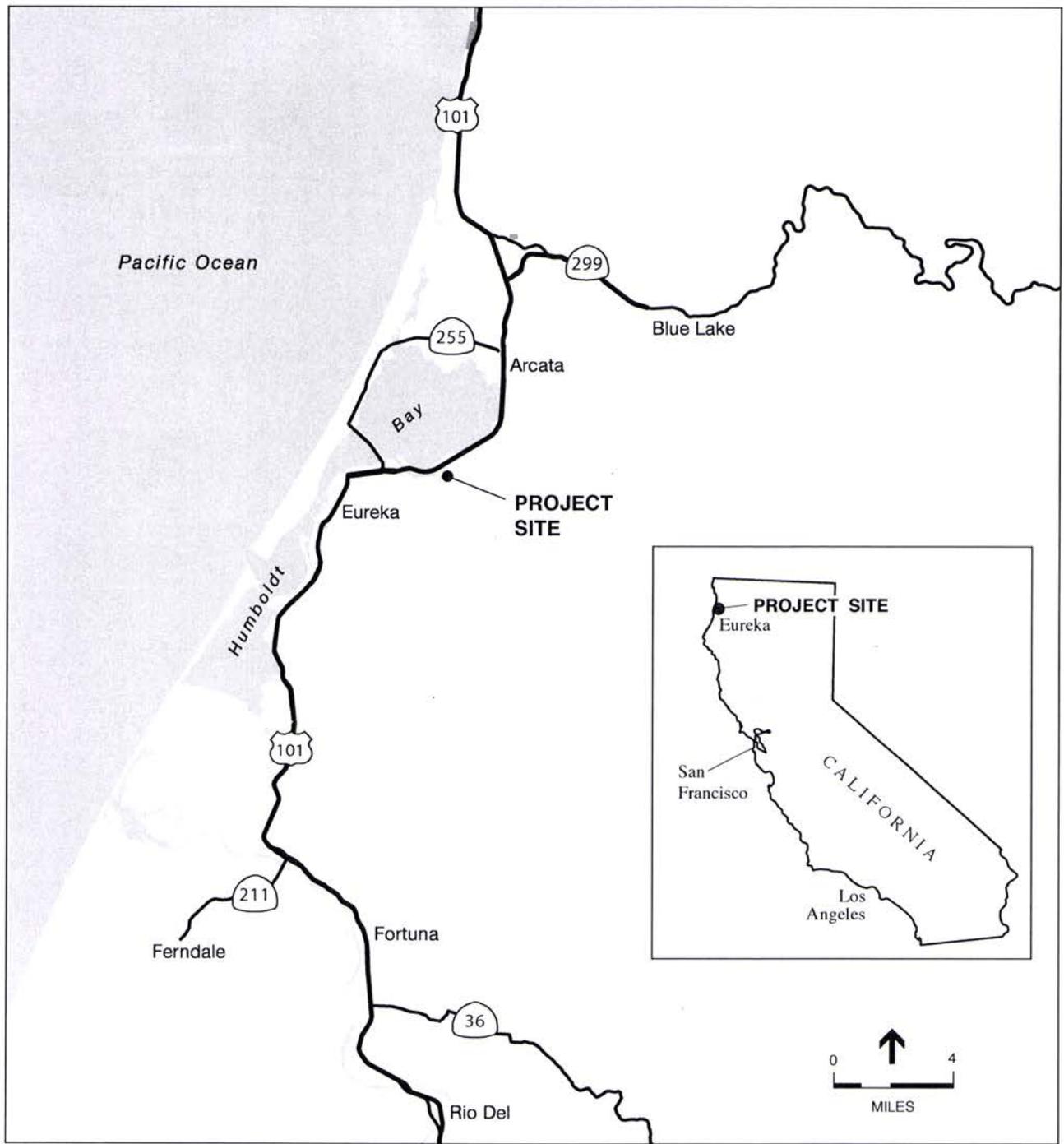
2.1 Study Area Location and Project Site

The Airport is located adjacent to Humboldt Bay in northwestern Humboldt County, within the eastern portion of the incorporated limits of the City of Eureka (see Figure 1). It is separated from Humboldt Bay by Highway 101, which is adjacent to the northern Airport boundary (see Figure 2). Along Highway 101, to the east and west, the Airport is adjacent to light industrial and retail development. Most of the remainder of Murray Field is bound by Eureka and Fay sloughs, which are tidal sloughs and beyond which lie relatively extensive agricultural and wildlife refuge areas.

Airport property consists of parcels APN 017-102-011, which contains the airfield and all developed features of the airport, and APN 017-102-007, which consists of salt marsh and agricultural land east of, and including a portion of, Eureka Slough. The Project Area is restricted to approximately 118.1 acres of Parcel 017-102-011, which is approximately 120.7-acres. The Study Area includes all but an approximately 2.6-acre triangularly-shaped area, bound by Highway 101 and Fay Slough in the northern corner of the parcel (Figure 3). Use of the term Airport hereafter is synonymous with the defined Project Area. The Study Area is mostly equivalent to the Project Area, but because the Airport boundary bisects or is adjacent to extensive areas of wetland, and because the proposed project activities occur along much of the Airport perimeter, wetland areas adjacent to the Project Area were also studied and mapped. However, all quantified values for wetland areas within the Study Area are restricted to the Project Area and its boundaries.

2.2 Topography and Climate

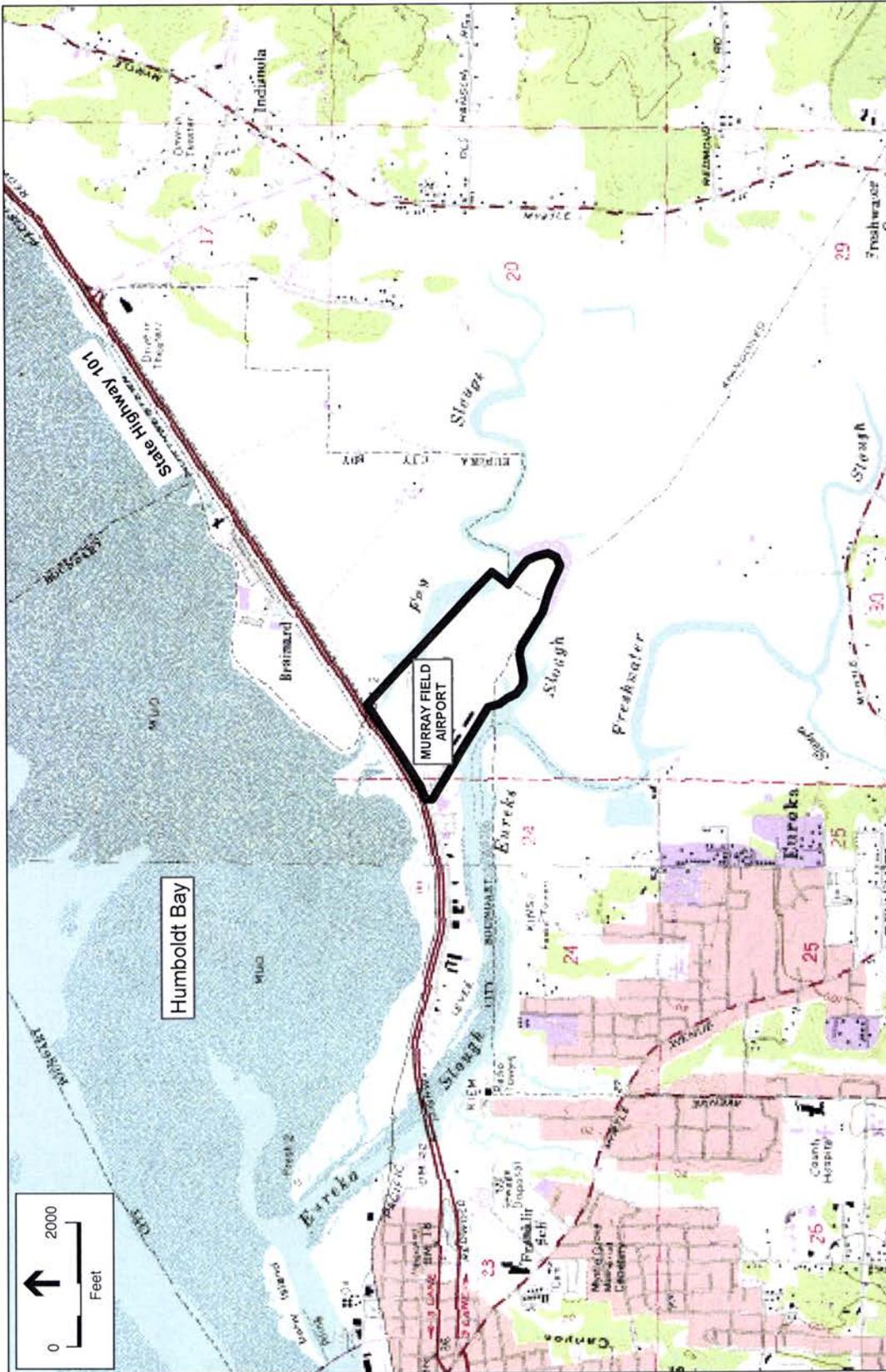
Murray Field is located on level fill adjacent to Humboldt Bay in northwestern Humboldt County, as shown on the Arcata South 7.5-minute U.S. Geological Survey quadrangle (USGS, 1972). The Airport is located on flat alluvial deposits towards the mouth of a low delta-like plain adjacent to Humboldt Bay, east of developed portions of Eureka. The Airport is nearly adjacent to the Bay, separated from it by the sizable levee supporting Highway 101 and a railroad alignment, which run parallel and adjacent to the Bay (see Figure 2). Most of the relatively flat site ranges from 5 to 10 feet elevation above mean sea level. Channels on the site are approximately at sea level, while perimeter levee summits reach approximately 15 feet in elevation.



SOURCE: ESA, 2006

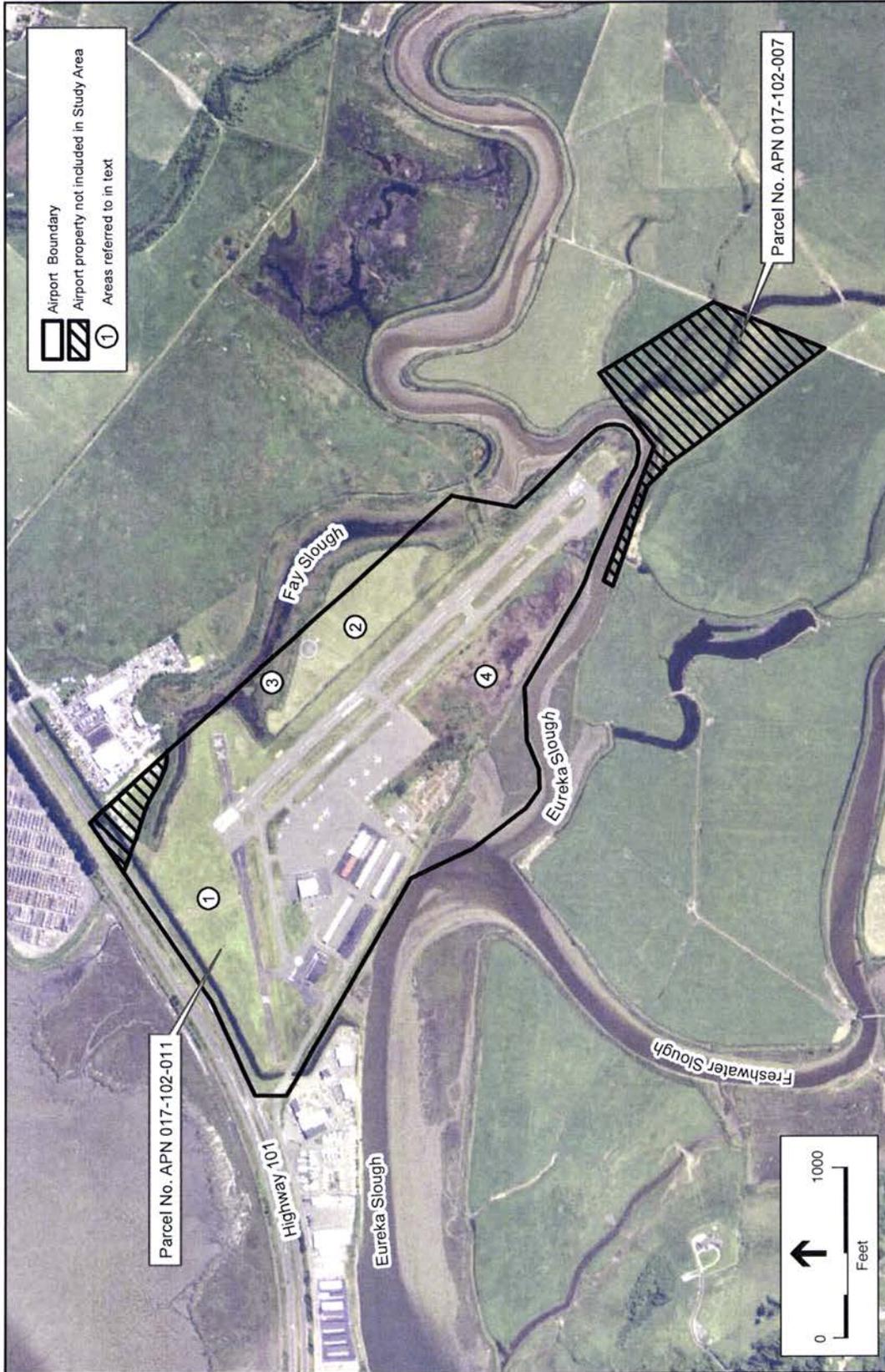
Murray Field CCC Wetland Delineation . 205093

Figure 1
Regional Location Map



Murray Field CCC Wetland Delineation . 205093
Figure 2
 Project Area Vicinity

SOURCE: USGS, 1974; ESA, 2006



Murray Field CCC Wetland Delineation . 205093
Figure 3
 Project Area

SOURCE: GlobeXplorer, 2006; ESA, 2006

The area supporting the Airport was historically tidal marsh. Substantial alteration of the hydrology of the area began approximately 100 years ago with construction of a railroad line and accompanying levee along the Bay's edge. Additional manipulation includes the building of levees surrounding the remaining area of the Airport in addition to the placement of a substantial amount of fill throughout most of the Airport lands. Areas adjacent to the Airport, separated from it by the relatively wide Eureka and Fay sloughs, have been manipulated sufficiently to support agricultural fields in most of the remaining delta-like plain.

The overall climate in northern California is Mediterranean in nature, with warm, dry summers, cool winters, with most precipitation occurring as rain in the winter months. The annual average rainfall in the project area is approximately 38 inches. The average temperature ranges from the low 40s to the mid 50s (degrees F) during the winter and from the low 50s to low 70s during the summer (World Climate, 2006).

2.3 Vegetation

Vegetation communities within the Study Area consist of Introduced Perennial Grassland, disturbed Coastal Scub, Fresh-Brackish Water Marsh, Pickleweed Wetland, and Northern Coastal Salt Marsh. These vegetation types are described below, with classification based on the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG, 2003), *A Manual of California Vegetation* (Sawyer and Keeler-Wolf, 1995) and field observations. A vegetation map is presented in Figure 4.

Introduced Perennial Grassland Alliance

The most prevalent plant community in the Study Area is Introduced Perennial Grassland, which is primarily an upland community but inclusive of seasonal wetland areas. Several species associations comprise this alliance as it occurs in the Study Area, but sweet vernal grass (*Anthoxanthum odoratum*) [FACU¹] is nearly always present and often dominant.

Introduced Perennial Grassland is most prevalent in the extensive pasture-like areas adjacent to the northern and eastern portions of the Airport operational areas (Area "1" in Figure 3; Photo 1, Appendix B). This includes the area between the former crosswind runway (Runway 7/25) and the channel adjacent to Highway 101, and the area between Runway 11/29 and the levee bordering Fay Slough, including the wind sock area (Area "2" in Figure 3). Grassland in the infield vegetated portions of the developed Airport area between runways, taxiways, and tiedown areas, in addition to portions of the perimeter levee summit in the southeastern part of the Airport, have similar, although more disturbed, grassland vegetation.

¹ Plant Indicator Status Categories. OBL= obligate wetland plants; FACW= facultative wetland plants; FAC= facultative plants; FACU= facultative upland plants; UPL= obligate upland plants; NL= not listed. See Environmental Laboratory (1988) for further information.

In this grassland community, sweet vernal grass is joined by tall fescue (*Festuca arundinacea*) [FAC-] as a less frequent co-dominant, and, to a slightly lesser degree, common velvet grass (*Holcus lanatus*) [FAC]. A variety of nonnative annuals occur to a small extent within the usually dense grass including spring vetch (*Vicia sativa*) [FACU], cut-leaved geranium (*Geranium dissectum*) [NL], and birdfoot trefoil (*Lotus corniculatus*) [FAC].

Variations within this vegetation type generally follow subtle topographic variation, principally species composition shifts, from the more upland complement described above, to a more hydrophytic complement of species associated with the occurrence of shallow depressions (Photo 2; Appendix B). Within these areas dominance shifts to soft rush (*Juncus effusus*) [FACW+] and/or saltgrass (*Distichlis spicata*) [FACW]. Sweet vernal grass is usually present, but decreased in abundance, while tall fescue, and/or velvet grass are often co-dominant. These depressions also have a wider range of associated species including creeping spikerush (*Eleocharis macrostachya*) [OBL], prickly oxtongue (*Picris echioides*) [FAC], sheep sorrel (*Rumex acetosella*) [FAC-], silverweed (*Potentilla anserina*) [OBL], and English plantain (*Plantago lanceolata*) [FAC-].

In areas adjacent to and between runways, taxiways, and tie-down areas, the grassland is of similar character, but these areas are more disturbed as a result of vegetation management to support airport operations. Representation of nonnative annuals is increased. Drainage swales between runways and taxiways have sporadic areas where water appears to pond for extended periods, supporting a similar species complement for depressions.

Where these grassland areas are adjacent to drainage channel banks and levees, a number of species associated with these features (classified here as disturbed Coastal Scrub and described below) mix with the grassland complement described above. Wild radish (*Raphanus sativus*) [UPL], Himalayan blackberry (*Rubus discolor*) [FAC+], and other species found densely associated with these features extend into the introduced perennial grassland.

Two other areas of the Airport contain Introduced Perennial Grassland, although the species complement and character of the communities are somewhat different. One area is east of the wind sock and is a herbaceous transitional area between the Fresh-Brackish Water Marsh of Fay Slough and the disturbed Coastal Scrub of the perimeter levee (Area "3" in Figure 3; Photo 3 in Appendix B). The second area is in the southern portion of the Airport, between the taxiway and the levee adjacent to Eureka Slough, where introduced Perennial Grassland is part of a mosaic of marsh, grassland, and scrub vegetation types (Area "4" in Figure 3; Photo 4 in Appendix B).

While the Fay Slough wetland-to-upland transitional area east of the wind sock area is a somewhat complex mosaic, a general zonation pattern occurs. Bordering the marsh habitat of the lower portion of the slough, vegetation in some areas is dominated by water hemlock (*Cicuta douglasii*) [OBL]. Moving westward, and gradually gaining in elevation, tufted hairgrass (*Deschampsia cespitosa*) [FACW] becomes abundant, and then gradually diminishes into a zone dominated by sweet vernal grass before integrating with disturbed Coastal Scrub species at the levee base.



Murray Field CCC Wetland Delineation - 205093
Figure 4
 Project Area Vegetation Communities and Other Cover Types

SOURCE: GlobeXplorer, 2006; ESA, 2007

The southern Airport area is generally low lying, but with more pronounced microtopography (i.e., hummocks and depressions) than in most other areas of the Airport. It is subject to a relatively high amount of freshwater drainage from Airport lands and saline water input from a culvert/tide gate connection to Eureka Slough. The resulting vegetation is a mosaic of most of the vegetation types found on the Airport, including small open water pools and drainages, Pickleweed Wetland, Fresh-Brackish Water Marsh, disturbed Coastal Scrub and Introduced Perennial Grassland. Much of the grassland that occurs in this area is dominated by sweet vernal grass, but the co-dominants and associates vary within the area and include tall fescue, tufted hairgrass, sword fern (*Polystichum munitum*) [FACU], pacific bramble (*Rubus ursinus*) [FAC+], poison hemlock (*Conium maculatum*) [FAC], wild radish (*Raphanus sativus*) [UPL] and other species.

The area at the very southeastern tip of the Airport supports Introduced Perennial Grassland. Grassland beyond the southeast end on Runway 11/29 descends to irregular low areas adjacent to the levee base. Seasonal wetlands occurring in this area are dominated by soft rush beyond the runway, and a basin dominated by common velvet grass is adjacent to the southeast end of the taxiway.

Coastal Scrub

Scrub habitat occurs on most of the perimeter levee slopes, occasionally along the mid- to upper-slopes of channels (particularly along the channel adjacent to Highway 101), with the vegetation mosaic in the southern portion of the Airport (Photo 5 in Appendix B), and extending occasionally into grassland areas discussed above. While coyote brush (*Baccharis pilularis*) [NL] is often co-dominant or at least present, a variety of other species are often dominant in relatively extensive areas. This is particularly the case along much of the levee surfaces, where the disturbed soils support often dense growth variously dominated by a number of ruderal invasive species such as wild radish, black mustard (*Brassica nigra*) [NL], cow parsnip (*Heracleum lanatum*) [NL], or Himalayan blackberry (*Rubus discolor*) [FAC+].

Somewhat more intact scrub vegetation is associated with channels, in the mosaic of vegetation types in the southern Airport area (Area 4 in Figure 3), and in some areas along levees. In these locations coyote brush is dominant, sometimes with the native pacific bramble as an associate. These areas are more precisely classified as Coyote Brush Scrub Alliance. Occasional dense, monotypic patches of Himalayan blackberry also occur in these areas and could be more precisely classified as Himalayan Blackberry Scrub Alliance.

Fresh-Brackish Water Marsh Alliance/ Pickleweed Wetland Alliance

Marsh wetland vegetation associated with channel banks and connected ponded areas occurs throughout the Airport. The network of 2- to 8-foot-wide drainages found in the southern area (Area 4 in Figure 3) and eastern area (Area 2), along with a number of ponded areas associated with them, are generally bordered with typical freshwater wetland species including soft rush (*Juncus effusus*) [FACW+], small-fruited nutsedge (*Scirpus microcarpus*) [OBL] and creeping spikerush. Patches of cattail (*Typha latifolia*) [OBL] occur occasionally, sometimes vegetating the entire channel width and in more spread out ponded areas.

The partially disconnected and almost completely vegetated portion of Fay Slough (see Hydrology discussion below) supports well developed fresh- to brackish-water vegetation (Photo 6, Appendix B). Tule (*Scirpus acutus* var. *occidentalis*) and cattails occupy much of the channel base, with the exotic invasive dense-flowered cord grass (*Spartina densiflora*) [OBL] forming bands adjacent to the tule beds. Dense-flowered cord grass is the major marsh species occurring along the edges of the large channel running adjacent and parallel to Highway 101 along the northern boundary of the Airport. This channel and the northern portion of Fay Slough have relatively steep excavated or leveed banks covered with the more hydrophytic scrub species described above, particularly Himalayan blackberry. The greater portion of Fay Slough adjacent to the Airport (Area 3 in Figure 3) has a more gradual transition up to the perimeter levee on its west side, generally with a band of water hemlock [OBL] transitioning to tufted hairgrass [FACW], then to upland grassland and finally scrub vegetation along the levee.

As mentioned above, marsh wetland habitat in the southern Airport area (Area 4 in Figure 3) is part of a mosaic with grassland and scrub vegetation. Vegetation associated with the drainages and ponded areas is generally similar to that described for the drainages in the eastern portion of the Airport, with soft rush as the common dominant along channel margins. More saline input is evident toward the southern part of this area. The pond at the southern end of Area 4 drains into Eureka Slough through a culvert/tide gate which traverses the levee. The pond appears to be subject to some amount of tidal influence from the slough. Eelgrass (*Zostera marina*) [OBL] occurs in the channel connecting the pond to the culvert. Low wetland areas northwest of the pond (in the southeast portion of the vegetation mosaic area) exhibit relatively elevated salinity levels, with Pickleweed Marsh being the dominant vegetation type. These basins are strongly dominated by pickleweed (*Salicornia virginica*) [OBL], with some occurrence of saltgrass and scattered occurrences of species from adjacent grassland and scrub patches.

Northern Coastal Salt Marsh Alliance

Northern Coastal Salt Marsh occurs at the base of much of the perimeter levee, along the margins of Eureka Slough and the hydrologically-intact portion of Fay Slough (see Hydrology below). The dominant plants of this community possess features that allow them to live in saline soils and to absorb water despite the dissolved salts within the soil profile. Although largely restricted by steep rises of adjacent levees, narrow bands of intact salt marsh habitat occur along the margins of slough mudflats, that are dominated by pickleweed adjacent to the mudflats with dense-flowered cord grass dominating the zone above it. Other typical salt marsh associates include saltgrass, seaside arrowgrass (*Triglochinmaritima*) [OBL], and sea-lavender (*Limonium californicum*) [OBL]. One area of more extensive mudflats and salt marsh habitat is found in the western portion of the Airport, where the Airport boundary bulges beyond the perimeter levee, following the edge of Eureka Slough.

Coastal salt marsh habitat is recognized as a sensitive community by the California Natural Diversity Database (CNDDDB) (CDFG, 2006). A special-status species, Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humboldtiensis*) [CNPS List 1B.2²], was observed occurring

² California Native Plant Society (CNPS) List 1B.2- Rare, threatened, or endangered in California and elsewhere/Fairly endangered in California.

sporadically in much of the salt marsh habitat surveyed for this delineation. (Salt marsh habitat occurs along the narrow strip at the levee base along portions of Eureka and Fay sloughs. The Airport's southern boundary mostly coincides with this narrow strip.)

2.4 Soils

The Airport site is designated as residential, business and industrial areas, and it is surrounded by Bayside silty clay loam (Ba₂), poorly drained, 0-3% slopes (McLaughlin and Harradine 1965). Bayside soils of this type comprise the bulk of reclaimed tidal land around Humboldt Bay. The surface soil (0 to 4 inches) is a silty clay loam. At 4 to 6 inches Bayside soils typically consist of a muck layer; and at 6 to 30 inches this type is typically dark gray clay with fine prominent mottles. Bayside soils are designated as hydric in the 1995 state hydric soils list for California (NRCS, 1995a). It should be noted that the "Bayside" designation that is used in McLaughlin and Harradine is a local description that does not correspond with the federal soil series known as Bayside, which describes soils found in Oregon (S. Aszman, pers. comm., 2006). The local Bayside soils originate from sedimentary alluvium of the Wildcat and Franciscan formations and are related to the Ferndale, Russ and Loleta soil series (McLaughlin and Harradine, 1965).

Updated draft (subject to change) soil survey data designate soils southeast, east, and northeast of the Airport as Occidental silty clay loam (map unit 140), 0 to 2%, with a mixed alluvium parent material, and mottled dark grayish brown silty clay loam at 0 to 9 inches (NRCS, 1995b). At 9 to 60 inches this soil type is a mottled dark gray silty clay loam. The drainage class of this soil type is recognized as very poorly drained, and permeability is designated as slow.

Occidental soils are designated as hydric with moderate salinity (8 to 16 mmhos/cm) in the *Humboldt and Del Norte Counties Soil Survey* (NRCS, 1995b). Flooding in this soil type is typically frequent and brief, and the water table is 0 to 1 foot from December through April during most years, with ponded areas common. Included areas are Arlynda silt loam, tidal marsh, fluvaquents, and riverwash, with strongly saline areas adjacent to slough channels. Major management factors identified in this soil type include frequent ponding, water table depth, and moderate salinity.

2.5 Hydrology

The types and patterns of occurrence of water and wetland features at Murray Field generally result from three factors: the proximity to and influence of both historical and present saline waters of Humboldt Bay; the historical and maintained manipulation of the land on which the Airport is located; and the input and runoff patterns of fresh water, from rainfall and the underlying water table, on Airport land and adjacent areas.

Murray Field is located on flat alluvial deposits towards the mouth of a low delta-like plain adjacent to southern Humboldt Bay, east of developed portions of Eureka. The Airport is nearly adjacent to the Bay, separated from it by the sizable levee supporting Highway 101 and a historical railroad alignment, which run parallel and adjacent to the Bay (see Figure 2).

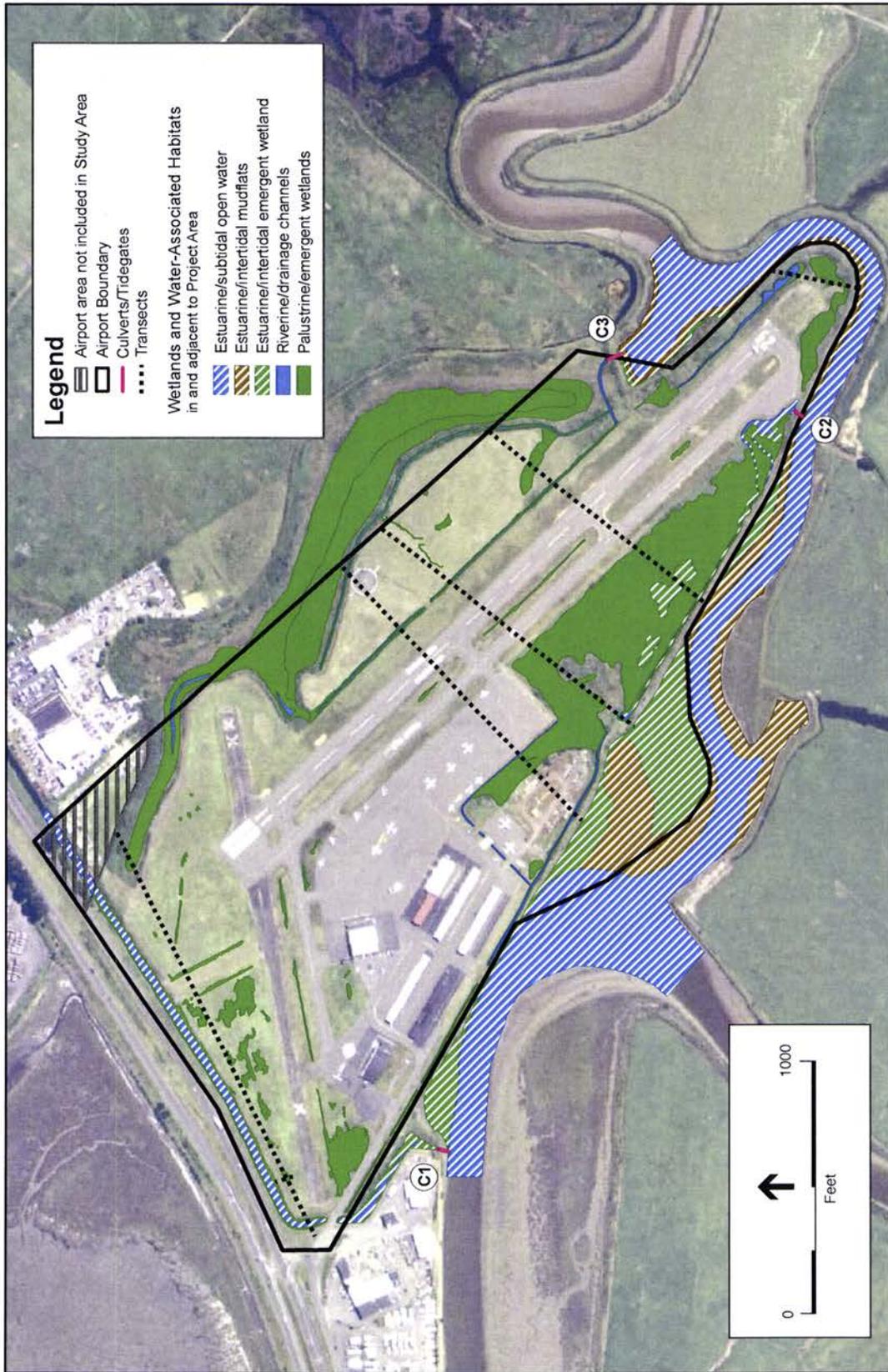
The area supporting the Airport was historically tidal marsh. Substantial alteration of the hydrology of the area began about 100 years ago with construction of a railroad line with accompanying levee along the Bay's edge. Subsequent manipulation includes the construction of levees surrounding the remaining area of the Airport and the placement of a substantial amount of fill on which the Airport's paved areas, structures, and a large portion of the Airport's remaining land are located. Areas adjacent to the Airport, though separated from it by two relatively wide sloughs, have been manipulated sufficiently to support agricultural fields in most of the remaining delta-like plain.

The primary source of saline water in the vicinity of Airport lands is Eureka Slough. The mouth of Eureka Slough is located approximately 1 to 1.5 miles west of the Airport, where it empties into Humboldt Bay. After traversing under Highway 101, the slough heads almost directly east, separated from the bay by a wide strip of developed land (light industrial) and the highway. It then heads southeast, forming the southwestern boundary of the Airport before passing around the southern curved tip of the Airport and forming its confluence with Fay Slough.

Before joining Eureka Slough, Fay Slough approaches the Airport from the east. At its confluence with Eureka Slough, Fay Slough curves to the northwest to form the northeastern Airport property boundary. The portion of Fay Slough adjacent to the Airport is mostly hydrologically cut off from the eastern portion of Fay Slough by a wide berm that cuts across the slough just northwest of the confluence (adjacent to Label C3 in Figure 5). The northern end of this portion of Fay Slough is also cut off from connection to Humboldt Bay south of the channel paralleling Highway 101. The principle remaining hydrological connection of the two portions of Fay Slough is through a system of drainage channels in the eastern portion of the Airport (see Appendix A, Figure A-1).

The primary sources of fresh water on Airport lands are rainfall and the underlying water table. These waters are directed through a complex of drainage channels throughout the Airport's undeveloped property. Eureka and Fay sloughs also receive freshwater input from inland drainages, principally the eastern portion of Fay Slough, Freshwater Slough, and their tributaries.

Most of the Airport lands are separated from the surrounding sloughs by levees at the Airport perimeter. Direct hydrological connections of Airport land property to the sloughs exist at three points: 1) A tide gate/culvert connection between Eureka Slough and a 15- to 25-foot-wide channel that parallels the south base of the Highway 101 levee, along and within the northern Airport boundary (C1 in Figure 5); 2) a tide gate/culvert between Eureka Slough and a basin in the southern portion of the Airport, between the south end of the taxiway and the perimeter levee (C2 in Figure 5); and 3) a tide gate/culvert in the southeastern portion of the Airport, between Fay Slough and a branched system of drainage channels (C3 in Figure 5). Tidal influence within the Airport varies between these connections (salinity was not directly measured for this report but inferred by observed species occurrence).



Murray Field CCC Wetland Delineation . 205093

Figure 5
Wetland Delineation Overview Map

SOURCE: GlobeXplorer, 2006; ESA, 2006

Tidal influence is probably greatest in the wide channel paralleling Highway 101 (culvert/tide gate C1), where dense-flowered cord grass occurs along the lower banks and tidewater goby (*Eucyclogobius newberryi*) have been observed (Goldsmith and Chamberlain, 2005). Tidal influence was also observed through the tide gate/culvert C2, where a bed of eelgrass lines the narrow channel from the Airport side outlet of the culvert to a small pond near the southern end of the main taxiway. Water exits the pond to the north and diffuses into a wetland/upland mosaic area to the north. The southern end of this wetland area contains patches of pickleweed, indicating elevated salinity. However, wetland and channel portions of the central and northern portions of this mosaic area exhibit mostly freshwater characteristics. During field surveys for this study, a northern red-legged frog (*Rana aurora aurora*), a species associated primarily with freshwater, was observed in this area.

Vegetation associated with the drainage system in the eastern portion of the Airport implies little tidal influence from the connection to the functional portion of Fay Slough through tide gate/culvert C3. However, the cutoff portion of Fay Slough supports brackish marsh plant species, suggesting influx of brackish groundwater input and/or persistence of residual salts in the slough basin.

Most of the drainage system on the Airport discussed above is adjacent to wetland fringes, or in widened places where drainage slows to support wetlands across their width. The cutoff portion of Fay Slough bordering much of the eastern side of the Airport supports a wide linear basin of well developed brackish marsh wetland. The mosaic area in the southern portion of the Airport is composed of a variety of wetland types as discussed in Section 2.3 above. Primary hydrological indicators include inundation, saturation, water marks, drift marks and/or sediment deposits. Secondary indicators include oxidized rhizospheres observed in most wetlands sampled on site, usual passing of the FAC-Neutral test, and occasionally observed water-stained leaves.

The large grassland field in the northern portion of the Airport contains a complex of depressions that hold water for extended periods. Hydrological indicators observed during the survey were mostly secondary, usually with a combination of oxidized rhizospheres, FAC-Neutral test positive, and/or water-stained leaves.

Unpaved areas between runways, taxiways, and tiedown areas are shaped as linear swales that empty into a series of stormwater drains which convey water to the drainage channels described above (see Figure A-1). Rainy season water movement through these swales and into the Airport's subsurface drainage system appears considerable based on field observations of the apparently well-drained condition of the runway and taxiways and the presence of adjacent upland vegetation. Since the Airport is relatively level, the swales appear to retain water for relatively long periods. In places, water ponds for sufficiently extended periods to create secondary hydrological indicators similar to those found in the grassland depressions described previously.

2.6 Wildlife

A reconnaissance wildlife survey of the Study Area was performed in May 2006 by an ESA wildlife biologist. Murray Field contains and is surrounded by habitat types that support numerous avian species. The wetland, slough, and bay waters provide excellent foraging and resting habitat for migrating and resident waterfowl. Many water foraging species were identified associated with the estuarine habitats to the exterior of the Project Area including Aleutian cackling goose (*Branta hutchinsii leucopareia*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), Caspian tern (*Hydroprogne caspia*), mallard (*Anas platyrhynchos*), great egret (*Casmerodius albus*), greater yellow legs (*Gambetta melanolenca*), black-crowned night heron (*Nycticorax nycticorax*), and osprey (*Pandion haliaetus*).

The tall grasses on site are suitable for supporting small passerines and provide foraging for raptors including red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and American kestrels (*Falco sparverius*). In the scrub vegetation along levees lesser goldfinch (*Carduelis psaltria*), Anna's hummingbird (*Calypte anna*), and song sparrows (*Melospiza melodia*) were observed foraging and perching. In the southern habitat mosaic area, habitats consist of wetlands, grassland, scrub and some medium sized trees. Abundant song sparrows were perching and flying between the trees. Observations in the developed hangar and office area included barn swallows (*Hirundo rustica*), English sparrows (*Passer domesticus*), Brewer's blackbirds (*Euphagus cyanocephalus*), and European starlings (*Sturnus vulgaris*). White-crowned sparrows (*Zonotrichia leucophrys*) and barn swallows were observed in the disturbed airport storage area southeast of the hangars. Cattails in the drainages and sloughs provide habitat for marsh wrens (*Cistothorus palustris*).

A few fish species may be expected to occur during certain life stages in the tidal sloughs and channels adjacent to and within the Airport, including tidewater goby, which will be discussed in Section 2.7 *Sensitive Species and Habitats*. Mammal or mammal signs observed on site included mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*). Others expected to occur include house mouse (*Mus musculus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*). Numerous Pacific chorus frogs (*Pseudacris regilla*) were observed in the tall grasses. Northern red-legged frog (*Rana aurora aurora*) was also observed in the project area (see Section 2.7). Expected reptiles include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis elegans*), and gopher snake (*Pituophis melanoleucus*).

2.7 Sensitive Species and Habitats

Sensitive Wildlife

One federally listed endangered species, tidewater goby (*Eucyclogobius newberryi*), was recently recorded in the wide muted tidal channel that is parallel to Highway 101 and the northern Airport property boundary (Goldsmith and Chamberlain, 2005). Recently proposed revisions of critical habitat for the tidewater goby include this channel in addition to a portion of Eureka Slough adjacent to EKA (USFWS, 2006). The tidewater goby, also listed as a California Species of Concern, occurs in brackish habitats of lower stream reaches and coastal lagoons. They require fairly still, but not stagnant water.

During wetland delineation surveys, a northern red-legged frog (California Species of Concern) was observed in a drainage ditch near the storage area (near central portion of the EKA's southwestern border). Habitat for this species includes permanent water with dense riparian cover; freshwater marsh portions of coastal drainages and lagoons support the remaining significant populations in California (CDFG, 1994).

The tall grasses on site are suitable for supporting small passerines and provide foraging for raptors including red-tailed hawk and American kestrels. In addition, northern harrier, song sparrows, marsh wrens, and other grassland and marsh nesting species can potentially nest on airport property. Several species for which nest/rookery sites are protected in California were observed in estuarine habitat exterior and adjacent to the Project Area. These include osprey, great egret, great blue heron, and black-crowned night heron. Potential nest sites for these species were not identified within Airport boundaries.

Several listed salmonid species occur in Humboldt Bay and have potential to make transient use of the sloughs adjacent to the Project Area. These include the federal and State threatened coho salmon, Southern Oregon/Northern California coast ESU (*Oncorhynchus kisutch*), and the federally threatened steelhead trout, Northern California DPS (*Oncorhynchus mykiss*), and the federally threatened Chinook Salmon, California coastal ESU (*Oncorhynchus tshawytscha*). Coast cutthroat trout (*Oncorhynchus clarkia clarkia*), a California Species of Concern, has been recorded from Freshwater Slough and Fay Slough upstream of the Project Area. The range of these occurrences is noted to extend down to the confluence of each of these sloughs with Eureka Slough, thus to areas adjacent to the Project Area.

Sensitive Vegetation and Plants

Northern coastal salt marsh habitat is recognized as a sensitive community by CNDDDB (CDFG, 2006). Small areas of coastal salt marsh are found exterior to the perimeter levee along the southern and southwestern Airport borders, at the edges of Eureka Slough and the hydrologically intact portion of Fay Slough. One area of more extensive mudflats and northern coastal salt marsh habitat is found in the western portion of the Airport, where the Airport boundary bulges beyond the perimeter levee, following the edge of Eureka Slough.

Populations of a special-status species, Humboldt Bay owl's clover [CNPS List 1B.2³], were observed occurring sporadically in much of the narrow strip of salt marsh at the perimeter levee bases along Eureka Slough and the intact portion of Fay Slough. Other special-status plant species with some potential to occur, based on potential to occur in the region and on habitats present on site, include:

- coastal marsh milk-vetch (*Astragalus pycnostchyus* var. *pycnostchyus*) [salt marsh and stream margins; CNPS List 1B.2],

³ California Native Plant Society (CNPS) List 1B- Rare, threatened, or endangered in California and elsewhere; List 2= Plants rare, threatened, or endangered in California but more common elsewhere; .1 = Seriously endangered in California; .2= Fairly endangered in California

- Lyngbye's sedge (*Carex lyngbyei*) [brackish and freshwater marshes; CNPS List 2.2],
- meadow sedge (*Carex praticola*) [Seeps and moist to wet meadows; CNPS List 2.2],
- deceiving sedge (*Carex saliniformis*) [salt marsh, meadows and seeps; CNPS List 1B.2],
- Point Reye's bird's-beak (*Cordylanthus maritimus* spp. *palustris*) [salt marsh; CNPS List 1B.2], and
- western sand-spurrey (*Spergularia canadensis* var. *occidentalis*) [salt marsh; CNPS List 2.1].

CHAPTER 3

Methods

ESA conducted a review of literature, maps, and aerial photos to determine existing site conditions. Following the data review, ESA performed a delineation of wetlands and other water-associated habitats.

3.1 Literature Review

ESA reviewed the following reports for information relevant to this delineation:

- Aerial photographs of the project site and vicinity (GlobeExplorer, 2006),
- Soil survey data for Humboldt County (McLaughlin and Harradine, 1965),
- Standard biological references and field guides including the Jepson Manual (Hickman, 1993), and
- A previous wetland delineation of the Airport (Theiss and Associates, 1990).

3.2 Field Survey and Delineation

A delineation of wetlands and water-associated habitats within the Study Area was conducted on May 10-13, May 20-21, and July 12, 2006, by biologists Mark Fogiel (ESA) and Tamara Gedik (GBA). ESA wildlife biologist Julie Remp conducted a reconnaissance-level wildlife survey on May 10, 2006. Additional field visits to complete vegetation mapping were conducted on March 2 and 5, 2007.

Wetlands and water-associated habitats were delineated as defined by CCA Section 30121 and Cowardin, et. al, (1979). Boundaries of wetlands adjacent to the Airport were also delineated. Locations and descriptions of observations of vegetation, soils, and hydrology were recorded in the field. Dimensions of channels and wetlands (*i.e.*, length of the channel, the width of ordinary high water or top of bank, extent of seasonal wetlands) were recorded in the field using GPS and rectified on aerial photographs based on field measurements. The area of wetlands and water-associated habitats, in addition to channel lengths, within the Study Area were calculated using field measurements and analysis tools in ArcGIS version 9.1.

Wetland parameters were sampled at datapoints along transects spaced throughout the Airport (see Figure 5 for transect locations), with consideration given to ensure sampling of representative potentially jurisdictional features and adjacent uplands. GPS coordinates were recorded at each datapoint location. Datapoints are indicated on the wetland delineation map

(Figure A-1 in Appendix A). Site photographs are presented in Appendix B, and data for vegetation, hydrology, and soils at each data point, recorded on standard wetland delineation datasheets are presented in Appendix C.

Vegetation was evaluated within an approximate 5-foot radius of each data point. Dominant and co-dominant plant species were recorded on the data sheets. The indicator status of each species was confirmed with the *National List of Plant Species that Occur in Wetlands* (USFWS, 1988 and 1996).

Assessment of the hydrologic criterion was based on direct and indirect indicators. Direct indicators used included observations of inundation, saturation, or flowing or standing water. Indirect indicators identified within the Study Area primarily included the presence of an ordinary high water mark (OHWM), wetland drainage patterns, and oxidized root channels.

The hydric soil criterion was evaluated based on soil taxonomy and field indicators. Hydric soils were surveyed for in accordance with the Corps' *Manual* (Environmental Laboratory, 1987). Soil pits were excavated at each datapoint to provide information for comparison of upland and potential wetland soils. Soil pits were excavated to a depth of approximately 16 inches and soil composition, chroma, texture, and other characteristics were evaluated in determining presence or absence of hydric soil indicators. Soil chroma was evaluated using a *Munsell* color chart (Munsell, 1988).

Available soil survey sources were consulted for this delineation. These include *Soils of Western Humboldt County, California* (McLaughlin and Harradine, 1965), the hydric soils list for California (Natural Resources Conservation Service [NRCS], 1995a), and unpublished soils data provided by the NRCS (1995b).

CHAPTER 4

Results

4.1 Wetland Delineation

The field delineation documented wetlands and water-associated habitats subject to CCC review throughout non-paved portions of the Study Area on and adjacent to Airport lands. Estuarine systems included edge fragments of subtidal sloughs within the edge of Airport boundaries, adjacent intertidal mudflats, two within airport subtidal channels, and adjacent intertidal salt marsh emergent wetland fringes of these features up to the approximate mean high water line. Riverine systems consisted of a system of drainage channels occurring throughout the vegetated portions of the Airport. Palustrine systems consisted of perennial emergent wetland fringes along most of the lengths of these drainages, ponded areas, fresh-brackish water marsh, and seasonal emergent wetlands.

The total area of wetlands and water-associated habitats within the Project Area is approximately 27.116 acres (1,181,168 square feet). Of this area, approximately 8.830 acres (384,647 square feet) are estuarine subtidal waters, intertidal mudflats, and intertidal wetlands. Riverine system drainage channels collectively covered approximately 1.112 acres (48,439 square feet). Palustrine systems consist of approximately 17.174 acres (748,082 square feet) of perennial and seasonal emergent wetland.

Since the Airport is in close proximity to surrounding estuarine sloughs, mudflats and salt marsh areas, adjacent wetland edges were mapped. Approximately 3,830 linear feet of the Airport boundary pass through wetland areas located on either side of the boundary. Another approximately 3,988 linear feet of Airport boundary are located within 100 feet of wetlands occurring external to Airport lands.

Table 4-1 summarizes all delineated features and estimated areas of wetlands and water-associated features based on the result of this preliminary delineation. All conclusions are subject to review by the CCC.

These wetlands and water-associated features are portrayed in Figure 5 and mapped at 1:1,200-foot scale on Figure A-1 (see Appendix A). Representative photographs are presented in Appendix B, wetland datasheets are presented in Appendix C, and a list of plant species, with indicator status, is located in Appendix D.

**TABLE 4-1
SUMMARY OF WETLANDS AND WATER-ASSOCIATED HABITAT AREAS
SUBJECT TO CCC REVIEW WITHIN AIRPORT BOUNDARY**

Feature	Linear Feet	Surface Area (acres)
Estuarine		
Subtidal Open Water Sloughs and Channels	3,925	2.215
Intertidal Emergent Salt Marsh Wetland	N/A	4.414
Intertidal Mudflats	<u>N/A</u>	<u>2.202</u>
<i>Subtotal Estuarine</i>	3,925	8.830
Riverine		
Drainage channels	6,790	1.112
Palustrine		
Emergent Wetlands (perennial)	N/A	14.286
Emergent Wetlands (seasonal)	<u>N/A</u>	<u>2.888</u>
<i>Subtotal Palustrine</i>		17.174
Total Length/Area	10,715	27.116
Additional Considerations:		
a. Wetlands/other waters bisected by Airport property line:		3,830 linear feet
b. Wetlands/other waters within 100 feet of Airport property line:		3,988 linear feet
		N/A = Not Applicable
Source: ESA, 2006		

Wetlands and water-associated habitats found to occur in the Study Area include estuarine, palustrine, and riverine systems. Within the Project Area, estuarine systems comprise approximately 2.214 acres (3,925 linear feet) of subtidal sloughs and channels, 2.202 acres of intertidal mudflats, and 4.414 acres of intertidal emergent salt marsh wetland. Palustrine systems comprise approximately 14.286 acres of perennial emergent wetlands and 2.888 acres of seasonal emergent wetlands. Riverine systems comprise approximately 1.112 acres of drainage channels. Total length of estuarine sloughs and channels is approximately 3,925 linear feet. The total length of riverine drainage channels is approximately 6,790 linear feet.

Estuarine Systems

Estuarine systems include permanently flooded tidal habitats and adjacent habitats periodically subject to tidal flooding. In the Project Area, this system is represented by subtidal sloughs and channels, intertidal mudflats, and intertidal emergent salt marsh wetland. Specifically, within Airport lands, these include: edge fragments of the open water tidal channels of Eureka and Fay sloughs bordering the Airport; the tidally-influenced 25- to 30-foot-wide unnamed channel along the northern boundary of the Airport, parallel to Highway 101, which is linked to Eureka Slough by a tidegate/culvert near the western corner of the Airport (C1 in Figure 5); a smaller tidally influenced 6- to 8-foot-wide channel and pond linked to Eureka Slough by a tidegate/culvert near the southern tip of the Airport (C2 in Figure 5); and intertidal mudflats and/or salt marsh emergent wetlands associated with these features. Although the Airport boundary avoids most of Eureka Slough and the tidally intact portion of Fay Slough, the tidal wetland edges of these

features are in close proximity to most of the mid- to southern Airport boundary. These sloughs and associated mudflat and salt marsh are separated from the main body of the Airport by an approximately 10- to 15-foot-tall by 25- to 35-foot-wide levee bounding most of the perimeter of Airport operational areas.

Open water lengths of subtidal Eureka and Fay sloughs occurring within the Project Area comprise approximately 397 linear feet, with the boundary encompassing approximately 0.728 acre (31,717 square feet) of these features. Additionally, the Project Area encompasses approximately 2.202 acres (95,919 square feet) of intertidal mudflats, in addition to approximately 3.842 acres (167,343 square feet) of intertidal salt marsh emergent wetland associated with these sloughs. Much of this surface area of mudflat and salt marsh is found in an area where the Airport boundary extends to the southwest of the perimeter levee. Otherwise, mudflat and salt marsh form a narrow fringe between the open water tidal waters of the sloughs and the base of the perimeter levee.

The tidally influenced channel near the northern Airport boundary, parallel to Highway 101, ranges in width from 25- to 30 feet, with a length of approximately 1,701 feet within the Study Area, covering approximately 1.065 acres (46,391 square feet; an approximately 310-foot length of channel with similar characteristics continues to the northern corner of the Airport property, in an area not included in this study but within Airport lands). The excavated banks of this channel are steep; typical salt marsh species are somewhat restricted to the occurrence of dense-flowered cord grass found in sporadic narrow patches (approximately 1 to 3 feet wide) at the channel edges.

The muted tidal channel occurring near the southern tip of the Airport consists of a 6- to 14-foot-wide channel connected to Eureka Slough through a tide gate/culvert traversing the perimeter levee (C2 in Figure 5). This approximately 1,561-foot channel widens to an approximately 50-foot-wide by 70-foot-long pond before continuing northwest, mostly along the inner base of the perimeter levee. An additional approximately 266-foot channel branches off the northern end of the ponded area. The combined surface area of these features is approximately 0.421 acre (18,358 square feet). These previously excavated features have sporadic halophytic vegetation at their margins. The relatively extensive wetland area between the channel and taxiway is covered by mostly freshwater wetland although a few scattered patches of halophytic pickleweed and saltgrass vegetation occur. These areas of saline wetland collectively cover approximately 0.572 acre (24,919 square feet).

Riverine systems

Riverine systems include natural and artificial channels which periodically or continuously contain moving water with low salt content.

The differentiation of Airport channels and wetlands subject to tidal ebb and flow from those not subject to tidal action is based primarily on the species observed to be associated with the features and/or the overall hydrological layout of the Airport drainage system. All Airport drainages and wetlands with hydrological connections to these drainages are connected to tidal sloughs through

three tide gates/culverts. Two of these were discussed above, with connected channels exhibiting characteristics indicative of being subject to muted tidal effect. The northernmost drainage, the channel parallel to Highway 101 (connection at C1 in Figure 5), has a relatively unambiguous area of tidal effect confined to the channel width. The drainage and pond connected to Eureka Slough in the southwest portion of the Airport (connection at C2 in Figure 5) also exhibit tidal effect.

The third culvert traverses a levee placed across Fay Slough and connects drainages on the eastern side of the Airport to Fay Slough (connection at C3 in Figure 5). Plant species found associated with these drainages are primarily typical freshwater hydrophytes; it appears that tidal input from the intact portion of Fay Slough is minimal. However, the isolated section of Fay Slough, north of the traversing levee, contains species typical of brackish marsh. The only observed hydrological connection for this section of Fay Slough is at the northern end of the drainage system, which appears to transport mostly fresh water. It is possible that residual salts have persisted in this section of slough that were formerly connected to Humboldt Bay.

Drainages classified here as riverine occur in the northwestern and eastern portions of the Airport. These include all the drainage channels within the Airport perimeter levee, except the muted tidal channels discussed above. Also included are two linear open water stretches associated with the cut-off portion of Fay Slough. Combined length of the drainage system is approximately 6,790 linear feet, occupying a surface area of approximately 1.112 acres (48,439 square feet).

Palustrine Systems

Palustrine systems within the Study Area include nontidal wetlands with persistent emergent vegetation. These wetlands include freshwater marsh⁴, perennial emergent wetlands, and seasonal emergent wetlands.

Perennial emergent wetlands are found in association with drainage features and in other formations in the Airport. Perennial emergent wetlands, which border most drainages or span them in several places to form vegetated marsh swales, occupy a total of approximately 0.726 acre (31,618 square feet). The broad channel adjacent to Highway 101 discussed in Section 10 waters above, has perennial wetland characteristics extending up the channel banks to varying extents. These wetland areas cover approximately 0.443 acre (19,315 square feet). The wetland mosaic area in the southern portion of the Airport supports approximately 9.322 acres (406,046 square feet) of perennial wetland.

The remnant portion of Fay Slough (north of the transverse levee separating it from the intact portion of Fay Slough) along the northeast edge of the Study Area contains a few open water low areas and relatively expansive areas of fresh-brackish water marsh wetland along the linear basin of this former tidal slough. The extent of marsh area is approximately 2.151 acres (93,681 square feet). A broad transition area occurs between the marsh areas and the perimeter levee base (west

⁴ Described above in Section 2.3 as Fresh-Brackish Water Marsh. These areas are primarily freshwater marsh, although also include some areas, principally in the cut-off section of Fay Slough, that exhibit some brackish water characteristics but lack tidal connections and differ significantly from tidally-influenced salt marsh occurring on site.

of the slough). This mixed perennial wetland zone covers an area of approximately 1.645 acres (71,640 square feet).

A complex of seasonal emergent wetland depressions occurs in the northern grassland area of the Airport, between the old crosswind runway and the channel that is parallel to Highway 101. These depressions appear to pond sufficiently during the rainy season to exhibit wetland characteristics. These wetlands cover approximately 0.903 acre (39,347 square feet).

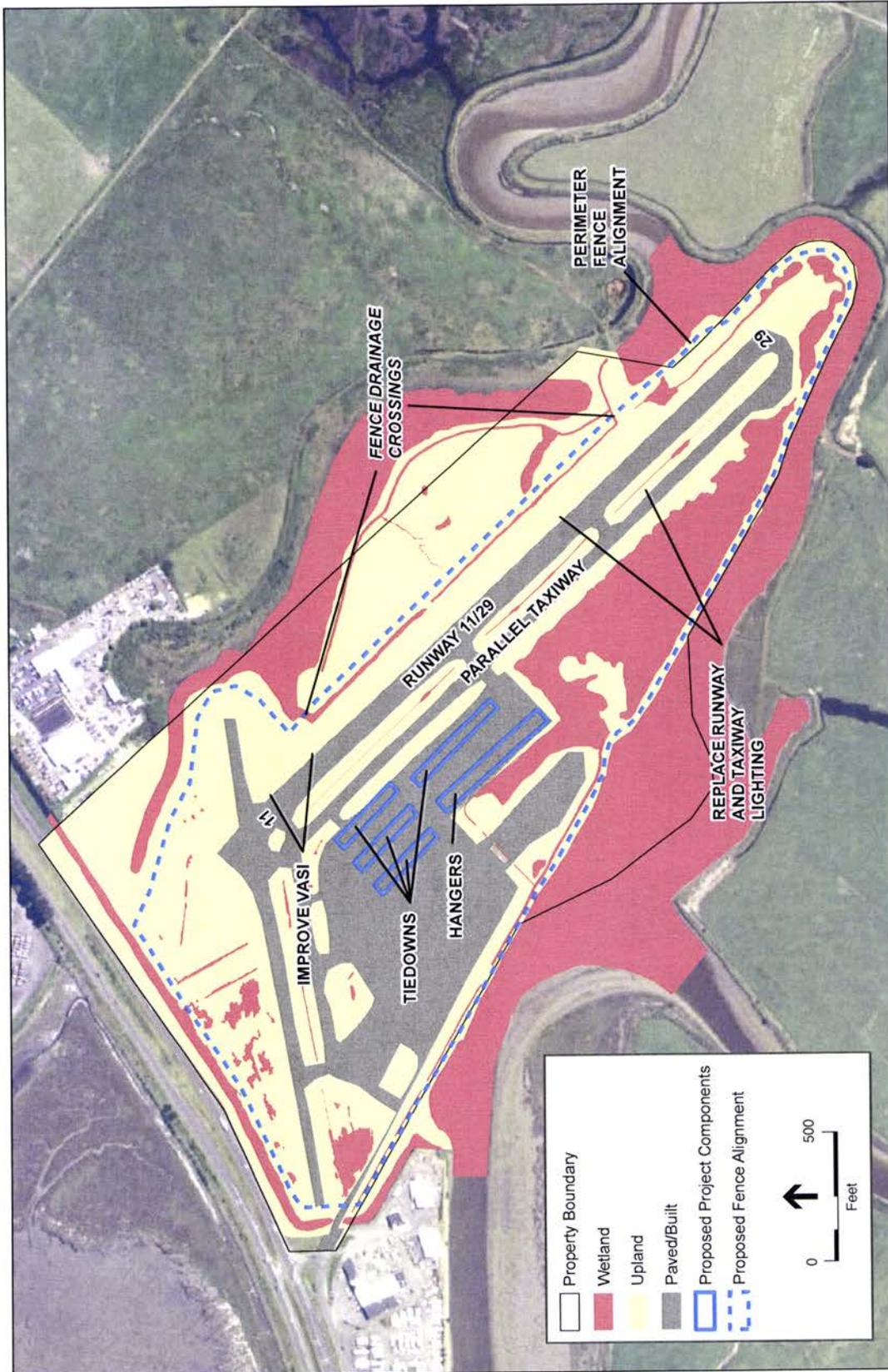
Seasonal emergent wetlands are also found near the Airport's runway and taxiway complex. These seasonal emergent wetlands drain into the Airport's subsurface stormwater drainage system, which empties into the drainage channel system described above. These seasonal wetlands cover approximately 0.917 acre (39,927 square feet). Seasonal wetlands adjacent to the southern approach of Runway 11/29, in addition to a few small depressions south of the Airport's windsock, appear to carry rainfall runoff into Airport surface drainage channels. These seasonal wetland areas total approximately 1.068 acre (46,508 square feet).

4.2 Potential Project Impacts

Wetlands and Water-Associated Habitats

The Proposed Action would include installing a perimeter fence, updating and replacing lighting, and reconfiguring the core aircraft tiedown area (see Figure 6 for approximate locations of project components). An extended length of the perimeter fence would be located on elevated perimeter levee summit, parallel to and within 10 to 30 feet of adjacent high quality tidal slough and salt marsh wetland. Much of this segment of fence alignment is bordered on the inside (towards EKA operational areas) by wetlands and drainage channels. This close proximity to wetlands introduces potential for various impacts including introduction of sediments, accidental incursions or spills, etc. However, fence installation procedures will not require use of heavy equipment and will involve minimal land disturbance (manual digging of narrow-diameter fence post holes). Estimated constructed corridor width is 5 feet. Thus, potential for introduction of fill material to the adjacent wetlands and water-associated habitat is low.

The fence alignment crosses wetlands and other waters in two places, traversing a total width of approximately 32 feet of perennial emergent wetland and 6 feet of drainage channel. Permanent impacts due to these crossings are not anticipated. Although the primary design objective is to restrict wildlife, the secondary design objective is to avoid the placement of fence posts or support structures within the wetlands or drainage channel. The fence will essentially span these features with the fence base slightly above water or ground surface. A small amount of temporary disturbance may be associated with fence construction. Assuming a 5-foot-wide construction corridor and disturbance across the full length and width, temporary impacts could occur to less than 0.01 acre. A more precise calculation of temporary impacts will be performed during the development of subsequent environmental documents pursuant to the requirement of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and to procure any necessary permits or approvals.



Murray Field CCC Wetland Delineation . 205093

Figure 6
Proposed Development in Relation
to Potentially Jurisdictional Areas

SOURCE: GlobeXplorer, 2006; ESA, 2006

Construction activities associated with the replacement of lights along runway 11/29 could lead to temporary impacts to the wetlands at the base of the swales between the runway and taxiway. However, all construction will occur above these wetlands and construction staging would occur entirely on existing paved areas. Best Management Practices (BMPs) would also be implemented to prevent activities from occurring in designated wetland areas. Since construction associated with the lighting improvements will occur in the same area as existing lights, and based on the paucity of jurisdictional area (bottom of swale) and the small amount of area likely to be affected, implementation of this project component is unlikely to affect jurisdictional areas.

In the event that jurisdictional areas would be affected, these impacts would potentially be considered significant under Section 404 of the Clean Water Act and subject to permitting requirements of the U.S. Army Corps of Engineers under Section 401 of the Clean Water Act. Such impacts also would be subject to water quality certification requirements of the Regional Water Quality Control Board (RWQCB) under Sections 1600-1616 of the Fish and Game Code, and subject to a Streambed Alteration Agreement with the California Department of Fish and Game (CDFG), and under the California Coastal Act subject to permit conditions required by the California Coastal Commission/Humboldt County Local Coastal Program pursuant to the California Coastal Act.

Sensitive Species

The installation of the wildlife exclusion fence is the only component of the Proposed Action component with potential to impact listed or non-listed special status species, as the other projects would be constructed in previously disturbed areas of concrete or maintained turf adjacent to runways.

Although fence installation procedures will not require use of heavy equipment and will involve minimal land disturbance (manual digging of narrow-diameter fence post holes), vegetation will need to be cut in several areas to facilitate fence installation, primarily in disturbed scrub on levee tops. The estimated constructed corridor is 5-feet wide. Cutting of brush and other vegetation needed to clear the way for the fence line has the potential to result in the take of breeding birds or their nests or eggs unless appropriate mitigation measures are implemented.

The proposed fence would be located 30 to 50 feet from the muted tidal channel parallel to Highway 101 in which the tidewater goby occurs. Although tidewater goby critical habitat in the project vicinity has not been finalized, primary constituent elements (PCEs) for the fish presented in the proposed rule (USFWS, 2006) provide detailed considerations helpful in evaluating potential project impacts. Tidewater goby PCEs potentially susceptible to adjacent construction activities include persistence, depth, movement, and salinity characteristics of aquatic habitat, along with substrate characteristics.

The distance between the fence alignment and coastal salt marsh with Humboldt Bay owls's clover ranges from approximately 20 to 30 feet separation. A similar distance separates the alignment from channels containing or potentially providing northern red-legged frog habitat. The fence alignment traverses two small channel areas that provide potential habitat for the northern red-legged frog.

Due to the relatively low-impact construction procedure of fence installation, and the existence of at least a minimum buffer area between the fence alignment and habitat, potential for impacts to these species is low. The project will not result in altered hydrology, and measures to avoid the deposition of sediment or other material transport into drainages or sloughs will result in no altered habitat or PCE characteristics.

Environmentally Sensitive Habitat Areas

Environmentally Sensitive Habitat Areas (ESHAs) are defined in Section 30107.5 of the CCA as “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 an ecosystem and which could be easily disturbed or degraded by human activities and developments.” Development in relation to ESHAs is regulated through Section 30240:

- (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.

Procedural Guidance from the CCC (1994) states “numerous coastal wetlands... are considered environmentally sensitive habitat areas because they provide critical habitat to threatened or endangered species, or because of their uniqueness relative to the surrounding landscape.”

Several wetland features occurring within and adjacent to the project site qualify as ESHAs:

- The estuarine subtidal sloughs and associated intertidal emergent wetland of Eureka and Fay sloughs located adjacent to, and sometimes within, much of the Airport boundary. As described in Chapter 2, “Setting,” these areas provide valuable foraging and resting habitat for a wide variety of avian species, including a number of special-status species, and provide demonstrated for a special-status plant species (Humboldt Bay owl’s clover) and potential habitat for a number of others.
- The muted-tidal channel parallel to Highway 101 within the northern limits of the Project Area. The channel provides proven habitat for the federally listed endangered tidewater goby.
- Eelgrass in the narrow channel between the small pond and tidegate/culvert to Eureka Slough near the southern end of the main taxiway. Eelgrass meadows and beds can be rather extensive in area, and are highly productive ecosystems supporting a broad range of functions such as habitat, food, and shelter for a variety of species. While the eelgrass bed occurring in the project area is small, eelgrass habitat is generally recognized and protected as an ESHA.

- The “cut-off” portion of Fay Slough along the Airport’s eastern border. This portion of Fay Slough is representative of cut-off sloughs occurring in several places around Humboldt Bay. These features often become saturated or inundated for prolonged periods during the rainy season, and provide important habitat for waterfowl and shorebirds (HBHRCD, 2006).

The wetland mosaic area in the southern portion of the airport may be considered an ESHA. The unique mix of saline and freshwater marsh areas, with intermixed scrub and trees, provides numerous habitat values to a range of species. The small channel with the eelgrass bed mentioned previously is part of this mosaic area.

Portions of the system of riverine drainages throughout the Airport have the potential to be considered ESHAs. The water and associated emergent vegetation provide habitat values for a number of avian species, and in at least one area (a drainage channel in the mosaic area), provides habitat for the northern red-legged frog. However, habitat quality ranges from poor to moderate for most of these channels. Additionally, habitat values in these excavated and maintained channels are generally not very susceptible to disturbance and degradation by human activities

Seasonal wetlands located in the introduced perennial grassland areas in the northern, eastern, and southern portions of the airport are unlikely to qualify as ESHAs. The seasonal wetland areas formed in the drainage swales associated with runways, with minimal habitat values and frequent human disturbance, would not be considered ESHAs.

Potential impacts to ESHAs are somewhat parallel to those described above for wetlands and for sensitive species. It is unlikely that the drainage channels at the two fence crossings would be considered ESHAs. The proposed fence alignment is designed to avoid ESHAs to the greatest extent possible. Measures described below in Section 4.4, “Impact Avoidance Plan,” will prevent impacts on or degradation of adjacent and nearby ESHAs. The project, inclusive of the Avoidance Plan, shall be compatible with continuance of the ESHAs.

4.3 Functional Capacity

As stated in the *Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone* (CCC, 1994), “In general, wetland functions are those processes that directly or indirectly result in values that benefit humans or other organisms, or values perceived by humans as desirable or worthy of protection.” Wetlands and water-associated habitats within the Project Area provide functions generally exhibited by estuarine and palustrine habitats, in addition to functions specific to special-status species that utilize these habitats at this locality.

The range of wetlands and water-associated habitats found on and adjacent to Murray Field, including seasonal and perennial wetlands, perennially-inundated drainage channels, emergent salt marsh wetland and subtidal sloughs, provide a multidimensional transition of environments, between aquatic and terrestrial ecosystems and between salt water and fresh water systems. These provide the following general and specific functions:

Provide Fish and Wildlife Habitat

Coastal estuarine subtidal and intertidal habitats provide high-quality habitat for fish and wildlife. Generally being highly productive ecosystems, they provide important foraging, nesting, and escape habitat for numerous fish and wildlife species. Their reduced flow rates and abundant food resources can also provide important habitat for juvenile fish and migrating birds on the Pacific flyway. "Cut-off" sloughs adjacent to Humboldt Bay, such as the portion of Fay Slough along the Airport's eastern boundary, often become saturated or inundated for prolonged periods during the rainy season, providing important habitat for waterfowl and shorebirds (HBHRCD, 2006).

As discussed in Section 2.6, "Wildlife," the moderate to high quality estuarine habitats surrounding the airport provide habitat for numerous migrating and resident avian species including double-crested cormorant, great blue heron, Caspian tern, mallard, great egret, greater yellow legs, black-crowned night heron, osprey, and others. Habitats within the airport may provide foraging and resting habitat for these species. Cattails in palustrine marsh habitat provide habitat for marsh wrens (*Cistothorus palustris*). The complex of estuarine and palustrine habitats, grassland, and scrub covering airport lands provide habitat for a variety of wildlife species, including: avian species such as red-tailed hawk, northern harrier, American kestrels, lesser goldfinch, song sparrows, and barn swallows; common mammal species such as mule deer, coyote, house mouse, and raccoon; reptiles such western fence lizard and gopher snake; and amphibians such as Pacific chorus frogs.

Provide Habitat for Rare Species

The Study Area provides habitat for several special-status species and potential habitat for other special-status species. The slow-moving brackish waters of the channel running parallel to Highway 101 within the northern limits of the Project Area provides habitat for the federally listed endangered tidewater goby. Some of the freshwater drainages within the airport appear to provide habitat for the northern red-legged frog, a State Species of Concern.

Estuarine emergent salt marsh found at the margins of Eureka and Fay sloughs, between open water portions of the sloughs and the base of airport perimeter levee, provide habitat for Humboldt Bay owl's clover, a CNPS List 1B species. This emergent wetland also provides potential habitat for other special-status species such as Lyngbye's sedge and Point Reyes birds beak.

Further inland from the airport, Freshwater Slough and Fay Slough support populations of coast cutthroat trout, a State species of concern. The downstream limit of these populations is approximately adjacent to the airport, at the confluence of Freshwater Slough and Eureka Slough and at the confluence of the intact portion of Fay Slough with Eureka Slough.

Improve Water Quality

Wetlands, including tidal marshes, can improve the quality of water that passes through them. They allow the deposition of sediment due to the reduced flow rates of water. Vegetation and aquatic organisms remove nutrients from the water, reducing potential downstream eutrophication. Toxic contaminants (e.g., heavy metals) often are trapped in sediment and perform a cleansing function for the water, although this function may also result in increased uptake of toxins in the food chain and resulting bioaccumulation.

Waters and wetlands within and adjacent to the airport appear well suited to this function. Low-gradient swales adjacent to runways and other operational areas of the airport probably perform an initial filtering function in closest proximity to pollutant sources. Water from these swales is directed into the system of low-gradient, deeper drainage channels with interspersed areas of palustrine emergent marsh and perennial wetland. This system performs a secondary filtering function before water drains into the Eureka and Fay sloughs.

4.4 Impact Avoidance Plan

As stated in the *Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone* (CCC, 1994), "Maintaining the functional capacity means maintaining the same level and number of species, maintaining the same level of biological productivity, and maintaining the same relative size and number of habitats." The pre- and post-project conditions and configuration of wetlands and associated functions will remain unchanged. The only function that will be changed is an upland habitat function, the provision of habitat for mule deer, as the proposed perimeter fence will exclude deer from the airport grounds. Other mammals will only be slightly impeded from movement by the fence.

Provided that the project avoids construction-related impacts, post-construction maintenance impacts and access impacts to wetland and water-associated habitats within the Project Area or to species that utilize these habitats, the functional capacity of the marsh will be maintained.

The following mitigation measures will be incorporated in the Environmental Assessment (EA) prepared for the proposed project in accordance with the National Environmental Policy Act (NEPA) and the Initial Study/Mitigated Negative Declaration (IS/MND) prepared in accordance with the California Environmental Quality Act (CEQA). The implementation of these mitigation measures will allow the County to avoid project-related impacts to any wetland areas in or adjacent to the Airport and allow these wetlands to maintain their functional capacity.

Wetlands and Water-Associated Habitats

Best Management Practices (BMPs) will be developed as part of project design and will be implemented during design and construction of the Proposed Action.

The existing Storm Water Pollution Prevention Program will be amended to include measures regarding fueling of aircraft, aircraft and vehicular maintenance, aircraft and vehicular washing, and storage of hazardous materials and waste.

BMPs and mitigation measures listed below in the discussion of "Sensitive Species" will be incorporated to avoid significant impacts to wetlands and water-associated habitats. Project implementation, including the implementation of mitigation measures, is contingent on review, approval, and permits that may be required by the U.S. Army Corps of Engineers (Corps), the CCC, per the County of Humboldt Local Coastal Program, the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB).

If a temporary loss of wetland area or function is identified, compensatory mitigation will be required at a scale similar to that of the impact. Impacts to wetlands and other waters of the U.S. will be compensated at a recommended 1:1 replacement ratio or at a ratio specified by the applicable agencies. Wetland compensation may take the form of restored in-kind wetlands in the same watershed or a contribution to in-lieu funds for wetland restoration, enhancement or preservation, or another form as stated by the applicable agency.

Prior to commencement of fence installation, a qualified wetlands biologist and the fencing contractor will review the fence alignment in the field to ensure that wetlands in narrow passages are avoided.

Sensitive Species

To avoid significant impacts to special-status species, mitigation measures to protect wetland and water-associated habitats and avoid impacts to nesting birds will be implemented as described below:

Mitigation Measure 1: Development and implementation of water quality BMPs will reduce potential impacts to tidewater goby, eelgrass, Humboldt Bay owl's clover, northern red-legged frog, and their habitats to less than significant levels. Installation of several common protective measures (e.g., silt or safety fencing to delimit the construction boundary) would themselves present potential impacts approximately equivalent to the installation of the proposed perimeter fence, and thus would be ineffective. BMPs to be put into effect must include the following:

- Notes will be made on construction plans to state that all construction activities will occur outside of sloughs, drainage channels, or wetland features.
- All construction materials that present a risk of entry to sloughs or drainages will be removed from the site immediately upon completion of component construction (e.g., removal of excess soil from post holes dug on the levee summit).
- In the areas where the fence alignment traverses drainage channels, no structures (posts) will be placed within the bed or bank of the channel and no construction equipment or activities will be permitted to enter the channel.
- Weed-free straw wattles shall be placed alongside the drainage channels (on the construction corridor side of the channels) to prevent sediment from entering the channels during construction.

Mitigation Measure 2: The implementation of one of the following mitigation measures will reduce the potential impact to breeding birds or their nests or eggs to less than significant levels:

- Fence construction activities will not be performed during the avian breeding season (February 1 to August 31), or
- Pre-construction surveys will be performed to locate nesting birds in the area and establishment of exclusion zones around any active nest identified.

In general, CDFG recommends a 250-foot construction exclusion zone around the nests of active passerine songbirds during the breeding season and a 500-foot buffer for nesting raptors. These buffer distances are considered initial starting distances once a nest has been identified, and are commonly reduced to 100 feet and 250 feet, respectively, based on site conditions and the nature of the work being performed. Relatively small projects typically require relatively small buffer distances. Construction exclusion zones would not be required for activities performed during the non-breeding season. Based on the reconnaissance survey and the California Natural Diversity Database (CNDDDB) no rare, threatened, or endangered bird species are expected to nest on the property.

Environmentally Sensitive Habitat Areas

The implementation of the mitigation measures associated with wetlands and sensitive species would prevent impacts to or the degradation of ESHAs within and adjacent to airport boundaries. This project, inclusive of the Avoidance Plan, shall be compatible with the continuance of the ESHAs.

CHAPTER 5

Report Authors and References

5.1 Report Authors

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Project Manager:	Lisa Harmon (ESA)
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GIS Mapping:	Mark Fogiel
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January 9, 2012
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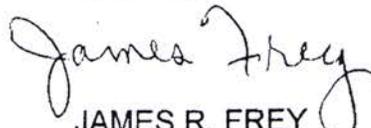
have not, however, been able to locate a copy of a quitclaim from the Commission to the County for the Airport Parcel. It appears that this task was not accomplished and there is no explanation in the file for this omission.

I note also that our review showed that the State Lands Commission did not free the lands to be conveyed to the County from the public trust. The authority cited for the Agreement was Public Resources Code section 6307 which provides for the lifting of the public trust when the Commission had found and declared the lands "... had been improved, filled, and reclaimed, and thereby excluded from the public channels, and are no longer useful or susceptible to being used for navigation and fishing, and are no longer in fact tidelands or submerged lands...." The Commission did not make these findings in 1969 and I suggest that consideration be given to freeing the lands comprising the Airport Parcel and the lands previously conveyed to the County from the public trust.

Any interest the State has in Murray Field was granted to the City of Eureka by the Legislature pursuant to Chapter 1086, Statutes of 1970. Thus, it will be necessary for the City of Eureka to participate in conveying the remaining state interest in the Airport Parcel and in lifting of the public trust. The City and the Commission are authorized under Chapter 1085, Statutes of 1970 to enter into settlement agreements for lands that have been filled and reclaimed in conjunction with the development of the Humboldt Bay area. I believe that this statute will provide a framework for addressing the quitclaim of the Airport Parcel and the lifting of the public trust at Murray Field.

I suggest we have a meeting or teleconference in early January to discuss this situation and to decide on a framework for handling it. In the meantime, I can be reached at (916) 574-1829 to discuss this matter if you like.

Sincerely,


JAMES R. FREY
Senior Staff Counsel

Attachment

cc: Brian Bugsch, Chief, Land Management Division
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