COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: December 9, 2015

TO: Planning Commission

FROM: Planning Staff

SUBJECT: EXECUTIVE SUMMARY: Consideration of a Coastal Development Permit for various improvements at the Half Moon Bay Airport. This project is appealable to the California Coastal Commission.

County File Number: PLN 2015-00312 (San Mateo County Department of Public Works, Airports Division)

PROPOSAL

The Department of Public Works, Division of Airports is proposing the following improvements at the Half Moon Bay Airport: (1) the replacement of an existing perimeter fence on the south end of the airport; (2) the replacement and/or extension of two culverts within drainage ditches located beneath the existing midfield connector taxiway; and (3) the replacement of a windsock located midfield of the airport. This project requires a Coastal Development Permit because the new fence and culverts are alterations to public works facilities and therefore ineligible for a Coastal Development Exemption.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2015-00312, by adopting the required findings and conditions of approval in Attachment A.

SUMMARY

As a County agency, the Department of Public Works is typically exempt from local building and zoning regulations (Government Code 53091); however, a Coastal Development Permit in compliance with San Mateo County's Local Coastal Program (LCP) is required for this project. Staff has completed a review of the project and all the submitted documents and reports in order to determine the project's conformity to applicable LCP policies. Potential impacts to special status species, biotic resources and water quality were identified. Mitigation measures proposed by the applicant and included as conditions of approval offset these impacts and achieve compliance with relevant LCP requirements. For the purposes of compliance with the California Environmental Quality Act (CEQA), the County is the lead agency and the Department

of Public Works (DPW) has assumed the role of lead department. As such, DPW staff is prepared to file a Notice of Categorical Exemption with the County Recorder, as required by the State Code upon project approval. Planning staff has reviewed the project and concluded that the project, as conditioned, complies with the County's Local Coastal Program and General Plan.

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COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: December 9, 2015

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, for various improvements at the Half Moon Bay Airport. This project is appealable to the California Coastal Commission.

County File Number: PLN 2015-00312 (San Mateo County Department of Public Works, Airports Division)

PROPOSAL

The Department of Public Works, Airports Division is proposing the following improvements at the Half Moon Bay Airport: (1) the replacement of an existing perimeter fence on the south end of the airport. The replacement fencing is approximately 2,500 feet in length and will be aligned with Denniston Creek while maintaining a 10-foot buffer from the creek's riparian vegetation. The southern end of the new fencing will connect with the existing access gate near a foot-bridge crossing Denniston Creek. The new fence will stand 6 feet tall and consists of open chain link fencing (same as the old fence); (2) the replacement and/or extension of two culverts within drainage ditches located beneath the existing midfield connector taxiway (Taxiway B). The scope of work at the southern culvert involves replacing the two 14-foot long concrete headwalls on either side of Taxiway B, as well as the existing 30" and 15" diameter, 75-foot long concrete culvert piping below Taxiway B. The culverts will be replaced using open trenching and backfilling methods. The headwall on the northern side of the taxiway will be moved 10 feet north of the existing location and the headwall on the southern side will be moved 5 feet south. The scope of work at the northern culvert involves replacing the existing headwall 7 feet upstream of its existing location, and extending the culvert pipe to meet the new location; and (3) the replacement of a windsock located midfield of the airport. This project requires a Coastal Development Permit (CDP) because the new fence and culverts are alterations to public works facilities and therefore ineligible for a Coastal Development Exemption.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2015-00312, by adopting the required findings and conditions of approval in Attachment A.

BACKGROUND

Report Prepared By: Michael Schaller, Project Planner, Telephone 650/363-1849

Applicant: San Mateo County Department of Public Works, Airports Division

Owner: San Mateo County

Location: Half Moon Bay Airport

General Plan Designation: Airport - Urban

Zoning: Light Industrial/Design Review (M-1/DR)

Flood Zone: Zone X (Areas of minimal flood hazard), FEMA Community Panel 06081C-0119E and -0138E, effective date October 16, 2012.

Existing Land Use: Airport with associated open space

Environmental Evaluation: The County is the lead agency and the Department of Public Works (DPW) has assumed the role of lead department, per the County California Environmental Quality Act (CEQA) Guidelines. Upon project approval, DPW will file a Categorical Exemption under Section 15302 (Replacement of existing facilities located on the same site as the structure replaced, involving negligible or no expansion of capacity) of the California Environmental Quality Act.

Setting: The project site is located at the northern end of Half Moon Bay and is situated between coastal bluffs to the west and Montara Mountain to the east, and is bound by San Vicente Creek to the north and Denniston Creek to the south. A U.S. Air Force communications facility, James M. Fitzgerald Marine Reserve, and Pillar Ridge Mobile Home Park are to the west. Highway 1, agricultural fields, and the community of Moss Beach are to the north. Agricultural fields and Denniston Creek Reservoir are to the east. The community of Princeton-by-the-Sea, the Pillar Point Harbor, and Pillar Point Marsh Preserve are to the south. Vegetation around the windsock replacement site and the proposed fence site is dominated by non-native grasses such as Italian ryegrass, mustard, and wild radish. Riparian vegetation associated with Denniston Creek is located near the proposed fence. In addition, plants typically associated with freshwater marsh habitat (rushes and flatsedges) were observed growing within the area between the edge of riparian vegetation and the proposed location of the new fence. The drainage ditches in which the replacement culverts are located support freshwater marsh habitat, while the surrounding agricultural area includes non-native grasses and other vegetation. Plants present included pacific silverweed, rush, sedge, bristly ox-tongue, curly dock, flatsedge, smartweed, and broadfruit bur-reed.

DISCUSSION

A. KEY ISSUES

1. Conformance with the County General Plan

Pursuant to Section 53091 of the California Government Code, projects undertaken by the Department of Public Works are typically exempt from review under the County's Zoning Regulations. However, the project is subject to the policies of the General Plan.

Vegetative, Water, Fish and Wildlife Resources Policies

Policy 1.23 (*Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources*). This policy requires the regulation of land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources. As discussed above, the drainage ditches in which the replacement culverts are located support freshwater marsh habitat. However, the Biological Opinion issued by the U.S. Fish and Wildlife Service has determined that the project site does not support primary aquatic habitat for either the California red-legged frog or the San Francisco garter snake.

The southern culvert replacement and the extensions of the southern and northern culvert pipe lengths will permanently fill portions of the wetlands with backfill material, and will temporarily impact portions of the wetlands by re-grading the upstream and downstream areas to accommodate the new pipe locations. The culvert replacement and extensions will involve the installation of approximately 48 cubic yards of fill material, and approximately 701.5 square feet of permanent wetland disturbance and 1,337.5 square feet of temporary wetland disturbance, which includes approximately 95 cubic yards of excavation as well as the installation of approximately 50 cubic yards of riprap material.

The areas of temporary wetland disturbance upstream and downstream of the pipe extension locations will be replanted as part of the restoration phase of this project. A vegetation or mitigation plan will be completed prior to project commencement and will incorporate regulatory agency guidance. In addition, the project has been designed to minimize impacts by avoiding unnecessary vegetation removal, limiting work to the driest time of the year (when water levels in the drainage ditches will be at their lowest) and implementing a number of construction best management practices (BMPs), which are included in Attachment A as Conditions of Approval 2-28.

2. Conformance with the Local Coastal Program (LCP)

A Coastal Development Permit is required pursuant to San Mateo County Local Coastal Program Policy 2.1, which mandates compliance with the California Coastal Act for any government agency wishing to undertake development in the Coastal Zone. Listed categories of development include all public transportation facilities, including airports and roads (Policy 2.2). Summarized below are the following sections of the LCP that are relevant to this project:

a. Sensitive Habitats Component

Policy 7.1 (*Definition of Sensitive Habitats*). This policy defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable. This includes freshwater marsh habitat, which exists within the Taxiway B drainage ditches. There is also riparian habitat associated with Denniston Creek, which is adjacent to the proposed fence on the south-east end of the airport. However, no portion of the project proposes to directly impact riparian vegetation. Allowed uses in wetlands and buffer zones are discussed below, under Policies 7.16 and 7.19, respectively.

Policy 7.5 (*Permit Conditions*). This policy requires, as part of the development review process, that the applicant demonstrate that there will be no significant impact on sensitive habitats. This is achieved by having the applicant submit a biological report outlining what resources exist at the project location and how the project may impact those resources. The applicant has submitted a biological report (included as Attachment E of this report) for the project and site. The project sites (culverts and fence) do not contain primary habitat for any listed species. However, there is the potential that California red-legged frog and San Francisco garter snake could use the area in and around the culvert sites as dispersal habitat. Additionally, the riparian vegetation associated with Denniston Creek (which is approximately 10 feet away from the proposed fence location) serves as habitat for both species plus San Francisco dusky-footed woodrat. Mitigation measures to address potential impacts to these species were outlined in the report and have been included as conditions of approval in Attachment A of this report.

Policy 7.14 (*Definition of Wetland*). This policy defines wetlands as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. As discussed above in the setting section of this report, there is an area between the edge of the riparian vegetation associated with

Denniston Creek and the proposed fence where plants typically associated with wetland habitat are growing. This buffer area between the riparian vegetation and the ruderal/grasslands around the runways extends along the length of the Denniston Creek corridor. Also as discussed previously, the two drainage ditches in which culvert work is proposed contain wetland vegetation.

Policy 7.16 (*Permitted Uses in Wetlands*). This policy outlines permitted uses in wetlands, which include incidental public service purposes. Both the replacement fence and the culverts fall into the "incidental public services" category. The existing fence along this portion of the airport's property line is dilapidated and located partially within a heavily vegetated area of coastal riparian scrub that makes it difficult to properly maintain. Therefore, the new fence will be located approximately 10 feet from the edge of existing vegetation to provide a suitable cleared area for fence maintenance. The fence must be replaced to comply with Federal Aviation Administration (FAA) requirements for maintaining secured airport areas.

The two culverts must be replaced because they are failing and potentially hamper airport operations. The southern culvert is beyond its useful life and erosion around the culverts results in ponding between the runway and taxiway system during heavy rain events. The excess water is an attractant for wildlife, and the erosion creates a potential for permanent failure in the form of a sink hole, resulting in an unsafe operating environment for aircraft. In addition, the northern and southern culverts are located within the Taxiway Safety Area (TSA) and according to FAA Advisory Circular 150/5300-13, the TSA must be "cleared and graded and have no potentially hazardous ruts, humps, depressions or other surface variations." This requires the culverts and headwalls to be relocated outside the TSA on the northern and southern side of Taxiway B.

Policy 7.17 (*Performance Standards in Wetlands*). This policy requires that development permitted in wetlands minimize adverse impacts during and after construction including such measures as: (1) all construction takes place during daylight hours, (2) all construction which alters wetland vegetation be required to replace the vegetation, and (3) all projects be reviewed by the State Department of Fish and Wildlife and State Water Quality Board to determine appropriate mitigation measures.

The biological report prepared by the County biologist for this project indicates that all construction work will occur during daylight hours. The culvert replacement and extensions will involve the installation of approximately 48 cubic yards of fill material, and approximately 701.5

square feet of permanent wetland disturbance and 1,337.5 square feet of temporary wetland disturbance, which includes approximately 95 cubic yards of excavation as well as the installation of approximately 50 cubic yards of riprap material. The areas of temporary wetland disturbance upstream and downstream of the pipe extensions will be replanted as part of the restoration phase of this project. A vegetation mitigation plan will be completed prior to project commencement and will incorporate regulatory agency guidance as necessary to offset the permanent removal of approximately 700 square feet of wetland habitat. Planning staff has included a condition of approval (Condition 29) that requires the applicant to submit a wetlands mitigation plan prior to construction of the replacement culverts. Additionally, temporary dewatering in the form of bypass pumping will be used to divert water around the work area and maintain the flow of stormwater drainage during construction, if water is present. The applicant has also initiated the permitting process with the Regional Water Quality Control Board, Army Corps of Engineers and Department of Fish and Wildlife for the necessary permits. These permits must be issued before the culvert replacement segment of this permit can take place.

b. Visual Resources Component

Policy 8.6 (*Streams, Wetlands, and Estuaries*). This policy requires development to be set back from the edge of streams and other natural waterways a sufficient distance to preserve the visual character of the waterway. As stated previously, one of the project components is the replacement of the existing south perimeter fence with a new fence that is set back approximately 10 feet from the edge of the existing riparian vegetation. The existing fence, which has been completely overgrown by the riparian vegetation, will be left in place to avoid disruption of this biotic community. Placement of the new fence will not be readily visible to motorists traveling on the adjacent Capistrano Road, as the intervening vegetation will obscure the fence.

c. Hazards Component

Policy 9.9 (*Regulation of Development in Floodplains*). This policy states that development located within flood hazard areas shall employ the standards, limitations and controls contained in Chapter 35.5 (*Flood Hazard Areas*) of the San Mateo County Ordinance Code.

The flood plain associated with Denniston Creek borders the southern end of the project site. However, based upon the FEMA flood plain maps, it appears that the proposed fence location will be just outside of this mapped hazard area. For the majority of its run along the

southerly end of the project site, the creek is actually separated from the project parcel by Capistrano Road.

B. ENVIRONMENTAL REVIEW

The County is the lead agency and DPW has assumed the role of lead department, per the County CEQA Guidelines. Upon project approval, DPW will file a Categorical Exemption under Section 15302 (*Replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced*) of the California Environmental Quality Act.

C. REVIEWING AGENCIES

U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers – San Francisco District
California Coastal Commission
California Department of Fish and Wildlife
Regional Water Quality Control Board
Department of Public Works
Midcoast Community Council

ATTACHMENTS

A. Recommended Findings and Conditions of Approval
B. Location Map
C. Site Plan and Cross-Sections for Culvert and Windsock Replacement
D. Site Plan and Elevation for Fence Replacement
E. Biological Assessment

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Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2015-00312 Hearing Date: December 9, 2015

Prepared By: Michael Schaller, Project Planner For Adoption By: Planning Commission

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That the Planning Commission has reviewed and considered the Categorical Exemption, prepared by the Department of Public Works as lead department.

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements and standards of the San Mateo County Local Coastal Program with regard to the protection of biotic and visual resources.

3. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program, as discussed in Section B.2 of the staff report dated December 9, 2015. Protection measures will be implemented to prevent impacts to biological resources, including San Francisco garter snake and California red-legged frog.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Planning Commission on December 9, 2015. The Community Development Director may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

U.S. Fish and Wildlife Service Biological Opinion Standard Prevention Measures

2. At least 15 days prior to the onset of any construction-related activities, the Federal Aviation Administration (FAA) through the County of San Mateo shall submit to the Service, for approval, the name(s) and credentials of biologists it requests to conduct activities specified for this project. Information included in a request for authorization must include, at a minimum: (1) relevant education; (2) relevant training on species identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service; (3) a summary of field experience conducting requested activities (to include project/research information and actual experience with the species); (4) a summary of biological opinions under which they were authorized to work with the listed species and at what level (such as construction monitoring versus handling), this should also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project, including detail on whether the species was encountered or not; and (5) a list of Federal Recovery Permits [10(a)1(A)] held or under which individuals are authorized to work with the species (to include permit number, authorized activities, and name of permit holder).

3. Prior to initiation of construction activities, a Service-approved biologist will conduct a training session with construction personnel. New project personnel will receive this training before performing their duties on the site. At a minimum, the training shall include: a description of the California red-legged frog, San Francisco garter snake, their habitat requirements and life history; the importance of the species and their habitat, the general measures that are being implemented to conserve the species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. Persons completing training will sign a form stating that they attended and understand all the conservation and protection measures.

4. A Service-approved biologist shall survey the work site for San Francisco garter snakes and California red-legged frogs no more than 48 hours before the onset of project activities. Surveys shall consist of walking transects while conducting visual encounter surveys in areas that will be subject to vegetation clearing, grubbing, grading, cut and fill, or other ground-disturbing activities. If a San Francisco garter snake or California red-legged frogs, tadpoles, or eggs are found within the work site during the pre-construction surveys or at any time during the project, the approved biologist shall report the time, date, location, and any other relevant information about the occurrence to the County of San Mateo, the FAA, and the Service in a timely manner.

5. The contractor or permittee shall designate a Service-approved biologist to monitor on-site compliance with all minimization measures. Full-time biological

monitoring is required during construction of the boundary fence installation, and culvert removal/installation. The approved biologist shall have the authority to halt any action that might result in take of listed species. If work is stopped, the County of San Mateo shall be notified immediately by the biological monitor.

6. During project activities, all trash that may attract predators shall be properly contained, removed, and disposed of daily. Following construction, trash/construction debris shall be removed from work areas.

7. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 60 feet from any riparian habitat or water body. The permittee shall ensure contamination of habitat does not occur during such operations. The County of San Mateo shall prepare a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

8. Disturbed project areas shall be revegetated with an appropriate assemblage of vegetation suitable for the area. A revegetation plan shall be prepared to include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved. The revegetation plan will be subject to review and approval by the Service.

9. The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of wetland areas, as feasible. Where impacts occur in these staging areas and access routes, restoration shall occur as identified in Condition 8 above.

10. To assist in excluding California red-legged frogs and San Francisco garter snakes from the work area, an exclusion fence will be installed between Denniston Creek and the work area prior to the commencement of construction activities. Exclusion fencing will be silt-fence type fencing or equivalent, and will not include poly mesh fencing or other similar fencing that could entrap or snag reptiles, amphibians, or other small animals. Exclusion fencing will be installed with the fence stakes placed on the side opposite Denniston Creek to prevent snakes from using the stakes to maneuver over the fence. Fencing should be keyed-in appropriately (at least 6 inches deep) and exit funnels installed approximately every 125 feet. The Service-approved biologist will be consulted concerning exact placement and installation of the exclusion fencing. Once fencing is in place, it should be maintained until all work along Denniston Creek has been completed. The fencing should be inspected for repair and the presence of wildlife on a daily basis by a Service-approved biologist. Any damaged areas should be repaired immediately upon discovery.

11. Any exposed holes or trenches shall be covered at the end of each workday, or suitable escape ramps provided, to allow for escape of any entrapped wildlife species, including California red-legged frogs and San Francisco garter snakes. All holes or trenches left overnight shall be inspected each morning for entrapped wildlife species. Should wildlife be observed within excavated holes or trenches, crews shall not handle any species and shall contact the biological monitor immediately to determine the necessary steps for notification to the appropriate agencies or removal of the species from the workspace.

12. To control erosion during and after project implementation, the applicant shall implement best management practices as detailed in the project Stormwater Pollution Prevention Plan.

13. No construction activities will occur during rain events. Construction will occur during the dry season, between June 1 and October 15.

14. If California red-legged frogs are located within the work site, the Service-approved biologist will relocate them to the closest appropriate location within Denniston Creek.

15. Service-approved biologists handling frogs will implement the "Declining Amphibian Populations Task Force Fieldwork Code of Practice" during any handling to prevent transfer of diseases through contaminated equipment or clothing.

16. Under no circumstances shall a San Francisco garter snake be handled, relocated, or otherwise harmed or harassed at any time. If a potential San Francisco garter snake is located within the action area, project construction in the immediate area will stop and a Service-approved biologist will be called in to determine the species of snake. If determined to be a San Francisco garter snake, the stop-work will remain in effect until the snake has left the area where it is at risk of take. The Service will be notified within 24 hours if a San Francisco garter snake has been located in the action area.

Department of Public Works Best Management Practices (BMPs) to be Implemented for the Proposed Project

17. Non-Hazardous Materials

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.

- Use (but do not overuse) reclaimed water for dust control.

18. Hazardous Materials

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, County, State and Federal regulations.

- Store hazardous materials and wastes in water-tight containers, store in appropriate secondary containment, and cover them at the end of every workday or during wet weather or when rain is forecast.

- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.

- Arrange for appropriate disposal of all hazardous wastes.

19. Waste Management

- Cover waste disposal containers securely with tarps at the end of every workday and during wet weather.

- Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.

- Clean or replace portable toilets, and inspect them frequently for leaks and spills.

- Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.).

- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

20. Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off-site.

- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

21. Maintenance and Parking

- Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off-site.
- If refueling or vehicle maintenance must be done on-site, work in a bermed area away from storm drains and over a drip pan big enough to collect fluids.
- Recycle or dispose of fluids as hazardous waste.
- If vehicle or equipment cleaning must be done on-site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- Do not clean vehicle or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

22. Spill Prevention and Control

- Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- Clean up spills or leaks immediately and dispose of cleanup materials properly.
- Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: (1) Dial 911 or your local emergency response number and (2) Call the Governor's Office of Emergency Services Warning Center, 800/852-7550 (24 hours).

23. Sediment Control

- Protect storm drain inlets, gutters, ditches, and drainage courses with appropriate BMPs, such as gravel bags, fiber rolls, berms, etc.
- Prevent sediment from migrating off-site by installing and maintaining sediment controls, such as fiber rolls, silt fences, or sediment basins.
- Keep excavated soil on the site where it will not collect into the street.
- Transfer excavated materials to dump trucks on the site, not in the street.

24. Containment

- Fluid spills shall not be hosed down. The contractor shall use dry cleanup methods (absorbent materials, cat litter, and/or rags) whenever possible. If water must be used, the contractor will be required to collect the water and spilled fluids and dispose of it as hazardous waste. Spilled fluids shall not be allowed to soak into the ground or enter into any watercourse.
- Spilled dry materials shall be swept up immediately. Dry spills shall not be washed down or buried. Spills on dirt areas should be removed by digging up and properly disposing of contaminated soil.
- Significant spills shall be reported to San Mateo County Environmental Health Services Division, or other emergency office as warranted, immediately and documented using the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) Construction Site Inspection Report form.

25. Equipment Maintenance and Fueling

- A separate area shall be designated for equipment maintenance and fueling, away from any slopes, watercourses or drainage facilities.
- Where equipment is expected to be stored for more than a few days, cleanup materials and tools shall be kept nearby and available for immediate use (refer to Condition No. 24, “Containment”).
- Equipment shall not be stored in areas that will potentially drain to watercourses or drainage facilities.
- If equipment must be stored in areas with the potential to generate runoff, drip pans, berms, sandbags or absorbent booms shall be employed to contain any leaks or spills.

- Equipment shall be inspected daily for leaks or damage and promptly repaired.

- Timing of Work: Construction activities that remove vegetative soil cover and/or potentially release sediment into stormwater will be conducted during the dry season (June 1 and October 15). Activities that are subject to permit requirements will be conducted during the period authorized by the permits.

26. Dust Management Controls

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

- Post a publicly visible sign with the telephone number and person to contact at the County regarding dust complaints. Following the review of any dust complaints, the County project manager shall respond and take corrective action within 48 hours.

27. Staging and Access

Staging, access, and parking areas will be located outside of sensitive habitats to the extent feasible.

28. Invasive Plant Control

In order to minimize the spread of invasive plants, all equipment (including personal gear) will be cleaned of soil, seeds, and plant material prior to arriving on the project site to prevent introduction of undesirable plant species.

29. Wetlands Removal Mitigation

Prior to the beginning of construction work associated with the replacement of the taxiway culverts, the applicant shall submit a wetlands mitigation plan that incorporates the input of State Department of Fish and Wildlife and State Water Quality Board and replaces all permanently removed wetlands at a 3:1 (new:lost) ratio. Said plan shall be submitted to the Planning and Building Department prior to the beginning of construction. Once approved, said plan shall be implemented within one year of approval.

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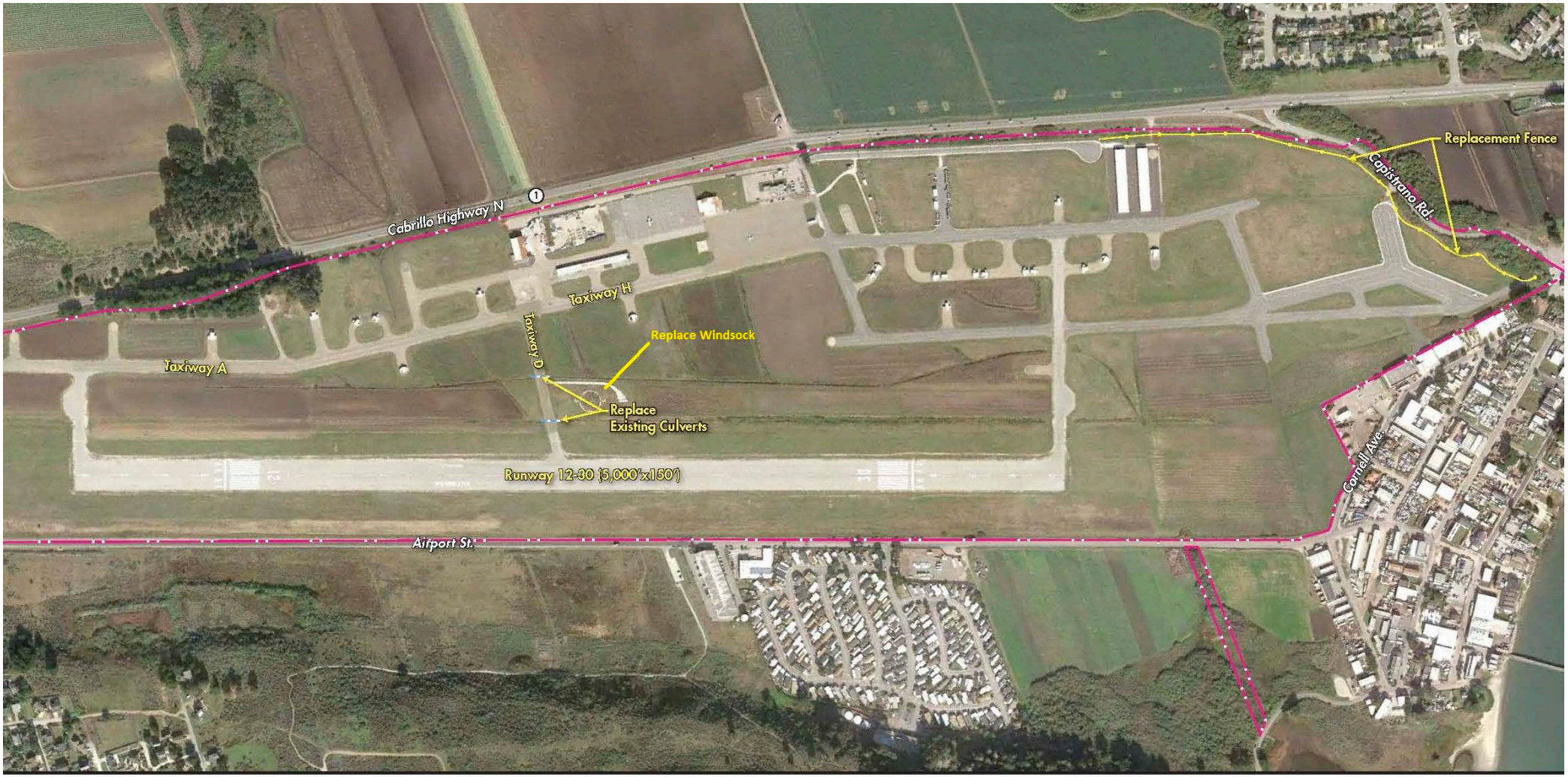


LEGEND

- Airport Property Line
- Culvert Location

0 500 1000

SCALE IN FEET

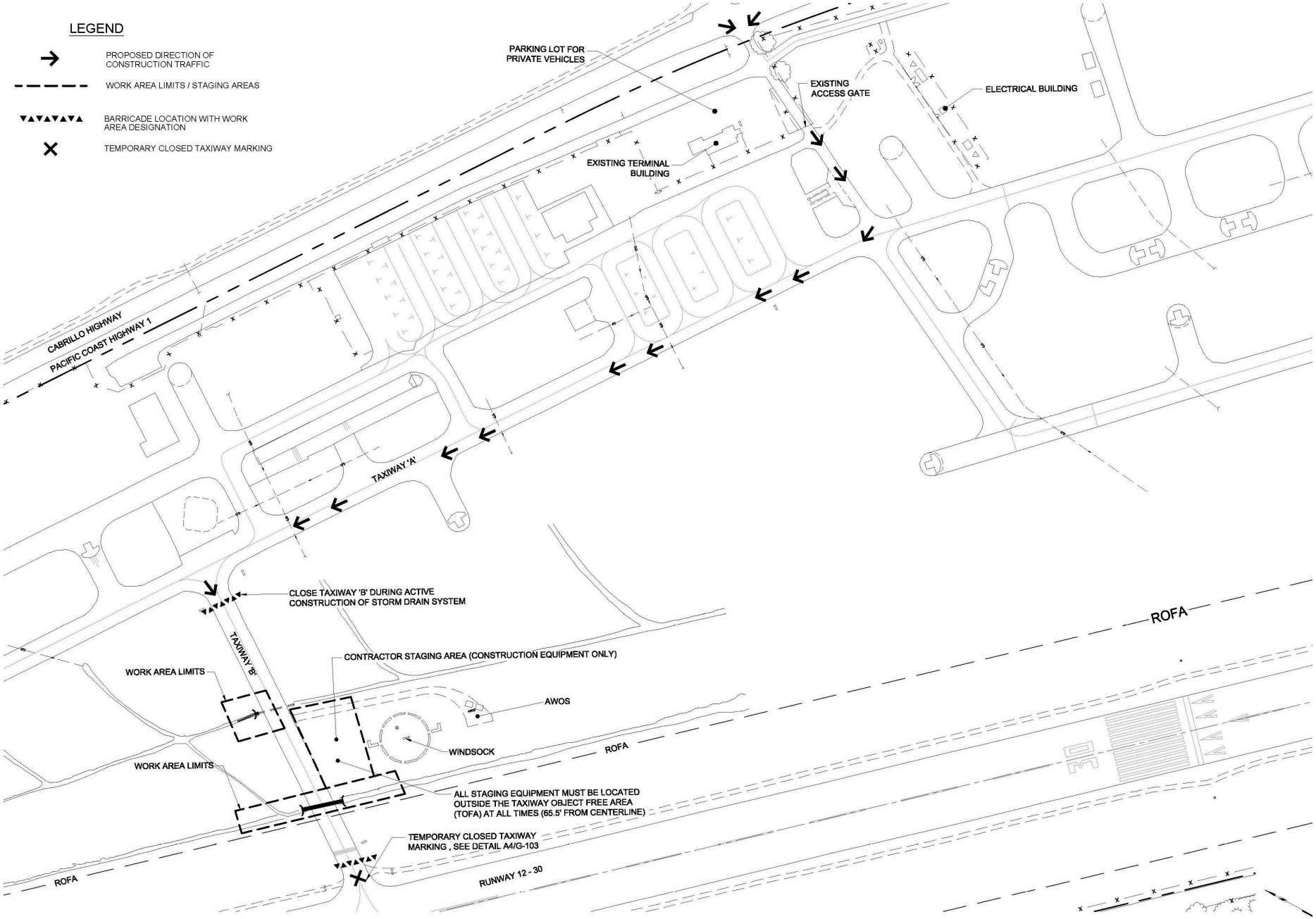
NORTH

Google Earth Date of Imagery: 10/31/11

San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airports Div.)** Attachment: **B**

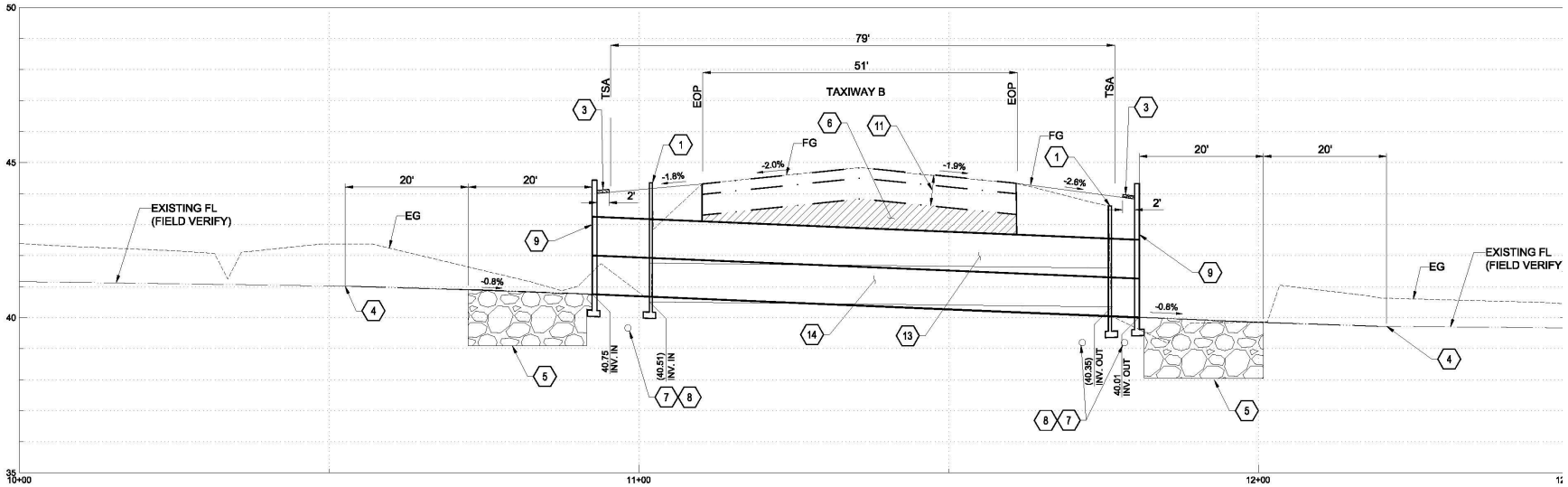
File Numbers: **PLN 2015-00312**



San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airports Div.)** Attachment: **C-1**

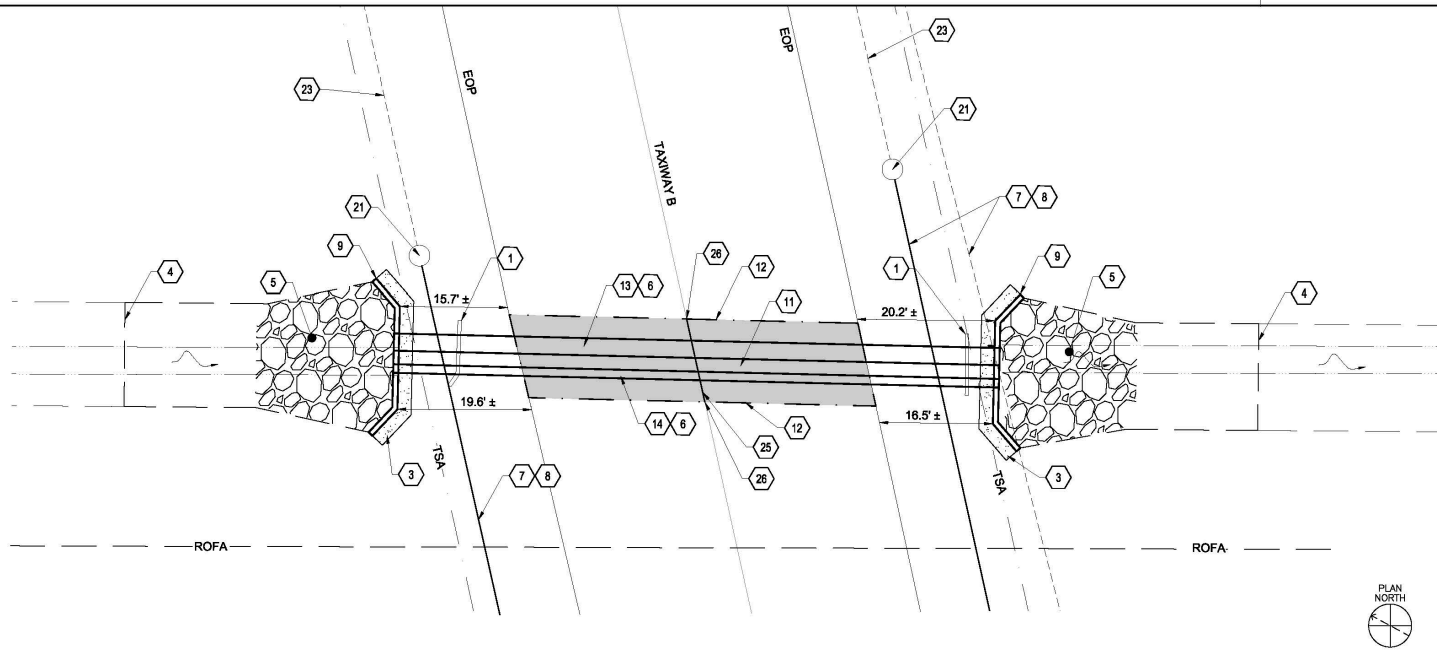
File Numbers: **PLN 2015-00312**



B1 **SOUTH CULVERT PROFILE VIEW**
SCALE: H: 1" = 10' V: 1" = 2'

1. EXISTING HEADWALL TO BE REMOVED, OFF-HAUL ALL REMOVED MATERIAL
3. SHOTCRETE 2' BEHIND HEAD WALL
4. MATCH EXISTING GRADE, SEE DETAIL B3/CG-502
5. RSP PER CALTRANS STANDARDS, SEE CG-502 FOR RSP DETAILS
6. BACKFILL WITH SLURRY CEMENT BACKFILL PER CALTRANS SECTION 19 WHERE 30" COVER IS NOT ATTAINABLE
7. FIELD VERIFY ELECTRICAL CABLE LOCATION (DIRECT BURIED CABLES PRIOR TO CONSTRUCTION)
8. EXISTING ELECTRICAL CABLE (DIRECT BURIED). PRIOR TO EXCAVATING, TEMPORARILY SHUT OFF SERVICE ON TAXIWAY B LIGHTING DURING DAY LIGHT HOURS, AND CUT OFF DIRECT BURIED WIRES BETWEEN TWO EXISTING LIGHTS OR TWO EXISTING PULL BOXES, WHERE THE CULVERTS ARE LOCATED. BEFORE LAYING DOWN THE NEW STORM DRAIN PIPE, PLACE NEW 2" CONDUIT BETWEEN TWO LIGHTS AND PULL WIRE, RECONNECT TAXIWAY LIGHTS, AND TEST FOR PROPER FUNCTION . REFER TO DETAILS C3/G-103 AND B3/G-103. NEW AIRFIELD LIGHTING CABLE SHALL MATCH EXISTING CABLE. PROVIDE NEW BARE COPPER COUNTERPOISE WIRE IN SEPARATE TRENCH. REFER TO DETAILS C3/G103 AND A3/G-103.
9. PROPOSED CONCRETE DOUBLE HEADWALL WITH TYPE 'A' WINGWALLS PER CALTRANS STANDARD PLANS, SEE CG-501
11. PLACE AND COMPACT 4" HMA TYPE A, 8" AB, CLASS 2 PER CALTRANS STANDARDS
12. SAWCUT ASPHALT PER TRENCHING DETAIL C1/CG-502
13. PLACE 89 LF OF 30" RCP AT S=0.8%
14. PLACE 89 LF OF 15" RCP AT S=0.8%
21. EXISTING TAXIWAY EDGE LIGHT TO REMAIN, PROTECT IN PLACE
23. EXISTING DIRECT BURIED CABLE TO REMAIN, PROTECT IN PLACE
25. CONTRACTOR TO STRIPE 6" YELLOW CENTERLINE AFTER COMPLETION OF CONSTRUCTION, PER DETAIL C4/G-103
26. MEET EXISTING TAXIWAY CENTERLINE

A1 **KEYED NOTES**
SCALE: NOT TO SCALE

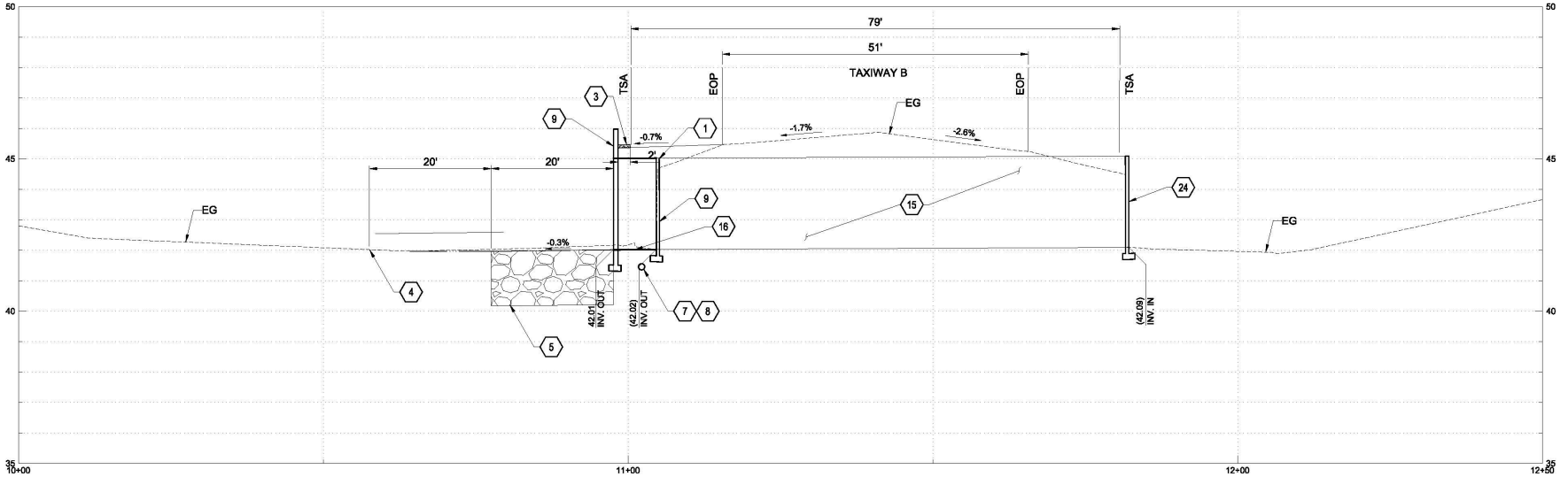


A2 **SOUTH CULVERT PLAN VIEW**
SCALE: 1" = 10'

San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airports Div.)** Attachment: **C-2**

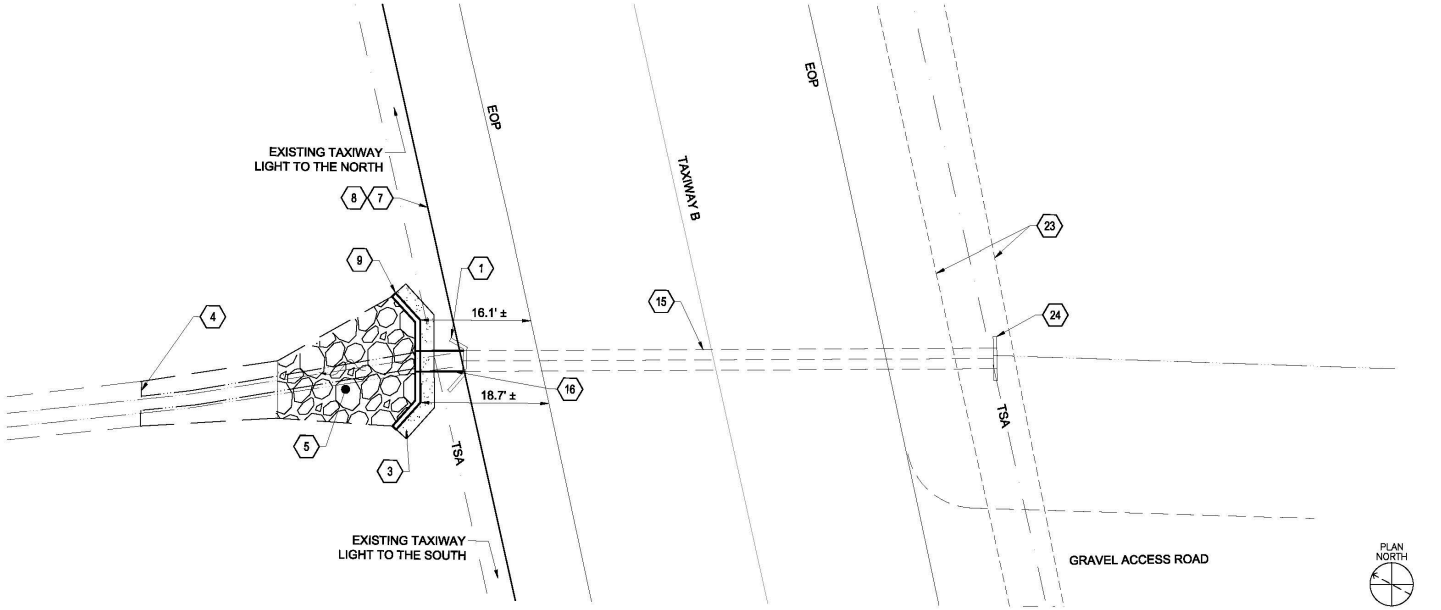
File Numbers: **PLN 2015-00312**



B1 **NORTH CULVERT PROFILE VIEW**
SCALE: H: 1" = 10' V: 1" = 2'

1. EXISTING HEADWALL TO BE REMOVED, OFF-HAUL ALL REMOVED MATERIAL
3. SHOTCRETE 2' BEHIND HEAD WALL
4. MATCH EXISTING GRADE, SEE DETAIL C3/CG-502
5. RSP PER CALTRANS STANDARDS, SEE SHEETCG-502 FOR RSP DETAILS
7. FIELD VERIFY ELECTRICAL CABLE LOCATION (DIRECT BURIED CABLES PRIOR TO CONSTRUCTION)
8. EXISTING ELECTRICAL CABLE (DIRECT BURIED). PRIOR TO EXCAVATING, TEMPORARILY SHUT OFF SERVICE ON TAXIWAY B LIGHTING DURING DAY LIGHT HOURS, AND CUT OFF DIRECT BURIED WIRES BETWEEN TWO EXISTING LIGHTS OR TWO EXISTING PULL BOXES, WHERE THE CULVERTS ARE LOCATED. BEFORE LAYING DOWN THE NEW STORM DRAIN PIPE, PLACE NEW 2" CONDUIT BETWEEN TWO LIGHTS AND PULL WIRE, RECONNECT TAXIWAY LIGHTS, AND TEST FOR PROPER FUNCTION . REFER TO DETAILS C3/G-103 AND B3/G-103. NEW AIRFIELD LIGHTING CABLE SHALL MATCH EXISTING CABLE. PROVIDE NEW BARE COPPER COUNTERPOISE WIRE IN SEPARATE TRENCH. REFER TO DETAILS C3/G103 AND A3/G-103.
9. PROPOSED CONCRETE SINGLE HEADWALL WITH TYPE 'A' WINGWALLS PER CALTRANS STANDARD PLANS, SEE CG-501
15. EXISTING 36" CMP PIPE TO REMAIN, PROTECT IN PLACE
16. INSTALL 7 LF OF CMP PIPE TO NEW HEADWALL AND CONNECT TO EXISTING 36" CMP PIPEAT S=0.1%
23. EXISTING DIRECT BURIED CABLE TO REMAIN, PROTECT IN PLACE
24. EXISTING HEADWALL TO REMAIN, PROTECT IN PLACE

A1 **KEYED NOTES**
SCALE: NOT TO SCALE

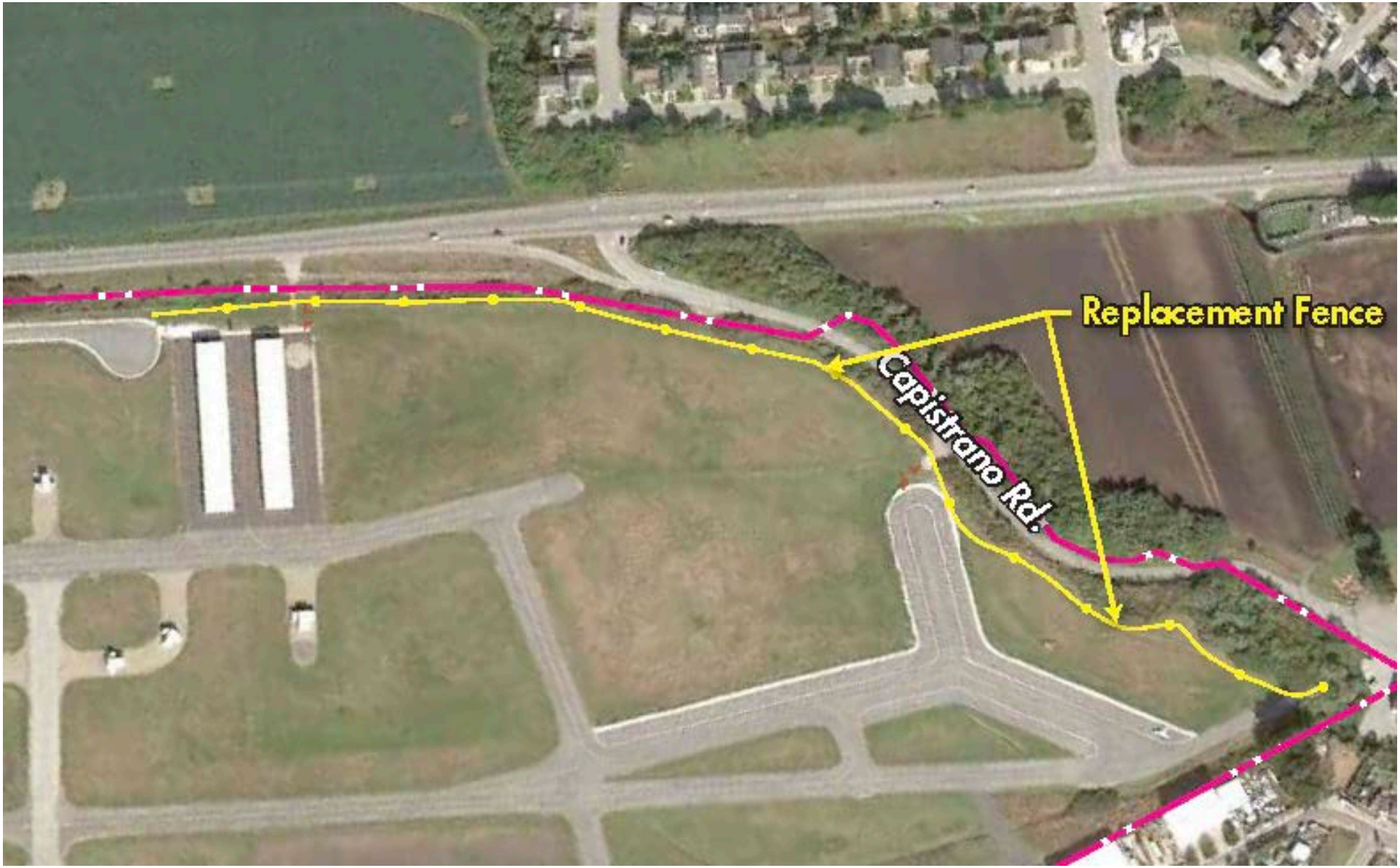


A2 **NORTH CULVERT PLAN VIEW**
SCALE: 1" = 10'

San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airports Div.)** Attachment: **C-3**

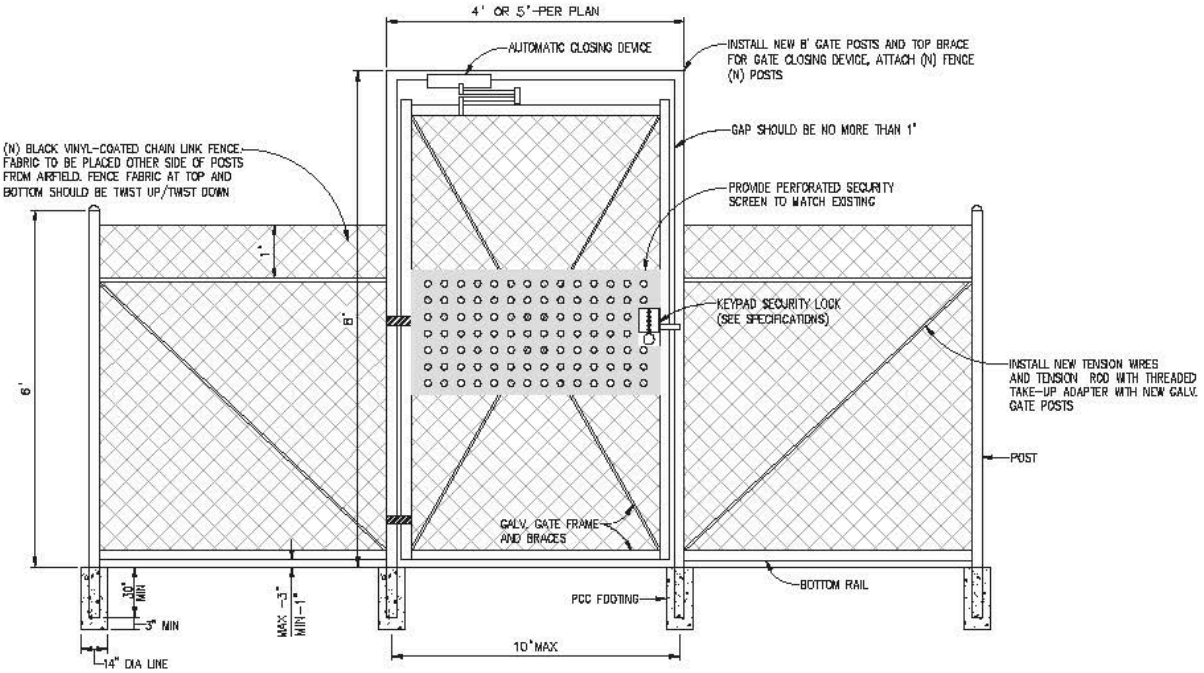
File Numbers: **PLN 2015-00312**



San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airports Div.)** Attachment: **D-1**

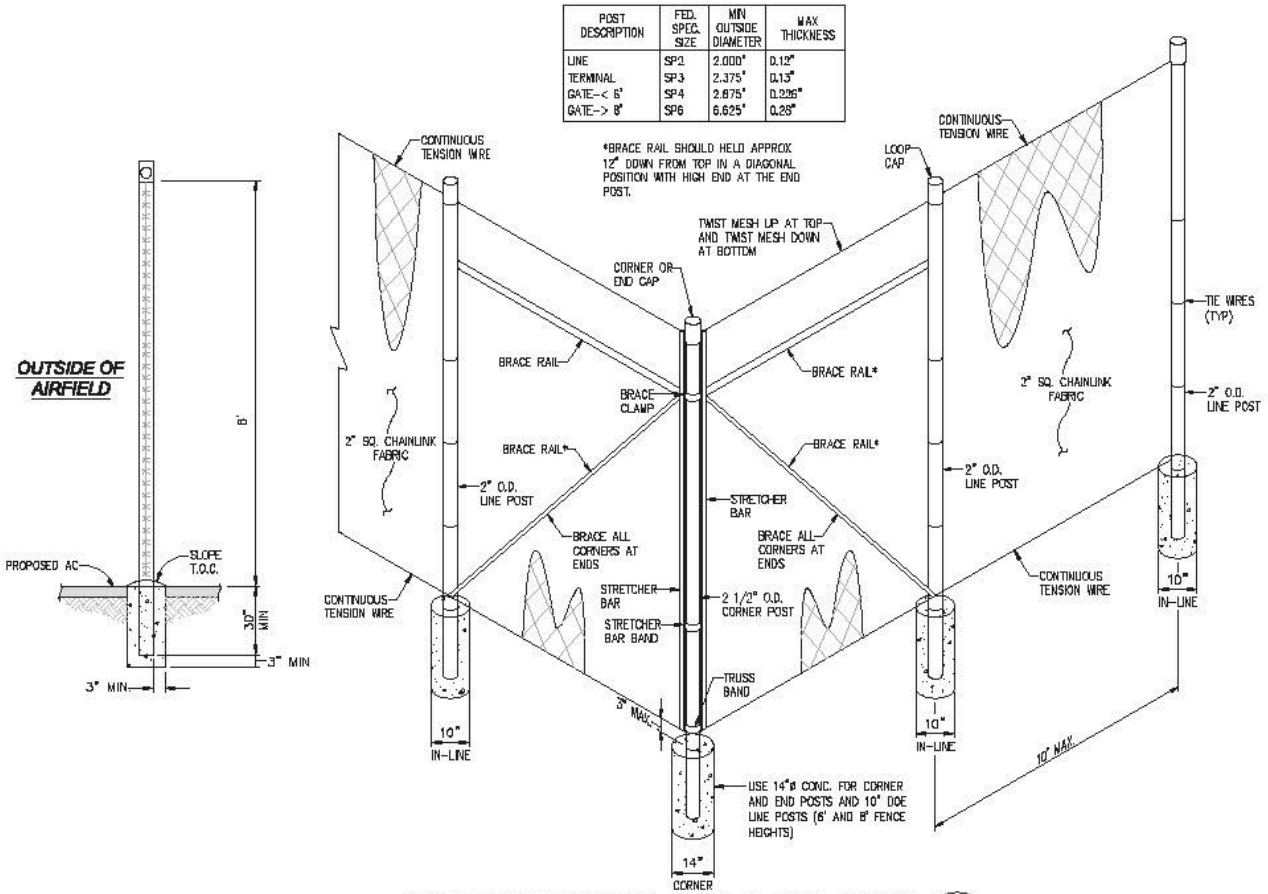
File Numbers: **PLN 2015-00312**



AIRFIELD GATE (FAA F-162) "AOA" G 69

NOT TO SCALE

POST DESCRIPTION	FED. SPEC. SIZE	MIN OUTSIDE DIAMETER	MAX THICKNESS
LINE	SP2	2.000"	0.12"
TERMINAL	SP3	2.375"	0.13"
GATE-< 6'	SP4	2.875"	0.226"
GATE-> 8'	SP6	6.625"	0.28"



AIRFIELD FENCING (FAA F-162) "AOA" H 69

NOT TO SCALE

San Mateo County Planning Commission Meeting

Owner/Applicant: **San Mateo County Dept. of Public Works (Airport Div.)** Attachment: **D-2**

File Numbers: **PLN 2015-00312**

County of San Mateo - Planning and Building Department

ATTACHMENT E

Appendix E
BIOLOGICAL ASSESSMENT AND SECTION 7 CONSULTATION

Appendix E
BIOLOGICAL ASSESSMENT AND SECTION 7 CONSULTATION

A review of historical environmental documents prepared for Half Moon Bay Airport revealed the potential for the occurrence of numerous state and federally protected plant and animal species in the airport environs. Field surveys of the project area were undertaken by SWCA Environmental Consultants in June and November 2009. The purpose of the surveys was to provide an inventory of botanical resources within the project area as well as to determine whether or not the California red legged frog (federally listed species) had the potential to occur. The results of these surveys are documented within the Biological Assessment (BA).

The BA determined that two federally listed species could potentially be impacted by the proposed airport improvements. Due to the potential impacts to the California red legged frog and the San Francisco garter snake, the Federal Aviation Administration (FAA) initiated formal Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) in February 2012. As a result of a minor modification to the Proposed Action access road alignment, the FAA submitted a letter of explanation and a revised Proposed Action exhibit to the USFWS on June 25, 2012. Copies of all FAA Section 7 consultation materials, as well as the submitted BA and USFWS-issued Biological Opinion, are included in this appendix.

Study/Letter ***Page***

U.S. Department
of Transportation
Federal Aviation Administration

Western-Pacific Region
Airports Division

San Francisco Airports District Office
831 Mitten Road, Room 210
Burlingame, CA 94010

September 1, 2011

Ms. Susan Moore
Field Supervisor
Sacramento Ecological Field Office
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

Subject: Initiation of Informal Section 7 Consultation For Half Moon Bay Airport, Half Moon Bay, California – Proposed Taxiway, Access Road and Drainage Improvements

Dear Ms. Moore:

The purpose of this letter is to initiate informal Section 7 consultation under Title 50, Code of Federal Regulations (CFR) Part 401 and the implementing regulations for the Endangered Species Act (ESA) of 1973, as amended. The Federal Aviation Administration (FAA) is beginning informal Section 7 consultation for proposed airport improvements at Half Moon Bay Airport (HAF), San Mateo County, California. The San Mateo County Department of Airports (County) is the airport owner and operator of the airport. The County is proposing improvements that will improve safety, circulation, and drainage at the airport. The proposed action is to construct additional taxiway segments at the airport, extend existing airport access roads, and construct drainage improvements. The following paragraphs briefly describe the proposed airport improvements.

Taxiway Improvements. The proposed taxiway improvements are based upon FAA standards in Advisory Circular (AC) 5300-13, *Airport Design*, paragraph 204, which states that an airport's taxiway system should provide free movement to and from the runways, terminal/cargo, and parking areas. Recommended taxiway system characteristics include a parallel taxiway for each runway, multiple access points to runway ends, direct connection between airport facilities.

The additional taxiway segments proposed for HAF would connect to the existing taxiway system in the midfield area and would provide a full length taxiway to serve Runway 12/30 and additional connecting taxiways. Completion of the taxiway segments would provide alternate route options for aircraft and improve access to existing landside facilities. The connecting taxiways will allow aircraft beyond the runway midpoint to exit the runway without taxiing to the end of the runway, which will also increase airfield efficiency.

Vehicle Access Improvements. Two vehicle access road segments are proposed to allow vehicular access to existing airport facilities that are currently only accessible by driving on

the aircraft taxiway. The purpose of the project is to remove vehicular traffic on active taxiways. The northern road segment is approximately 2,600 feet long and connects the terminal area to existing Port-A-Port hangars. The southern access road is approximately 1,150 feet long and connects the southern gated access point to existing T-hangars. The need for these improvements is supported by the airport's responsibility to provide a safe and efficient operating area for airport users. The proposed improvements will allow the airport to segregate vehicle and aircraft traffic within active operations areas.

Drainage Improvements. Thirteen concrete storm drains would be constructed as part of the airport drainage ditch system. Three of the storm drains would replace existing culverts that currently convey stormwater under the existing connecting taxiways. Erosion has degraded the culverts resulting in ponding between the runway and taxiways during heavy rain events. The remaining 10 would be installed as part of the proposed new taxiways and the vehicle access roads. The need for the drainage improvements is supported by *Airport Sponsor Grant Assurance 19*, Operations and Maintenance, which requires the County to provide airport facilities in a safe and serviceable condition.

The FAA is providing the enclosed Biological Assessment (BA) as information in support of its evaluation of the HAF site conditions. The locations of proposed improvements are depicted in Appendix A of the BA. The BA meets the requirements set forth under Section 7 of the ESA. Based upon the biological evaluation the the FAA's determination is that the proposed taxiway and access improvements may affect, but are not likely to adversely affect, the following federally-protected species: California red-legged frog (*Rana draytonii*) and San Francisco garter snake (*Thamnophix tetratenia*).

In order to minimize the potential for adverse impacts to the California red-legged frog and the San Francisco garter snake, the FAA will require County to implement the conservation measures identified below. Please note that the descriptions of the measures are slightly modified from the BA to account for the County's role as the project proponent. The conservation measures are:

1. A qualified biologist will survey the work site two weeks before the onset of activities. If California red-legged frogs, tadpoles, or eggs are found, the approved biologist will inform the County and the FAA. The FAA would then initiate formal ESA Section 7 consultation with United States Fish and Wildlife Service (USFWS).
2. Before any construction activities begin on the project, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training should include a description and the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
3. The County or its contractor will designate a qualified biologist to monitor on-site compliance with all minimization measures. Full-time monitoring is recommended

during construction of the South Access Road to ensure that no unanticipated take of California red-legged frog occurs. The qualified biologist will have the authority to halt any action that might result in impacts that exceed the levels anticipated during review of the proposed action. If work is stopped, the County will be notified immediately by the qualified biological monitor. The County will advise the FAA of the stop work and the site concerns.

4. During project activities, all trash that may attract predators will be properly contained, removed, and disposed of regularly. Following construction, trash/construction debris should be removed from work areas.
5. All fueling and maintenance of vehicles and other equipment and staging areas should occur at least 20 meters from any riparian habitat or water body. The County should ensure contamination of habitat does not occur during such operations. The County should prepare a plan to allow a prompt and effective response to any accidental spills. All workers should be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
6. A qualified biologist should ensure that the spread or introduction of invasive exotic plant species be avoided to the maximum extent possible.
7. Disturbed project areas will be revegetated with an appropriate assemblage of vegetation suitable for the area and airport operations. A revegetation plan will be prepared to include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.
8. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries should be clearly demarcated, and these areas will be outside of wetland areas, as feasible. Where impacts occur in these staging areas and access routes, restoration should occur as identified in Measure 7 above.
9. To control erosion during and after project implementation, the County will implement best management practices.
10. Under no circumstances should a California red-legged frog be handled, relocated, or otherwise harmed or harassed at any time without coordination and approval from USFWS.

In addition to the above avoidance and minimization measures for the California red-legged frog, which are for the most part transferable to the San Francisco garter snake, the following additional measures are recommended to specifically avoid take of the San Francisco garter snake during construction of the South Access Road:

11. A qualified biologist will conduct preconstruction surveys before any ground-disturbing activities take place in potential San Francisco garter snake habitat. Surveys will consist of walking transects while conducting visual encounter surveys

in areas that will be subject to vegetation clearing, grubbing, grading, cut and fill, or other ground-disturbing activities. If a San Francisco garter snake is observed during a survey, the FAA, USFWS and the County will be notified, and the San Francisco garter snake should be monitored until it leaves the area on its own and undisturbed, without harassment.

12. Before any construction activities begin on the project, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description and the importance of the San Francisco garter snake and its habitat, the general measures that are being implemented to conserve the San Francisco garter snake as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
13. To assist in excluding San Francisco garter snakes from the work area, an exclusion fence should be installed between Denniston Creek and the work area prior to the commencement of construction activities. Exclusion fencing should be silt-fence type fencing or equivalent, and should not include poly mesh fencing or similar fencing that could entrap or snag reptiles, amphibians, or other small animals. Exclusion fencing should be installed with the fence stakes placed on the side opposite Denniston Creek to prevent snakes from using the stakes to maneuver over the fence. Fencing should be keyed-in appropriately (at least 6-inches deep) with 10-foot long turn-arounds toward Denniston Creek located at either end in order to redirect animals away from openings. Once fencing is in place, it would be maintained until all work along Denniston Creek has been completed. The fencing should be inspected on a daily basis by a qualified biologist, and any damaged areas should be repaired immediately upon discovery.
14. Take avoidance measures for San Francisco garter snake will be employed in all areas where construction could result in the direct take of this species. Full-time monitoring is recommended during construction of the South Access Road to ensure that no unanticipated take of San Francisco garter snake occurs. The qualified biologist will be on call as needed to monitor construction activities in potential habitat and inspect exclusion fencing (discussed in Measure 13 above) to ensure it remains intact throughout the duration of construction. The qualified biologist may stop work if necessary to protect San Francisco garter snake, and should notify County as to how to proceed accordingly.
15. Under no circumstances should a San Francisco garter snake be handled, relocated, or otherwise harmed or harassed at any time without coordination and approval from USFWS.

The FAA is seeking USFWS concurrence with its determination that the proposed action may affect, but is not likely to adversely affect, the California red-legged frog and the San Francisco garter snake.

Your attention to this matter is appreciated. If you have any questions or concerns about the County's proposed improvements at HAF or the enclosed BA, I am available at (650) 876-2778 extension 613.

Sincerely,

ORIGINAL SIGNED BY
CAMILLE GARIBALDI

Camille Garibaldi
Environmental Protection Specialist

Enclosure

cc (w/o encl):
✓ Mark Larson, County of San Mateo
Molly Waller, Coffman Associates

Biological Assessment
for the
Half Moon Bay Airport
Taxiway and Access Road Improvements Project
Half Moon Bay, California

Prepared for:

Federal Aviation Administration

On Behalf of:

Half Moon Bay Airport

Prepared by:

SWCA Environmental Consultants

January 2012

BIOLOGICAL ASSESSMENT
FOR THE
HALF MOON BAY AIRPORT
TAXIWAY AND ACCESS ROAD IMPROVEMENTS PROJECT

Project Area Location:
USGS 7.5" Quadrangle Montara Mountain, CA

Assessor's Parcel Number:
037292090

Prepared for:

FEDERAL AVIATION ADMINISTRATION
Western-Pacific Region
831 Mitten Road, Suite 210
Burlingame, CA 94010

On behalf of:

HALF MOON BAY AIRPORT
9850 Cabrillo Highway N.
Half Moon Bay, CA 94019

COUNTY OF SAN MATEO
620 Airport Drive
San Carlos, CA 94070

Prepared by:

SWCA Environmental Consultants
60 Stone Pine Road, Suite 201
Half Moon Bay, CA 94019

SWCA Project Number. 15661

January 2012

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

The San Mateo County Department of Public Works, Airports Division retained Coffman Associates and SWCA Environmental Consultants (SWCA) to conduct biological resource surveys and to prepare this Biological Assessment (BA) in support of the Half Moon Bay Airport Taxiway and Access Road Improvements Project (project). The purpose of this BA is to review the proposed project in sufficient detail to determine whether it may affect any of the federally protected species or critical habitat discussed below in accordance with the legal requirements set forth under Section 7 of the Endangered Species Act (ESA), and to support preparation of an Environmental Assessment in accordance with Federal Aviation Administration (FAA) Orders 1050.1E and 5050.4B. The FAA is the lead agency for the EA and ESA consultation.

1.1 PROJECT LOCATION

The Half Moon Bay Airport is located at the northern end of Half Moon Bay in an unincorporated area of San Mateo County, California (see Figures 1 to 3). It is situated between coastal bluffs to the west and Montara Mountain to the east, and is bound by San Vicente Creek to the north and Denniston Creek to the south. A U.S. Air Force communications facility, James M. Fitzgerald Marine Reserve, and Pillar Ridge Mobile Home Park are to the west. Highway 1, agriculture fields, and the community of Moss Beach are to the north. Agricultural fields and Denniston Creek Reservoir are to the east. The community of Princeton-by-the-Sea, the Pillar Point Harbor, and Pillar Point Marsh Preserve are to the south.

1.2 CRITICAL HABITAT

The biological study area (BSA) is not located within any federally designated critical habitat units. This determination is based on information obtained from the U.S. Fish and Wildlife Service (USFWS) critical habitat website. The California red-legged frog (*Rana draytonii*) has designated critical habitat (Cahill Ridge [SNM-1]) located approximately 0.5 mile north of the BSA, and critical habitat for the Central California Coastal steelhead (*Onchorhynchus mykiss*) is located in Denniston Creek south of the BSA.

1.3 CONSULTATION TO DATE

With exception of a USFWS species list obtained online, no consultation between FAA and USFWS regarding this BA has occurred to date.

2. PROJECT DESCRIPTION

The San Mateo County Department of Airports is proposing to construct new taxiways, an access road, and drainage and fence improvements at the Half Moon Bay Airport (airport). The existing taxiway at the airport is insufficient to support safe movement of aircraft to and from the runway, since it is currently shared with vehicular traffic which must utilize this existing taxiway to access hangars and other parts of the airport property. New taxiway segments would connect existing portions of taxiway, and would include two new connections to the runway closer to the terminal than existing taxiways. An additional access road and the new taxiways would eliminate the need for aircraft and vehicles to utilize the same travel routes around the airport, and will improve airport safety. Proposed drainage improvements include replacement of existing culverts that have degraded. In particular, culverts under the existing taxiways have decomposed and may not adequately direct flows under high storm flow conditions. New culverts will be installed under the proposed new taxiways to support adequate drainage across the airport.

A south access road extension is proposed to provide a vehicular travel route separate from the taxiways. The proposed southern access road would connect existing pavement near two large hangar buildings and would follow the perimeter fence to an access gate and an existing taxiway spur at the southern end of the

airport. The existing perimeter fence is proposed to be replaced between the end of the cul-de-sac located just north of the airport's southernmost hangar facilities to the southern corner of the airport. The fence will be located approximately 10 feet from existing vegetation to provide a suitable buffer for fence maintenance. The project would also include temporary contractor's staging areas for lay down and storage of materials and construction vehicles during construction of the project. Site Plans are included as Appendix A. Photographs of existing site conditions are included as Appendix B.

3. BIOLOGICAL STUDIES

Information gathered for the preparation of this BA was obtained through review of existing documents and field surveys conducted within the BSA. The BSA is defined as the area encompassed within the airport boundary fence, and includes the project footprint, all proposed workspaces, and areas that may be impacted by project activities. The BSA is equivalent to the action area for the purposes of the analyses in this BA.

Prior to conducting surveys, a literature review was conducted to gain familiarity with the BSA. The review consisted of a search of the California Natural Diversity Data Base (CNDDB) focusing on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle for Montara Mountain and the surrounding five quadrangles (San Francisco South, Hunter's Point, San Mateo, Woodside, and Half Moon Bay). An official list of federally listed species occurring in these six quadrangles was also obtained from the USFWS website (see Appendix C). This BA evaluates the federally listed species found during the records search of the CNDDB and those included the official USFWS list.

The following literature sources were also reviewed:

- Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule (USFWS 2010);
- 5-year review San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (USFWS 2006);
- Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*) (USFWS 2002); and,
- Recovery plan for the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (USFWS 1985).

A general habitat and faunal survey and a focused botanical survey were conducted by Travis Belt, Barrett Holland, and Benjamin Hart on June 11, 2009 and November 18-19, 2009. A previous general habitat and faunal survey was also conducted by Dr. G.O. Graening on August 20, 2006 (SWCA 2006). During these surveys, habitats were recorded and compared against aerial photography, photographs were taken, and a list of observed species was compiled (see Appendix D). A Site Assessment for California Red-legged Frog was also conducted in September 2010 (see Appendix E).

Vegetation communities were described in field notes, verified on aerial photographs, and described according to the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) and the *California Department of Fish and Game (CDFG) List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base* (CDFG 2003). Surveys included a preliminary assessment of habitat for special-status plant species. Plant species observed were identified based on Hickman (1993). Floristic surveys were conducted during the appropriate blooming period for the majority of the special-status plants with potential to occur within the BSA.

Figure 1. Project Vicinity Map

Figure 2. Project Location Map

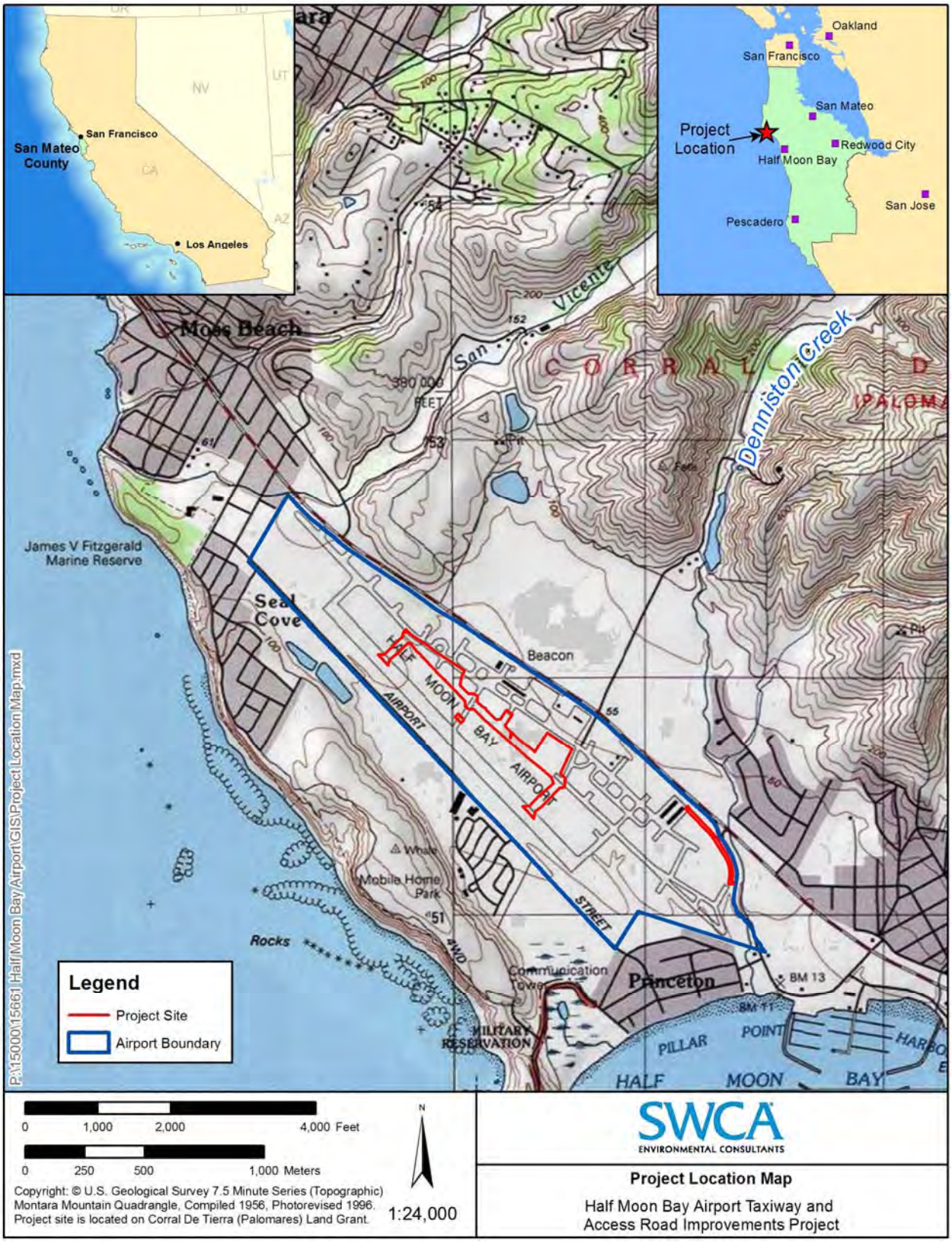


Figure 3. Habitat Map

3.1 BIOLOGICAL RESOURCES EVALUATED FOR POTENTIAL EFFECTS

Tables 1 and 2 below provide descriptions of federally protected species reviewed and a rational for expecting their presence or absence in the action area. These tables also provide an effect determination for each species. Species that may be affected by the proposed action are further discussed in Section 5-Species Accounts and Section 6-Effects and Conservation Measures of this BA.

3.1.1 Federally Protected Plant Species Considered

Table 1 provides a description of nine federally listed plant species found in CNDDB records and the official USFWS species list, and includes a rationale for expecting their presence or absence in the BSA. The vegetative communities, soils, and topography in the BSA provide suitable conditions for one of the listed plant species, Hickman's cinquefoil (*Potentilla hickmanii*). Surveys of the BSA were completed for this species during the appropriate blooming period and it was not observed. The BSA does not support suitable conditions for the remaining species.

3.1.2 Federally Protected Wildlife Species Considered

Table 2 provides a description of 35 federally listed wildlife species found in CNDDB records and the official USFWS species list, and includes a rationale for expecting their presence or absence in the BSA. The existing conditions in the BSA provide marginal conditions for California red-legged frog and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). These species were not observed during general wildlife surveys conducted concurrently with the botanical surveys, which covered all areas within the BSA, but no protocol surveys were conducted.

4. EXISTING CONDITIONS

4.1 SOILS

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS 2.0) online describes the Half Moon Bay Airport as consisting almost entirely of Denison Clay Loam (nearly level). A small portion of the site includes Denison clay loam (nearly level, imperfectly drained). Denison soils generally consist of granitic alluvium on low terraces beneath grassy vegetation. Other soil types near a small forested area of eucalyptus and cypress along Highway 1 include Farallone coarse sandy loam (nearly level), Denison loam (sloping), and Elkhorn sandy loam (moderately steep and steep, severely eroded).

4.2 VEGETATIVE COMMUNITIES

Vegetative communities present within and adjacent to the BSA include agriculture, coastal and valley freshwater marsh, eucalyptus woodland, northern coastal scrub, non-native grassland/ruderal, and central coast riparian scrub. A detailed discussion of the vegetative communities within the BSA is provided below.

4.2.1 Agriculture

Intensively cultivated non-irrigated agricultural fields are present within the BSA and project footprint that are farmed under a lease agreement. The agricultural fields are disked or mowed regularly by Airport maintenance staff and the managing farmer. Agricultural fields within the BSA were observed to be planted with a leguminous cover crop during the June survey with a majority of the other fields observed to be been recently plowed or fallow. Fallow areas observed during the June survey were observed to be disked during the November surveys. Agricultural fields cover all of the taxiway project area.

The fallow agricultural areas within the BSA contain ruderal vegetation. Ruderal vegetation is usually found in disturbed areas that have been significantly altered by construction, landscaping, or other types of land-clearing activities. Plant species found within this habitat are typically introduced Mediterranean species that exhibit clinging seeds, adhesive stems, and rough leaves that assist their invasion and colonization of disturbed lands. Ruderal species observed in agricultural areas within the BSA include brome grasses (*Bromus* spp.), Italian ryegrass (*Lolium multiflorum*), rattail fescue (*Vulpia myuros*), slender oats (*Avena barbata*), bur-clover (*Medicago polymorpha*), radish (*Raphanus sativa*), black mustard (*Brassica nigra*), sweet fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), rancher's fireweed (*Amsinckia menziesii* var. *intermedia*), yellow star-thistle (*Centaurea solstitialis*), burclover, spring vetch (*Vicia americana*), velvet grass (*Holcus lanatus*), sour clover (*Melilotus indica*), bristly ox-tongue (*Picris echioides*), sheep-sorrel (*Rumex acetosella*), common plantain (*Plantago lanceolata*), bindweed (*Convolvulus arvensis*), and short-pod mustard (*Hirschfeldia incana*).

4.2.2 Coastal and Valley Freshwater Marsh

This community is typically associated with natural and man-made ponds, intermittent and perennial creeks and drainages, and roadside ditches within, or surrounded by, other plant communities. The dominant emergent plant species typically observed in freshwater marsh communities are bulrush (*Scirpus* spp.), broad-leaved cattail (*Typha latifolia*), and rushes (*Juncus* spp.). Coastal and valley freshwater marsh is located within drainage ditches in the BSA south of the taxiway project area (refer to Figure 3: Habitat Map and Appendix B; Photo 1), and just outside of the BSA along the southwestern edge of the airport property (refer to Figure 3 and Appendix B, Photo 2). None of the project activities are proposed within coastal and valley freshwater marsh habitat.

Hydrophytic plant species observed in freshwater marsh habitat in the drainage ditches within the BSA include brown-headed rush (*Juncus phaeocephalus*), American bulrush (*Scirpus americanus*), water cress (*Rorippa nasturtium-aquaticum*), water speedwell (*Veronica anagallis aquaticum*), horsetail (*Equisetum telemateia*), Harding grass (*Phalaris aqautica*), bird's foot trefoil (*Lotus corniculatus*), tall flat-sedge (*Cyperus eragrostis*), common three-square (*Scirpus patens*), cinquefoil (*Potentilla anserina* ssp. *pacifica*), curly dock (*Rumex crispus*), and bur-reed (*Sparganium eurycarpum* ssp. *eurycarpum*). Several Pacific chorus frogs were observed during surveys conducted in November.

4.2.3 Eucalyptus Woodland

Eucalyptus woodland is typically represented by dense stands of blue gum eucalyptus (*Eucalyptus globulus*). Blue gum eucalyptus is considered an invasive plant, and the California Exotic Pest Plant Council lists blue gum eucalyptus as a widespread aggressive invader. Plants in this genus, imported primarily from Australia, were originally planted in groves throughout many areas of coastal California as a potential source of lumber, for their use as windbreaks, and for their horticultural novelty. Stands of blue gum eucalyptus may reach 150 feet tall, towering over many tree species native to the Half Moon Bay area. In areas where eucalyptus forms dense stands, growth of native plants within their immediate vicinity is usually completely inhibited, thereby altering community structure and dynamics.

Eucalyptus woodland is present along the northeast boundary of the BSA (refer to Figure 3 and Appendix B, Photo 3). Trees observed in the overstory of eucalyptus woodland within the BSA include blue gum eucalyptus, Monterey cypress (*Cupressus macrocarpa),* and Monterey pine (*Pinus radiata*). Plants observed in the understory of eucalyptus woodland include acacia (*Acacia* spp.), California blackberry (*Rubus ursinus*), mint (*Mentha spicata*), German ivy, rattlesnake grass (*Briza major*), sour clover, sow-thistle (*Sonchus oleraceus*), and pampas grass (*Cortaderia jubata*).

Table 1. Plant Species Evaluated for Potential Effect

Species Name	Habitat and Distribution	Blooming Period	Legal Status	Rationale for Expecting Presence or Absence
San Mateo thorn mint *Acanthomintha duttoni*	Annual herb that occurs in chaparral and valley and foothill grassland (serpentinite). Elevation 50-300 meters.	April-June	FE	The appropriate soils are not present within the BSA. This species occurs at higher elevations than are present at the airport and the species was not observed during surveys conducted in the appropriate blooming period. The proposed project will have no effect on San Mateo thorn mint.
Robust spineflower *Chorizanthe robusta* var. *robusta*	Annual herb that occurs in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub with sandy or gravelly soils. Elevation 3-300 meters.	April-September	FE	Coastal scrub is present within the BSA; however, this area is dominated by non-native plant species and does not contain sandy or gravelly soils. This species was not observed during surveys conducted in the appropriate blooming period. No project-related impacts are proposed in coastal scrub habitat. The proposed project will have no effect on robust spineflower.
Fountain thistle *Cirsium fontinale* var. *fontinale*	Perennial herb that occurs in chaparral, cismontane woodland, and foothill and valley grassland (serpentinite seeps). Elevation 46-175 meters.	May-October	FE	Vegetation and soils within the BSA are highly disturbed due to agriculture activities. This species occurs at higher elevations than the BSA and was not observed during surveys conducted during the appropriate blooming period. The proposed project will have no effect on fountain thistle.
San Mateo woolly sunflower *Eriophyllum latilobum*	Perennial herb that occurs in cismontane woodland (often serpentinite, road cuts). Elevation 45-150 meters.	May-June	FE	The BSA does not contain serpentinite soils and is lower than the known elevation range for this species. This species was not observed during surveys conducted in the appropriate blooming period. The proposed project will have no effect on San Mateo woolly sunflower.

Species Name	Habitat and Distribution	Blooming Period	Legal Status	Rationale for Expecting Presence or Absence
Marin western flax *Hesperolinon congestum*	Annual herb that occurs in chaparral, and valley and foothill grassland (serpentinite). Elevation 5-370 meters.	April-July	FT	Suitable habitat and serpentinite soils were not observed within the BSA. This species was not observed during surveys conducted in the appropriate blooming period. The proposed project will have no effect on Marin western flax.
San Francisco lessingia *Lessingia germanorum*	Annual herb that occurs where coastal scrub has developed on remnant dunes. Elevation 25-110 meters.	(June) July-November	FE	Coastal scrub habitat is present; however, no remnant dunes exist in the BSA and the species occurs at higher elevations than those within the BSA. This species was not observed during surveys conducted in the appropriate blooming period. The proposed project will have no effect on San Francisco lessingia.
White-rayed pentachaeta *Pentachaeta bellidiflora*	Annual herb that occurs in cismontane woodland, and valley and foothill grassland (often serpentinite). Elevation 35-620 meters.	March-May	FE	Suitable habitat and soils were not observed within the BSA. This species occurs at higher elevations than those in the BSA. The proposed project will have no effect on white-rayed pentachaeta.
Hickman's cinquefoil *Potentilla hickmanii*	Perennial herb that occurs in coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater). Elevation 10-149 meters.	April-August	FE	Suitable freshwater habitat is present within the BSA; however, this species was not observed during surveys conducted in the appropriate blooming period. The proposed project will have no effect on Hickman's cinquefoil.
California seablite *Suaeda californica*	Evergreen shrub that occurs in coastal saltwater marshes and swamps. Elevation 0-15 meters.	July-October	FE	Saltwater marsh or swamp habitat is not present within the BSA. Species was not observed during surveys. The proposed project will have no effect on California seablite.

Status Codes:
Federal:
FE = Federally Endangered
FT = Federally Threatened

Table 2. Wildlife Species Evaluated for Potential Effect

Species Name	Habitat and Distribution	Legal Status	Rationale for Expecting Presence or Absence
Amphibians			
California tiger salamander, central population *Ambystoma californiense*	California tiger salamanders are restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities, predominantly from sea level to 3500 feet. They require refuges provided by ground squirrels and other burrowing mammals in which to estivate.	FT	The BSA is highly disturbed and lacks suitable breeding ponds for tiger salamander. Species not observed during surveys. The proposed project will have no effect on California tiger salamander.
California red-legged frog *Rana draytonii*	Aquatic habitats with little or no flow and surface water depths to at least 2.3 feet. Presence of fairly sturdy underwater supports such as cattails.	FT, CH, PCH	Although no suitable breeding habitat exists within the BSA, adjacent areas (Denniston Creek, Denniston Reservoir, agricultural stock ponds, and the Pillar Point Marsh) contain suitable breeding and foraging habitat. The BSA does support potential dispersal habitat and individuals could potentially cross airport property to and from breeding sites. No California red-legged frogs were observed during surveys conducted in 2006, 2009, and 2010, but protocol surveys have not been conducted to date. Near the proposed South Access Road, there is adjacent suitable breeding habitat and potential upland dispersal habitat within the BSA, particularly adjacent to Denniston Creek. With implementation of recommended avoidance and minimization measures, the effects determination is that the proposed project may affect, but is not likely to adversely affect, California red-legged frog.
Birds			
Marbled murrelet *Brachyramphus marmoratus*	Nests in redwood dominated forests from Santa Cruz to Half Moon Bay and from Eureka to the Oregon border.	FT	BSA does not contain suitable redwood forest habitat. The proposed project will have no effect on marbled murrelet.
Western snowy plover *Charadrius alexandrinus nivosus*	Occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	FT	BSA does not contain suitable beach habitat for western snowy plover and was not observed during surveys. The proposed project will have no effect on snowy plover
Short-tailed albatross *Diomedea albatrus*	Known to nest on remote islands in the western pacific and forages in areas of upwelling.	FE	The BSA does not contain suitable habitat for this species. The proposed project will have no effect on short-tailed albatross.

Species Name	Habitat and Distribution	Legal Status	Rationale for Expecting Presence or Absence
California brown pelican *Pelecanus occidentalis californicus*	Colonia nester on coastal islands outside the surf line.	FE	BSA does not contain suitable habitat for this species. The proposed project will have no effect on California brown pelican.
California least tern *Sterna antillarum browni*	Occurs and nests on flat sandy beaches from the San Francisco Bay area south to north Baja, California.	FE	BSA does not contain suitable habitat for this species. The proposed project will have no effect on California least tern.
California clapper rail *Rallus longirostris obsoletus*	Occurs within emergent wetland dominated by pickleweed and Pacific cordgrass, or brackish emergent wetland with those two plants plus ulrush. Currently, this species is restricted to marsh areas within the vicinity of San Francisco Bay.	FE	The BSA does not contain brackish marsh and was not observed during surveys. The proposed project will have no effect on California clapper rail.
Fish			
Green sturgeon *Acipenser medirostris*	The most marine species of sturgeon, occurs mostly north of Point Conception.	FT	The BSA does not include marine environments. The proposed project will have no effect on green sturgeon.
Tidewater goby *Eucyclogobius newberryi*	Occurs in brackish shallow lagoons and lower stream reaches where water is fairly still, but not stagnant.	FE	The BSA does not include near shore marine environments. The proposed project will have no effect on tidewater goby.
Delta Smelt *Hypomesus transpacificus*	Inhabits estuarine waters from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties in a wide range of salinities.	FT	The BSA does not include near shore marine environments. The proposed project will have no effect on delta smelt.
Central California coast coho salmon ESU *Oncorhynchus kisutch*	Coho require cool, clean water with appropriate depth, quantity and flow velocities; upland and riparian vegetation to stabilize soil and provide shade; clean gravel for spawning and egg-rearing; large woody debris to provide resting and hiding places; varied channel forms; and adequate food.	FE, CH	The BSA does not include suitable aquatic/stream habitat. The proposed project will have no effect on Central California coast coho salmon.
Central California coastal steelhead ESU *Oncorhynchus mykiss*	Clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	FT, CH	The BSA does not include suitable aquatic/stream habitat. The proposed action will have no effect on Central California coast steelhead.
Central Valley spring-run chinook salmon *Oncorhynchus tshawytscha*	Coastal, Spring and Fall runs between Redwood Creek, Humboldt County and the Russian River.	FT	The BSA does not include suitable aquatic/stream habitat. The proposed project will have no effect on Central Valley spring-run chinook salmon

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
Invertebrates			
San Bruno elfin butterfly *Callophrys mossii bayensis*	Inhabits rocky outcrops and cliffs in coastal scrub; restricted to a few small populations on the San Francisco peninsula, the largest of which occurs on San Bruno Mountain. Its patchy distribution reflects that of its host plant, stonecrop (*Sedum spathulifolium*)	FE	Rocky outcrops and cliffs in coastal scrub habitat are absent from the BSA. Host plant (stonecrop) and species not observed during surveys. The proposed project will have no effect on San Bruno elfin butterfly.
Bay checkerspot butterfly *Euphydryas editha bayensis*	Inhabits grasslands associated with outcrops of serpentine in San Mateo and Santa Clara counties. Females lay their eggs on native plantain (*Plantago erecta*) and in an abundant years on two types of owl's clover (*Castilleja densiflorus* and *C. exserta*)	FT	BSA does not contain serpentine outcrops, nor is it within the remaining known distribution of the species. Host plants for this species were not present within the BSA. The proposed project will have no effect on Bay checkerspot butterfly.
Black abalone *Haliotes cracherodii*	Middle to lower intertidal areas.	FE	The BSA does not include near shore marine environments. The proposed project will have no effect on black abalone.
White abalone *Haliotes sorenseni*	Rocky pinnacles and deep reefs in southern California.	FE	The BSA does not include near shore marine environments. The proposed project will have no effect on white abalone.
Mission blue butterfly *Icaricia icarioides missionensis*	Habitat is limited to six populations in the San Francisco Bay Area, commonly around elevations of 700 feet. Depends solely on three species of perennial lupine for its reproduction, the varied lupine, silver lupine and the Summer lupine. The mission blue requires the lupine to lay their eggs and nourish the larvae. Without these species, the mission blue cannot reproduce and thus cannot survive.	FE	Species and primary host plants, lupine, were not observed in BSA. The proposed project will have no effect on Mission blue butterfly
Callippe silverspot butterfly *Speyeria callippe callippe*	Populations historically inhabited grasslands ranging over much of the northern San Francisco Bay region, but are now relegated to seven sites on San Bruno Mountain and in Alameda County. The host plant, Johnny jump-up (*Viola pedunculata)*, is sought out by egg-laying females and larvae.	FE	BSA is outside of the species' known range. Primary host plants, Johnny jump-up, were not observed in project area. The proposed project will have no effect on Callippe silverspot butterfly.
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	Populations were formerly found in dunes and bluffs from San Mateo County north to the mouth of the Russian River in Sonoma County, but are now limited to four populations in northwestern Marin County and southwestern Sonoma County. Occurs in areas immediately adjacent to the coast: dunes, scrub, and grasslands. Eggs are laid only on species of *Viola*, possibly only *Viola adunca.*	FE	BSA is outside of the species' known range. Primary host plants, gumplant (*Grindelia rubicaulis*), yellow sand verbena (*Abronia latifolia*), mints (*Monardella spp.*), bull thistle (*Cirsium vulgare*), and seaside daisy (*Erigeron glaucus*) were not observed in project area. The proposed project will have no effect on Myrtle's silverspot butterfly.

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
Mammals			
Guadalupe fur seal *Arctocephalus townsendi*	Breeds on San Miguel, San Nicolas and San Clemente Islands off the coast of California, and on Isla de Guadalupe off of Mexico.	FT	The BSA does not include near shore marine environments. The proposed project will have no effect on Guadalupe fur seal.
Sei whale *Balaenoptera borealis*	Deep waters of all oceans.	FE	The BSA does not include marine environments. The proposed project will have no effect on sei whale.
Blue whale *Balaenoptera musculus*	Deep waters of all oceans. Travel to tropical-temperate waters to give birth.	FE	The BSA does not include marine environments. The proposed project will have no effect on blue whale.
Finback whale *Balaenoptera physalus*	Found in all major oceans, and in polar and tropical waters.	FE	The BSA does not include near shore marine environments. The proposed project will have no effect on finback whale.
Southern sea otter *Enhydra lutris nereis*	Sea otters are found in nearshore marine environments of California from Ano Nuevo, San Mateo Co. to Point Sal, Santa Barbara Co.	FT	The BSA does not include near shore marine environments. The proposed project will have no effect on southern sea otter.
Right whale *Eubalaena glacialis*	Sub polar waters of the north Atlantic and north Pacific oceans. Species frequents bays, peninsulas and shallow coastal areas.	FE	The BSA does not include near shore marine environments. The proposed project will have no effect on right whale
Stellar sea lion *Eumetopias jubatus*	Breeds on Ano Nuevo, San Miguel and the Farallon islands.	FT	The BSA does not include near shore marine environments suitable for breeding. The proposed project will have no effect on stellar sea lion.
Sperm whale *Physeter catodon*	Deep waters of all oceans from the poles to the equator.	FE	The BSA does not include marine environments. The proposed project will have no effect on sperm whale.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	Habitat consists primarily of pickleweed in the saline emergent wetlands of San Francisco Bay and its tributaries.	FE	The BSA is outside of the known range of the salt-marsh harvest mouse. Suitable habitat does not exist within the BSA. The proposed project will have no effect on salt-marsh harvest mouse.
Reptiles			
Loggerhead turtle *Caretta caretta*	Open ocean and in shallow coastal waters. This species rarely comes to shore.	FT	The BSA does not include near shore marine environments. The proposed project will have no effect on loggerhead turtle.

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
Green turtle *Chelonia mydas*	Marine environments.	FT	The BSA does not include marine environments. The proposed project will have no effect on green turtle.
Leatherback turtle *Dermochelys coriacea*	Forages along the California, Oregon and Washington coast in North America.	FE	The action area does not include near shore marine environments. The proposed project will have no effect on leatherback turtle.
Olive ridley sea turtle *Lepidochelys olivacea*	Shallow marine waters.	FT	The action area does not include near shore marine environments. The proposed project will have no effect on olive ridley sea turtle.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	Inhabits densely vegetated ponds near open hillsides with rodent burrows; may also utilize temporary ponds and other seasonal freshwater bodies.	FE	Records of species occurrence are known from the Denniston Reservoir area. The BSA may support dispersal habitat and individuals could potentially cross airport property to and from aquatic sites. No San Francisco garter snakes were observed during surveys conducted in 2006, 2009, or 2010. Near the proposed South Access Road, there is adjacent aquatic habitat and potential upland shelter, foraging, and basking habitat within the BSA, particularly adjacent to Denniston Creek. With implementation of recommended avoidance and minimization measures, the effects determination is that the proposed project may affect, but is not likely to adversely affect, San Francisco garter snake.

Status Codes
--= No status
Federal:
FE = Federal Endangered
FT= Federal Threatened
FC= Federal Candidate
CH= Federal Critical Habitat
PCH= Proposed Federal Critical Habitat

4.2.4 Northern Coastal Scrub

Northern coastal scrub consists primarily of low evergreen shrubs and herbs. It occurs along the Pacific Coast from southern Oregon to Point Sur on the Central California coast in Monterey County, California. Northern coastal scrub communities support shrubs that are 1 to 2 meters high, typically characterized by species such as coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), and sage (*Salvia* spp.). It is typically found at low elevations, particularly where drainage increases soil moisture. The understory may be sparse to moderately dense.

A small band of northern coastal scrub occurs adjacent to drainage ditches along the east boundary of the BSA along a drainage ditch that runs south between the airport boundary fence and Highway 1 (refer to Figure 3 and Appendix B, Photo 4). Plants observed in coastal scrub within the BSA include coyote brush, yarrow (*Achillea millefolium*), California sagebrush, pampas grass, willow (*Salix* spp.), and coffeeberry.

4.2.5 Non-native Annual Grassland

Non-native annual grasslands are composed of a dense to sparse cover of annual grasses approximately 0.2 to 0.5 meters high (Holland 1986). This community is typically occupied by numerous species of annual forbs, especially in years of favorable rainfall. Non-native annual grassland is often found on flat to gently rolling terrain with deep, fine-grained soils that are moist during the winter rainy season and dry during summer and fall. The non-native annual grassland in the BSA is intermixed with ruderal vegetation. Ruderal vegetation occurs in abandoned agricultural fields, along roadsides, near developments, and in other areas experiencing severe ground surface disturbance. This vegetation type is dominated by weedy species.

Non-native annual grassland is widespread in the BSA. The south access road alignment and boundary fence are within non-native annual grassland (refer to Figure 3 and Appendix B, Photo 5). These areas are regularly disked or mowed. Common plant species observed in these areas included ripgut brome (*Bromus diandrus*), wild oats *(Avena fatua*), rattail fescue (*Vulpia myuros*), poison hemlock (*Conium maculatum*), Italian thistle (*Carduus pycnocephalus*), perennial mustard (*Hirschfeldia incana*), tocolote (*Centaurea melitensis*), horseweed (*Conyza canadensis*), and bristly ox-tongue (*Picris echioides*).

4.2.6 Central Coast Riparian Scrub

Central coast riparian scrub communities typically occur adjacent to existing flowing stream channels or along seasonally flooded arroyos, or in depressional areas located close to ground water. This community is consists of dense thickets dominated by *Salix* species. The understory of central coast riparian scrub can vary from sparse to dense and typically includes poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and a variety of introduced species. Central coast riparian scrub can support a wide diversity of wildlife due to the availability of important features such as nesting sites, escape and thermal cover, food, and dispersal corridors. Animal species that utilize the central coast riparian habitat include, but are not limited to species such as striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*), common garter snake (*Thamnophis sirtalis*) and various bird species.

Central coast riparian scrub occurs in a drainage ditch located adjacent to the southeast property boundary (refer to Figure 3 and Appendix B; Photo 6). The southern central coast riparian scrub area is associated with Denniston Creek and is bound by the airport property and Capistrano Road. The riparian scrub in the BSA is dominated by arroyo willow (*Salix lasiolepis*); however, Sitka willow (*Salix sitchensis*) also occurs in the community. The understory is sparse but includes coyote brush, blackberry, and California sagebrush.

5. SPECIES ACCOUNTS

The following discussions provide brief descriptions of California red-legged frog and San Francisco garter snake. These species accounts discuss the biology of the species, in relation to effects associated with the proposed project. Therefore, this section only discusses species that would be affected by the proposed project. Species that do not have suitable habitat in the BSA and will not be affected by the proposed project are discussed in Tables 1 and 2 above. The following discussions provide a summary of biological studies conducted in support of this BA, published data, views of recognized experts, and existing USFWS documents.

5.1 CALIFORNIA RED-LEGGED FROG (*RANA DRAYTONII*)

The California red-legged frog was listed as federally threatened by the USFWS in 1996. The Cahill Ridge [SNM-1] critical habitat unit for the California red-legged frog is located approximately 0.5 mile north of the BSA. Riparian habitat degradation, urbanization, predation by bullfrogs, and historic market harvesting have all contributed to population declines in this species. The California red-legged frog occurs in various habitats during its life cycle. Breeding areas include aquatic habitats such as lagoons, streams, and natural and man-made ponds. California red-legged frogs prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 0.7 meters (2.3 feet), and the presence of fairly sturdy underwater supports such as cattails (*Typha* spp.). The largest densities of California red-legged frog are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (e.g., cattails, bulrush). During periods of wet weather, some individuals may make overland dispersals through adjacent upland habitats of distances up to 1.6 km (1 mile) (USFWS 2002). Upland habitats can also be used as refugia during the summer if water is scarce or unavailable.

A California Red-legged Frog Site Assessment was conducted in September 2010 to determine if suitable habitat for the California red-legged frog exists on the airport or in the surrounding area (refer to Appendix E). Although no suitable breeding habitat exists within the BSA, adjacent areas within 1 mile of the BSA contain suitable breeding and foraging habitat for this species. These areas include Denniston Creek (refer to Appendix B; Photo 6), Denniston Reservoir (refer to Appendix B; Photo 7), agricultural stock ponds, and the Pillar Point Marsh (refer to Appendix B; Photo 8). The BSA supports potential dispersal habitat for California red-legged frogs, and while unlikely, individuals could be capable of crossing airport property to and from breeding sites. No California red-legged frogs were observed during non-protocol surveys conducted in 2006 or 2009.

5.2 SAN FRANCISCO GARTER SNAKE (*THAMNOPHIS SIRTALIS TETRATAENIA*)

The San Francisco garter snake was listed as federally endangered by the USFWS in 1967 (USFWS 1985). This species' known distribution is from the San Francisco/San Mateo County line area south to Waddell Creek in the Santa Cruz Mountains. Declines in the species are a result of habitat loss from urban development and agriculture.

The two main components of San Francisco garter snake habitat are 1) wetlands supporting its prey species (e.g., California red-legged frog and Pacific chorus frog); and, 2) surrounding uplands that support small mammal burrows that are utilized by the snakes for escape cover (USFWS 2006). San Francisco garter snakes inhabit various aquatic habitats including reservoirs, freshwater marshes, creeks, drainage ditches, ponds, and lakes. Less ideal habitats can also be used by San Francisco garter snake, such as ditches and other waterways, or floating algal or rush mats. Suitable breeding habitat includes shallow marsh lands with an abundance of emergent vegetation. Grasslands are also an important upland habitat for this species, as they provide areas for thermoregulation and cover. Prey items for this species include California red-legged frog, Pacific chorus frogs and earthworms. San Francisco garter snakes are not

known to be efficient at catching their prey in water deeper than five centimeters; therefore, shallow water is important for catching prey and metamorphosis development (i.e., tadpoles of red-legged frogs and chorus frogs).

There are past occurrence records for San Francisco garter snake from Denniston Creek (USFWS 2006). While the species appears to remain in close proximity to aquatic habitat, studies indicate that San Francisco garter snakes may move up to 200 m away from aquatic foraging areas (McGinnis 2002). San Francisco garter snakes are not likely to move distances greater than 1 km, but their prey may make movements up to 2 km up and down riparian corridors (USFWS 2006); therefore, greater movements by San Francisco garter snakes may be possible. No San Francisco garter snakes were observed during surveys of the BSA, however, Pacific chorus frogs were observed in drainage ditches on airport property and San Francisco garter snakes could potentially make movements from Denniston Creek to utilize the ditches for foraging.

6. EFFECTS AND CONSERVATION MEASURES

Based on the list of species with potential for occurrence obtained from the CNDDB and USFWS website, this BA evaluated 35 federally protected wildlife species and 10 federally protected plant species for potential effects resulting from the proposed action. Through careful evaluation, it has been determined that two wildlife species and none of the plant species may be affected by the proposed project. Species that may be affected by the proposed action are listed in bold in Table 2 and discussed below. Species that would not be affected by the proposed action are listed in regular font in Tables 1 and 2; a rationale for the no effect determination is provided in the tables. In summary, it was determined that the proposed project may affect, but is not likely to affect, California red-legged frog and San Francisco garter snake. The rationale for the effects determination for these species is provided below.

6.1 CALIFORNIA RED-LEGGED FROG

Small areas of coastal and valley freshwater marsh occur near the taxiway project area and downstream of the project footprint within the BSA in drainage ditches where water ponds near the culverts. These areas are limited in their habitat value to California red-legged frog because they are very small in size, do not contain significant riparian vegetation or cover, are regularly maintained by farmers who clear the ditches of vegetation to maintain drainage flows, do not retain significant ponded areas of a depth suitable to support California red-legged frog, and because they are surrounded by vast expanses of open and regularly-disturbed agricultural land. The disturbed nature of the site, the lack of aquatic habitat with suitable depths and cover, and the lack of vegetative cover within airport boundaries make it unlikely that the airport property supports breeding habitat. However, the BSA is within 1 mile of habitat known to support California red-legged frog, and it is possible that frogs could cross the airport during straight-line movements between known occurrences and/or breeding sites.

While there is no aquatic habitat for California red-legged frog that would be directly impacted by the proposed project, this species is known to occur in Denniston Creek and has a limited potential for dispersal/movement from Denniston Creek into uplands and/or drainage ditches within the BSA. With the implementation of the South Access Road adjacent to Denniston Creek, there is limited potential for adverse effects in the form of take of California red-legged frogs if they enter work areas during construction. Although unlikely, forms of take could include California red-legged frogs being crushed, entombed in burrows, killed or injured by construction equipment or worker foot-traffic, or harassed by noise or vibration associated with construction activities. Use of inappropriate erosion control or exclusion fencing/netting could trap small frogs, which could injure or kill animals via predation, dessication, or starvation. With implementation of recommended avoidance and minimization measures, the effects determination is that the proposed project may affect, but is not likely to adversely affect, California red-legged frog.

6.1.1 California Red-legged Frog Conservation Measures

The following avoidance and minimization measures for California red-legged frog are required, and are modified from the USACE programmatic Biological Opinion (USFWS 1999), with the qualifier that additional avoidance and minimization measures or modifications of these measures may be required by regulatory agencies upon NEPA review specific to the proposed project.

Measure-1 *A USFWS-approved biologist shall survey the work site two weeks before the onset of activities. Surveys shall consist of walking transects while conducting visual encounter surveys in areas that will be subject to vegetation clearing, grubbing, grading, cut and fill, or other ground-disturbing activities. If California red-legged frogs, tadpoles, or eggs are found within the work site during the pre-construction surveys or at any time during the project, the approved biologist shall report the time, date, location, and any other relevant information about the occurrence to the County of San Mateo, FAA, and USFWS in a timely manner.*

Measure-2 *Before any construction activities begin on the project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.*

Measure-3 *The contractor or permittee shall designate a USFWS-approved biologist to monitor on-site compliance with all minimization measures. Full-time monitoring is required during construction of the South Access Road to ensure that no unanticipated take of California red-legged frog occurs. The approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated during review of the proposed action. If work is stopped, the County of San Mateo shall be notified immediately by the biological monitor.*

Measure-4 *During project activities, all trash that may attract predators shall be properly contained, removed, and disposed of regularly. Following construction, trash/construction debris shall be removed from work areas.*

Measure-5 *All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The permittee shall ensure contamination of habitat does not occur during such operations. The permittee shall prepare a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.*

Measure-6 *A USFWS-approved biologist shall ensure that the spread or introduction of invasive exotic plant species be avoided to the maximum extent possible.*

Measure-7 *Disturbed project areas shall be revegetated with an appropriate assemblage of vegetation suitable for the area. A revegetation plan shall be prepared to include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.*

Measure-8 *The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of wetland areas, as feasible. Where impacts occur in these staging areas and access routes, restoration shall occur as identified in Measure-7 above.*

Measure-9 *To assist in excluding California red-legged frogs from the work area, an exclusion fence should be installed between Denniston Creek and the work area prior to the commencement of construction activities. Exclusion fencing should be silt-fence type fencing or equivalent, and should not include poly mesh fencing or other similar fencing that could entrap or snag reptiles, amphibians, or other small animals. Exclusion fencing should be installed with the fence stakes placed on the side opposite Denniston Creek to prevent snakes from using the stakes to maneuver over the fence. Fencing should be keyed-in appropriately (at least 6-inches deep) with 10-foot long turn-arounds toward Denniston Creek located at either end in order to redirect animals away from openings. Once fencing is in place, it should be maintained until all work along Denniston Creek has been completed. The fencing should be inspected on a daily basis by a USFWS-approved biologist, and any damaged areas should be repaired immediately upon discovery.*

Measure-10 *To control erosion during and after project implementation, the applicant shall implement best management practices.*

Measure-11 *Under no circumstances shall a California red-legged frog be handled, relocated, or otherwise harmed or harassed at any time without coordination and approval from USFWS.*

6.2 SAN FRANCISCO GARTER SNAKE

The BSA is within the known range for San Francisco garter snake and occurrences have been documented in the vicinity of airport property near Denniston Creek (CNDDB 2010, USFWS 2006). Suitable habitat may occur in the vicinity of Denniston Creek and the marsh areas located west of the BSA. Though suitable aquatic habitat is not present within the BSA for breeding, the species may utilize the drainage ditches that contain freshwater marsh vegetation for foraging. Numerous Pacific chorus frogs were observed in the drainage ditches during surveys of the BSA. As stated previously, chorus frogs are an important food source for San Francisco garter snake and individuals may disperse from other aquatic habitats (e.g., Denniston Creek) for foraging opportunities. California red-legged frogs are also important food source for San Francisco garter snake. Therefore, San Francisco garter snake could potentially enter the BSA in search of foraging opportunities following California red-legged frog dispersal.

Similar to California red-legged frog, with the implementation of the South Access Road adjacent to Denniston Creek, there is a limited potential for adverse effects in the form of take of San Francisco

garter snakes if they enter work areas during construction. Although unlikely, forms of take could include San Francisco garter snakes being crushed, entombed in burrows, killed or injured by construction equipment or worker foot-traffic, or harassed by noise or vibration associated with construction activities. Use of inappropriate erosion control or exclusion fencing/netting could trap snakes, which could injure or kill animals via predation, dessication, or starvation. With implementation of recommended avoidance and minimization measures, the effects determination is that the proposed project may affect, but is not likely to adversely affect, San Francisco garter snake.

6.2.1 San Francisco Garter Snake Conservation Measures

In addition to the above avoidance and minimization measures, which many, if not all, are also transferable to San Francisco garter snake, the following mitigation measures (adapted from LSA Associates, Inc. 2008, and County of San Mateo Public Works Department 2008) are recommended to specifically avoid take of San Francisco garter snake during construction of the South Access Road, with the qualifier that additional avoidance and minimization measures or modifications of these measures may be required by regulatory agencies upon NEPA review specific to the proposed project.

Measure-12 *A USFWS-approved biologist shall conduct preconstruction surveys before any ground-disturbing activities take place in potential San Francisco garter snake habitat. Surveys shall consist of walking transects while conducting visual encounter surveys in areas that will be subject to vegetation clearing, grubbing, grading, cut and fill, or other ground-disturbing activities. If a San Francisco garter snake is observed during a survey, the County of San Mateo, FAA, USFWS and CDFG will be notified, and the San Francisco garter snake shall be monitored until it leaves the area on its own and undisturbed, without harassment.*

Measure-13 *Before any construction activities begin on the project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the San Francisco garter snake and its habitat, the importance of the San Francisco garter snake and its habitat, the general measures that are being implemented to conserve the San Francisco garter snake as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.*

Measure-14 *To assist in excluding San Francisco garter snakes from the work area, an exclusion fence shall be installed between Denniston Creek and the work area prior to the commencement of construction activities. Exclusion fencing shall be silt-fence type fencing or equivalent, and shall not include poly mesh fencing or other similar fencing that could entrap or snag reptiles, amphibians, or other small animals. Exclusion fencing shall be installed with the fence stakes placed on the side opposite Denniston Creek to prevent snakes from using the stakes to maneuver over the fence. Fencing shall be keyed-in appropriately (at least 6-inches deep) with 10-foot long turn-arounds toward Denniston Creek located at either end in order to redirect animals away from openings. Once fencing is in place, it shall be maintained until all work along Denniston Creek has been completed. The fencing shall be inspected on a daily basis by a USFWS-approved biologist, and any damaged areas shall be repaired immediately upon discovery.*

Measure-15 *Take avoidance measures for San Francisco garter snake shall be employed in all areas where construction could result in the direct take of this species. Full-time monitoring is required during construction of the South Access Road to ensure that no unanticipated take of San Francisco garter snake occurs. The USFWS-approved biologist shall be on call as needed to monitor construction activities in potential habitat and inspect exclusion fencing daily (discussed in Measure-14 above) to ensure it remains intact throughout the duration of construction. The approved biologist may stop work if necessary to protect San Francisco garter snake, and shall notify the County of San Mateo as to how to proceed accordingly.*

Measure-16 *Under no circumstances shall a San Francisco garter snake be handled, relocated, or otherwise harmed or harassed at any time without coordination and approval from USFWS and CDFG.*

7. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area. The FAA is aware of one proposed project in the vicinity of the Half Moon Bay Airport; the Big Wave Wellness Center and Office Park Project. This project is proposed to be constructed adjacent to the Airport on the southwest side across Airport Street, and has the potential to impact California red-legged frog and San Francisco garter snake if they occur on the site. It is possible that without appropriate avoidance and minimization measures, the two projects could cumulatively affect these species.

8. CONCLUSION AND DETERMINATION

Based on habitat assessments and evaluation of federally listed species with potential for occurrence, the FAA has determined that the proposed action may affect, but is not likely to adversely affect, California red-legged frog and San Francisco garter snake. Due to these findings, FAA is requesting concurrence with these effects determinations and completion of ESA consultation.

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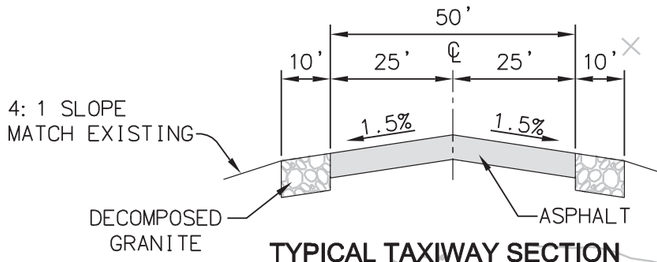
Appendix A:
Site Plans

SCALE 1"= 300'

0 150' 300' 600'

GRAPHIC SCALE



TYPICAL TAXIWAY SECTION

TERMINAL

CONTRACTOR'S AREA

STORM DRAIN LINE

L.O.G.

TAXIWAY

TAXIWAY 'A'

TAXIWAY 'A4'

149'

51'

193'

49'

50'

50'

50'

50'

26+00 ℄ TW 'A'=
75+49.93 ℄ TW '__'

31+59.10 ℄ TW 'A'

39+39.69 ℄ TW 'A'

43+71.12 ℄ TW 'A'

55+09.38 ℄ TW 'A'=
86+87.03 ℄ TW 'A__'

86+61.99 ℄ TW '__'

70+00 ℄ TW 'A3'

80+75 ℄ TW '__'

80+00 ℄ TW '__'

CONSTRUCTION PATH

STORM DRAIN LINE
1,381 LF

DISTURBED AREA
736,205 SF

DEMOLITION
22,950 SF

ASPHALT
213,000 SF

HANGARS RELOCATED
3 EACH

PARSONS-BRINCKERHOFF
3311 E. SHELBY STREET
ONTARIO, CA 91764
TEL: 909.980.1982
FAX: 909.941.0891

REGISTERED PROFESSIONAL ENGINEER * INGRAHAM * No. 44780 * 03/31/12 * STATE OF CALIFORNIA * CIVIL

DATE	No.	REVISIONS

HALF MOON BAY AIRPORT (HAF)
620 AIRPORT DRIVE
SAN CARLOS, CA 94070

TAXIWAY ALIGNMENT

XXXXXXXXXX

COUNTY OF SAN MATEO
555 County Center, 5th Floor
Redwood City, CA 94063

DESIGN AIP No.: XXXXXXX

CONSTRUCTION AIP No.: XXXXXXX

PB Job Number: 13280B

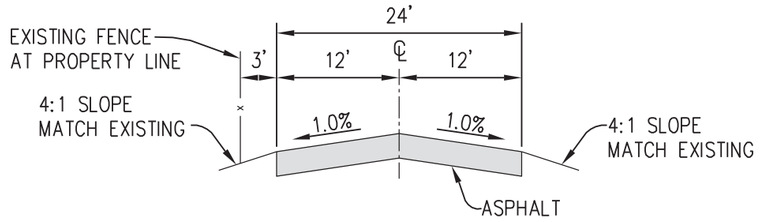
DESIGNED BY: C. SWONKE

DRAWN BY: B. WALLANDER

CHECKED BY: C. McCORMICK

1 OF 1

File: T:\13280SanMateoCounty\CAD\HAF\dwg\EXHIBITS\Taxiway\01-Taxiway.dwg Jul 20, 2010 - 11:48am hernandez



TYPICAL ACCESS ROAD SECTION

SCALE 1"= 200'

0 100' 200' 400'

GRAPHIC SCALE

JOINT EXISTING PAVEMENT

ACCESS ROAD

ALONG EXISTING PERIMETER ROAD

JOINT EXISTING PAVEMENT

CONTRACTORS YARD

CONSTRUCTION PATH

20' OFFSET DISTURBED AREA 81,400 SF

ASPHALT 30,200 SF

PARSONS-BRINCKERHOFF
3311 E. SHELBY STREET
ONTARIO, CA 91764
TEL: 909.980.1982
FAX: 909.941.0891

REGISTERED PROFESSIONAL ENGINEER * C. INGRAHAM * No. 44780 * 03/31/12 * STATE OF CALIFORNIA

REVISIONS

DATE	No.	

HALF MOON BAY AIRPORT (HAF)
620 AIRPORT DRIVE
SAN CARLOS, CA 94070

SOUTH ACCESS ROAD

XXXXXXXXXX

COUNTY OF SAN MATEO
555 County Center, 5th Floor
Redwood City, CA 94063

DESIGN AIP No.: XXXXXXX

CONSTRUCTION AIP No.: XXXXXXX

PB Job Number: 13280B

DESIGNED BY: C. SWONKE

DRAWN BY: B. WALLANDER

CHECKED BY: C. McCORMICK

1 OF 1

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Appendix B:
Photo Documentation

0 750 1,500 3,000 Feet

N

Photo Locations Map

Half Moon Bay Airport Taxiway and
Access Road Improvements Project

SWCA ENVIRONMENTAL CONSULTANTS

PHOTO 1:

View of a drainage ditch within the BSA. Note freshwater marsh vegetation present below the culverts shown. Several Pacific chorus frogs were observed in this drainage ditch.

Photo taken on November 18, 2009

PHOTO 2:

View of freshwater marsh habitat located along the southwestern edge of the airport property. Note emergent vegetation (i.e., cattails)

Photo taken on November 18, 2009

PHOTO 3:

View of the eucalyptus woodland located at the northern end of the BSA (refer to arrow). Note adjacent plowed fields.

Photo taken on November 18, 2009

PHOTO 4:

View of a small band of coastal scrub (refer to arrows) located along the east boundary of the BSA and Highway 1.

Photo taken on November 18, 2009

PHOTO 5:

View of non-native grassland located in the southeast corner of the BSA. Note small band of coastal scrub located along the property fence line (refer to arrow).

Photo taken on November 18, 2009

PHOTO 6:

View of Denniston Creek and willow riparian scrub located adjacent to the BSA. Note Capistrano Road is located between Denniston Creek (right) and willow riparian area adjacent to the BSA (left).

Photo taken on September 21, 2010

PHOTO 7:

Denniston Creek Reservoir east of the BSA, view south.

Photo taken on September 21, 2010

PHOTO 8:

Pillar Point Salt Marsh southwest of BSA, view east.

Photo taken on September 21, 2010

Appendix C:
USFWS Species List

These buttons will not appear on your list.

Revise Selection

Print this page

Print species list before going on to letter.

Make Official Letter

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 120117081926

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

- Euphydryas editha bayensis
  - bay checkerspot butterfly (T)
  - Critical habitat, bay checkerspot butterfly (X)
- Haliotes cracherodii
  - black abalone (E) (NMFS)
- Haliotes sorenseni
  - white abalone (E) (NMFS)
- Icaricia icarioides missionensis
  - mission blue butterfly (E)
- Speyeria callippe callippe
  - callippe silverspot butterfly (E)
- Speyeria zerene myrtleae
  - Myrtle's silverspot butterfly (E)

Fish

- Acipenser medirostris
  - green sturgeon (T) (NMFS)
- Eucyclogobius newberryi
  - tidewater goby (E)
- Hypomesus transpacificus
  - delta smelt (T)
- Oncorhynchus kisutch
  - coho salmon - central CA coast (E) (NMFS)
  - Critical habitat, coho salmon - central CA coast (X) (NMFS)
- Oncorhynchus mykiss
  - Central California Coastal steelhead (T) (NMFS)
  - Central Valley steelhead (T) (NMFS)
  - Critical habitat, Central California coastal steelhead (X) (NMFS)
- Oncorhynchus tshawytscha
  - Central Valley spring-run chinook salmon (T) (NMFS)
  - winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense
  - California tiger salamander, central population (T)
- Rana draytonii
  - California red-legged frog (T)
  - Critical habitat, California red-legged frog (X)

Reptiles

- Caretta caretta
  - loggerhead turtle (T) (NMFS)
- Chelonia mydas (incl. agassizi)
  - green turtle (T) (NMFS)
- Dermochelys coriacea
  - leatherback turtle (E) (NMFS)
- Lepidochelys olivacea
  - olive (=Pacific) ridley sea turtle (T) (NMFS)

- Thamnophis sirtalis tetrataenia
  - San Francisco garter snake (E)

Birds

- Brachyramphus marmoratus
  - Critical habitat, marbled murrelet (X)
  - marbled murrelet (T)
- Charadrius alexandrinus nivosus
  - Critical habitat, western snowy plover (X)
  - western snowy plover (T)
- Diomedea albatrus
  - short-tailed albatross (E)
- Pelecanus occidentalis californicus
  - California brown pelican (E)
- Rallus longirostris obsoletus
  - California clapper rail (E)
- Sternula antillarum (=Sterna, =albifrons) browni
  - California least tern (E)

Mammals

- Arctocephalus townsendi
  - Guadalupe fur seal (T) (NMFS)
- Balaenoptera borealis
  - sei whale (E) (NMFS)
- Balaenoptera musculus
  - blue whale (E) (NMFS)
- Balaenoptera physalus
  - finback (=fin) whale (E) (NMFS)
- Enhydra lutris nereis
  - southern sea otter (T)
- Eubalaena (=Balaena) glacialis
  - right whale (E) (NMFS)
- Eumetopias jubatus
  - Steller (=northern) sea-lion (T) (NMFS)
- Physeter catodon (=macrocephalus)

- sperm whale (E) (NMFS)

- Reithrodontomys raviventris
  - salt marsh harvest mouse (E)

Plants

- Acanthomintha duttonii
  - San Mateo thornmint (E)

- Cirsium fontinale var. fontinale
  - fountain thistle (E)

- Eriophyllum latilobum
  - San Mateo woolly sunflower (E)

- Hesperolinon congestum
  - Marin dwarf-flax (=western flax) (T)

- Lessingia germanorum
  - San Francisco lessingia (E)

- Pentachaeta bellidiflora
  - white-rayed pentachaeta (E)

- Potentilla hickmanii
  - Hickman's potentilla (=cinquefoil) (E)

- Suaeda californica
  - California sea blite (E)

Proposed Species

Amphibians

- Rana draytonii
  - Critical habitat, California red-legged frog (PX)

Quads Containing Listed, Proposed or Candidate Species:

WOODSIDE (429A)

HALF MOON BAY (429B)

HUNTERS POINT (448A)

SAN FRANCISCO SOUTH (448B)

MONTARA MOUNTAIN (448C)

SAN MATEO (448D)

County Lists

No county species lists requested.

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.
See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the

Appendix D:
California Red-legged Frog Site Assessment

California Red-legged Frog Site Assessment for the Half Moon Bay Airport Taxiway and Access Road Improvements Project San Mateo County, California

Prepared for:

Federal Aviation Administration

On Behalf of:

Half Moon Bay Airport

Prepared by:

SWCA Environmental Consultants

February 2011

CALIFORNIA RED-LEGGED FROG SITE ASSESSMENT
FOR THE
HALF MOON BAY AIRPORT
TAXIWAY AND ACCESS ROAD IMPROVEMENTS PROJECT

Prepared for:

FEDERAL AVIATION ADMINISTRATION
Western-Pacific Region
831 Mitten Road, Suite 210
Burlingame, CA 94010

On behalf of:

HALF MOON BAY AIRPORT
9850 Cabrillo Highway N
Half Moon Bay, CA 94019

COUNTY OF SAN MATEO
620 Airport Drive
San Carlos, CA 94070

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February 2011

SWCA Project Number. 15661

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1. INTRODUCTION

SWCA Environmental Consultants (SWCA) has prepared this California Red-legged Frog Site Assessment for the Half Moon Bay Airport, located in unincorporated San Mateo County, California (see Figure 1). The objective of this report is to provide a site assessment following the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). This report provides information for the U.S. Fish and Wildlife Service (USFWS) to determine if protocol surveys should be conducted for the federally threatened California red-legged frog (*Rana draytonii*) (CRLF) in association with the Half Moon Bay Taxiway and Access Road Improvements Project (project). The data presented in this report is a compilation of information received from regulatory agencies, literature reviews, and an on-site investigation of the biological study area (BSA) by SWCA personnel.

1.1 SITE DESCRIPTION AND LOCATION

The Half Moon Bay Airport (airport) is a County-owned public-use facility just north of Half Moon Bay, and approximately 5 miles north of the City of Half Moon Bay (see Figure 1). A wide variety of aircraft utilize the airport ranging from small, single-engine general aviation aircraft to business jets and helicopters.

The Half Moon Bay Airport is situated between coastal bluffs to the west, Montara Mountain to the east, San Vicente Creek to the north, and Denniston Creek to the south. A U.S. Air Force communications facility, James M. Fitzgerald Marine Reserve, and Pillar Ridge Mobile Home Park are to the west. Highway 1, agriculture fields, and the community of Moss Beach are to the north. Agricultural fields and Denniston Creek Reservoir are to the east. The community of Princeton-by-the-Sea, the Pillar Point Harbor, and Pillar Point Marsh Preserve are to the south.

1.2 PROJECT DESCRIPTION

The San Mateo County Department of Public Works Airports Division is proposing to construct new taxiways, access roads, and drainage improvements at the airport. The existing taxiway at the airport is insufficient to support safe movement of aircraft to and from the runway since it is currently shared with automobile traffic, which must utilize this existing taxiway to access hangars and other parts of the airport property. A new taxiway segment would create a connection between existing portions of taxiway, and two new taxiway connections would be made between the runway and the terminal. Additional access roads and new taxiways would eliminate the need for aircraft and vehicles to utilize the same travel routes around the airport, and would increase and improve airport safety. Proposed drainage improvements include replacement of existing culverts that are in disrepair, and installation of new culverts under the new taxiway and access road segments to support adequate drainage across the airport.

Two access road extensions are proposed to provide vehicular travel routes separate from the taxiways: a northern extension and a southern extension. The proposed northern access road includes two alternatives: the first alternative would extend from the current access road north of the terminal and run straight along the airport perimeter fence, through a small eucalyptus woodland area, and along an existing dirt road to join an existing paved taxiway spur near the northern end of the airport; the second alternative would extend north from the current access road, then would run along the margin of the wooded area near existing taxiway spurs before meeting the existing pavement near the northern end of the airport. The proposed southern access road would begin at existing pavement near two large hangar buildings and would follow the existing perimeter fence to an access gate and an existing taxiway spur and aircraft parking area at the southern end of the airport. The project would also include contractor's yards for laydown and storage of materials and construction vehicles during construction of the project. Site plans are included in Appendix C.

1.3 EXISTING CONDITIONS

The airport property is mapped on the Montara Mountain 7.5-minute U.S. Geological Survey (USGS) topographic map and includes approximately 313 acres of developed and undeveloped land. The airport property supports one runway, airport facilities, agricultural lands, and unimproved land. Runway 12/30 is approximately 5,000 feet long and covers approximately 17 acres. The airport facilities include a small terminal and restaurant, assorted hangars, fixed-base operators, and storage facilities. The airport facilities and runways constitute approximately 90 acres (29 percent). The undeveloped areas constitute approximately 223 acres (71 percent) of the airport property and include a variety of vegetative communities such as agriculture, non-native grassland, eucalyptus woodland, coastal and valley freshwater marsh, northern coast scrub, and central coast riparian scrub (see Figure 2).

The project consists of three areas east of the existing runway. The proposed disturbance areas for the three project footprints cover approximately 3 acres of non-native grassland, 14.1 acres of agricultural land, 1.2 acres of eucalyptus woodland habitat, and 0.05 acre of willow riparian scrub habitat. The topography within the project area is mostly flat with a gentle gradient to the south, with the exception of a small rise at the eucalyptus woodland along the eastern edge of the airport property.

2. METHODS

Prior to conducting a site visit, SWCA biologists performed a literature review to gain familiarity with the project area and identify documented occurrences of CRLF near the BSA. The BSA for this CRLF Habitat Assessment included the entire airport property bound by the perimeter fence, and all aquatic features within a 1-mile radius of the airport. The review consisted of a search of the California Natural Diversity Data Base (CNDDB) (2010) and National Wetlands Inventory (NWI) data (USFWS 2009), and review of the *Recovery Plan for the California Red-legged Frog* (USFWS 2002). The CNDDB review included the following USGS 7.5-minute topographic quadrangles: Montara Mountain, San Francisco South, Hunters Point, San Mateo, Woodside, and Half Moon Bay. SWCA also reviewed the Half Moon Bay Airport Redevelopment Project Biological Resources Assessment (SWCA 2006), and the Big Wave Wellness Center and Office Park Project Draft Environmental Impact Report (CAJA 2009) for existing accounts of CRLF in the project vicinity.

SWCA Biologists Travis Belt, Barrett Holland, and Benjamin Hart conducted surveys in the BSA on June 11 and November 18 and 19, 2009, and Benjamin Hart conducted reconnaissance surveys of aquatic features within 1 mile of the BSA on September 22, 2010. The surveyors focused on inventorying the biological resources within and adjacent to the BSA and determining the site's suitability to support CRLF.

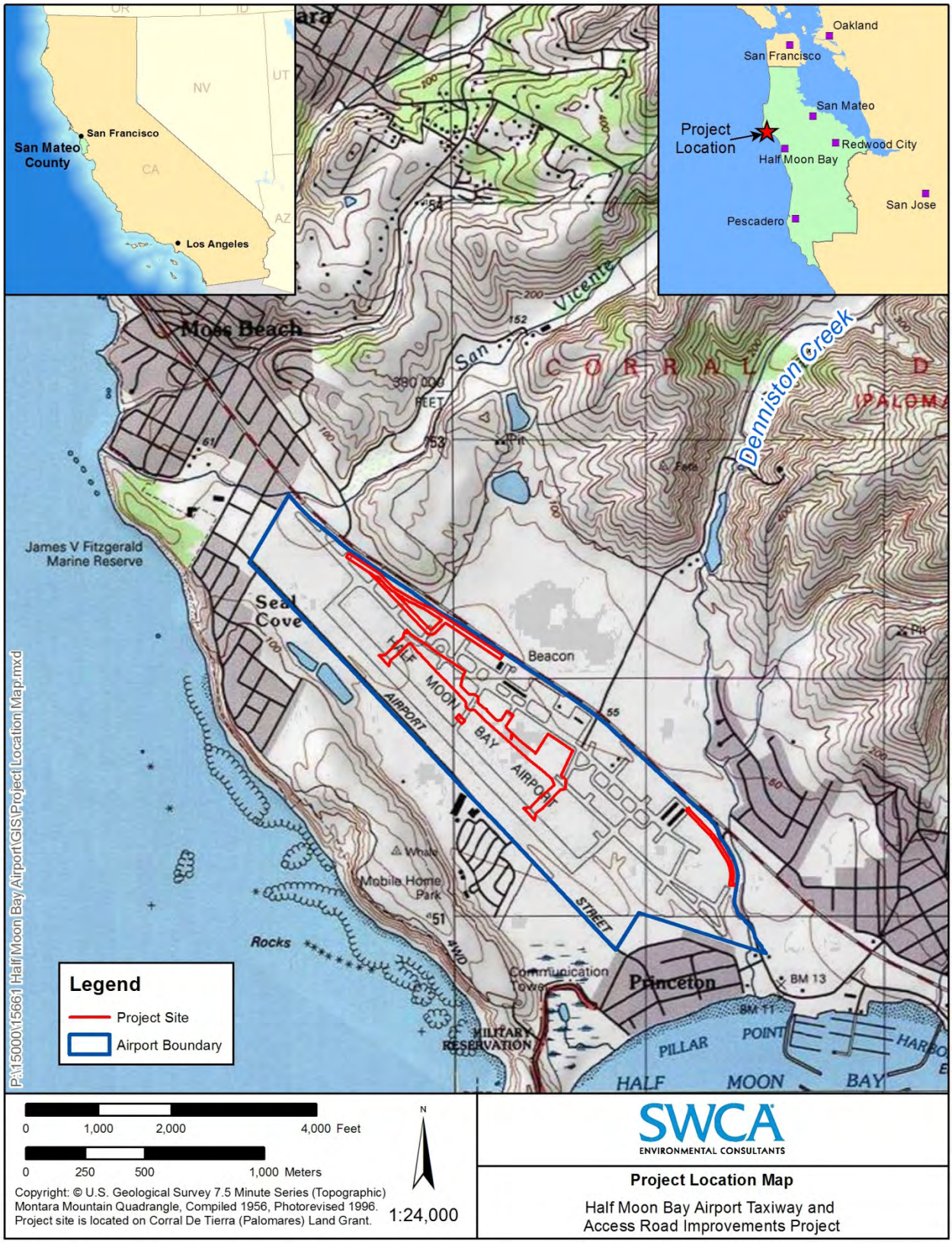

Figure 1. Project Location

Figure 2. Site Habitat

3. RESULTS

3.1 CALIFORNIA RED-LEGGED FROG

A member of the true frog family Ranidae, CRLF occur mainly in coastal drainages and aquatic habitats from the vicinity of Point Reyes, California south to northwestern Baja California, Mexico. Monterey, San Luis Obispo, and Santa Barbara counties support the greatest amount of occupied habitat. CRLF breed in aquatic sites with deep pools, emergent vegetation, and overhanging vegetation, but also use riparian and upland areas throughout their life cycle. Adult frogs with access to permanent water will generally remain active throughout the summer. In cooler areas, they may hibernate in burrows or other refugia in the winter. CRLF adults may move upstream and downstream of breeding habitat to forage and find refugia (USFWS 2008).

According to the USFWS CRLF site assessment protocol, the following three elements must be considered to assess a site's suitability to support CRLF:

- Element 1: Is the project site within the range of the California red-legged frog?
- Element 2: What are the known occurrences of California red-legged frog within the project site and within 1.0 mile (1.6 kilometers [km]) of the project boundaries?
- Element 3: What are the habitats within the project site and within 1.0 mile (1.6 km) of the project boundaries?

3.1.1 Element 1: CRLF Range

Historically, CRLF occupied the coast from the vicinity of Marin County, California south to northwestern Baja California, Mexico, and inland to the Shasta County, California vicinity. Past records indicate that CRLF occurred in 46 California counties. Current studies indicate that the species now occupies approximately 31 counties. CRLF are still locally abundant within portions of the San Francisco Bay Area and the Central Coast. Additionally, isolated populations occur in the Sierra Nevada, Northern Coast, and northern Transverse ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (USFWS 2008). The proposed project site is in San Mateo County and is within the species' current known range.

3.1.2 Element 2: CRLF Occurrences

The CNDDB was reviewed to determine if any CRLF occurrences have been documented within the project site and a 1.0 mile (1.6 km) radius around the project site (see Figure 3). As of September 2010, the CNDDB includes three records of CRLF within 1 mile of the project site. Two of the occurrences (#38 [July 2006] and #976 [June 2006]) are approximately 0.4 mile and 0.3 mile northeast of the airport property boundary, respectively. One of these occurrences is near Denniston Creek Reservoir, and the other is in a stock pond associated with agricultural fields east of the airport. A third occurrence (#301 [May 1999]) is in the Pillar Point Marsh, approximately 0.2 mile south of the airport boundary. A fourth occurrence (#853 [June 2001]) is just beyond the 1-mile radius north of the town of El Granada near a pond and wetland area on a large parcel of privately owned land. There are no known occurrences of CRLF within the project site.

3.1.3 Element 3: CRLF Habitats

Element three focuses on identifying the presence of suitable CRLF habitat within the project site and within 1 mile of the project site. The process of identifying suitable CRLF habitat in relation to a project site requires a review of critical habitat units within the vicinity of the proposed project.

The following sections discuss critical habitat designations and existing conditions within and surrounding the proposed project site.

California Red-legged Frog Critical Habitat

On April 13, 2006, the USFWS issued the final rule (71 FR 19243) designating critical habitat for the CRLF. On December 12, 2007, the Center for Biological Diversity (CBD) filed a complaint in the U.S. District Court challenging the 2006 designation (CBD v. Kempthorne, *et al*.). On April 2, 2008, the court entered a consent decree requiring the USFWS to submit a proposed revised critical habitat designation to the Federal Register by August 29, 2008, and a final revised critical habitat designation to be submitted to the Federal Register by August 31, 2009. The final rule (75 FR 12815), issued by the USFWS on March 17, 2010, is currently active (USFWS 2010a).

The critical habitat unit closest to the project site is the San Mateo Unit (SNM-1). The San Mateo Unit is east of the project site, within approximately 600 feet of the eastern boundary of the airport property (see Figure 3). While designated critical habitat is near the airport, the proposed project site is not within designated critical habitat for the CRLF (USFWS 2010b).

CRLF Habitat within the Project Site

The north and south access road project areas are along the eastern boundary of the airport in non-native grassland, ruderal, and eucalyptus woodland vegetation communities (see Photos 1 and 2 in Appendix A). The taxiway project area is dominated by agricultural use, with ruderal vegetation along taxiway margins (see Photo 3 in Appendix A). Small areas of coastal and valley freshwater marsh occur near the taxiway project area, downstream of the project footprint in drainage ditches where water ponds near the culverts. The non-native grassland and ruderal areas are regularly mowed and/or disked, and agricultural areas are tilled seasonally after harvest and prior to planting. The small areas of coast and valley freshwater marsh in the drainage ditches that retain water before it can be absorbed into the ground have water depths that do not exceed 2 feet (see Photo 6 in Appendix A). Riparian vegetation that occurs in the ditches is limited to within the banks of the ditches, as surrounding land uses (disking, tilling, and mowing of agricultural lands, non-native grasslands, and ruderal vegetation) and a lack of water create a defined line in vegetative cover immediately adjacent to the ditches.

Aquatic areas on airport property are limited in their habitat value to CRLF because they are very small in size, do not contain significant riparian vegetation or cover, do not retain significant ponded areas of a depth suitable to support resident or breeding CRLF, and because they are surrounded by vast expanses of open and regularly disturbed habitat. However, the project site is within 1 mile of habitat that is known to support CRLF, and though unlikely, it is possible that frogs could cross the airport in transit between areas containing suitable habitat. A study of CRLF movements in a coastal watershed in neighboring Santa Cruz County found that most migrating frogs moved overland in approximately straight lines to target sites without apparent regard to vegetation type or topography. Riparian corridors were neither essential nor preferred as migration routes (Bulger et. al. 2003). CRLF are known to make long movements (up to 2.8 kilometers; 1.8 miles) across uplands between habitats (Rathbun and Schneider 2001). Though they are not ideal, the small coastal and valley freshwater marsh habitat areas within drainage ditches on the airport property may provide aquatic stopover for frogs making straight-line movements between other more suitable aquatic features in the vicinity of the project. There is no suitable habitat for resident or breeding CRLF within the project site.

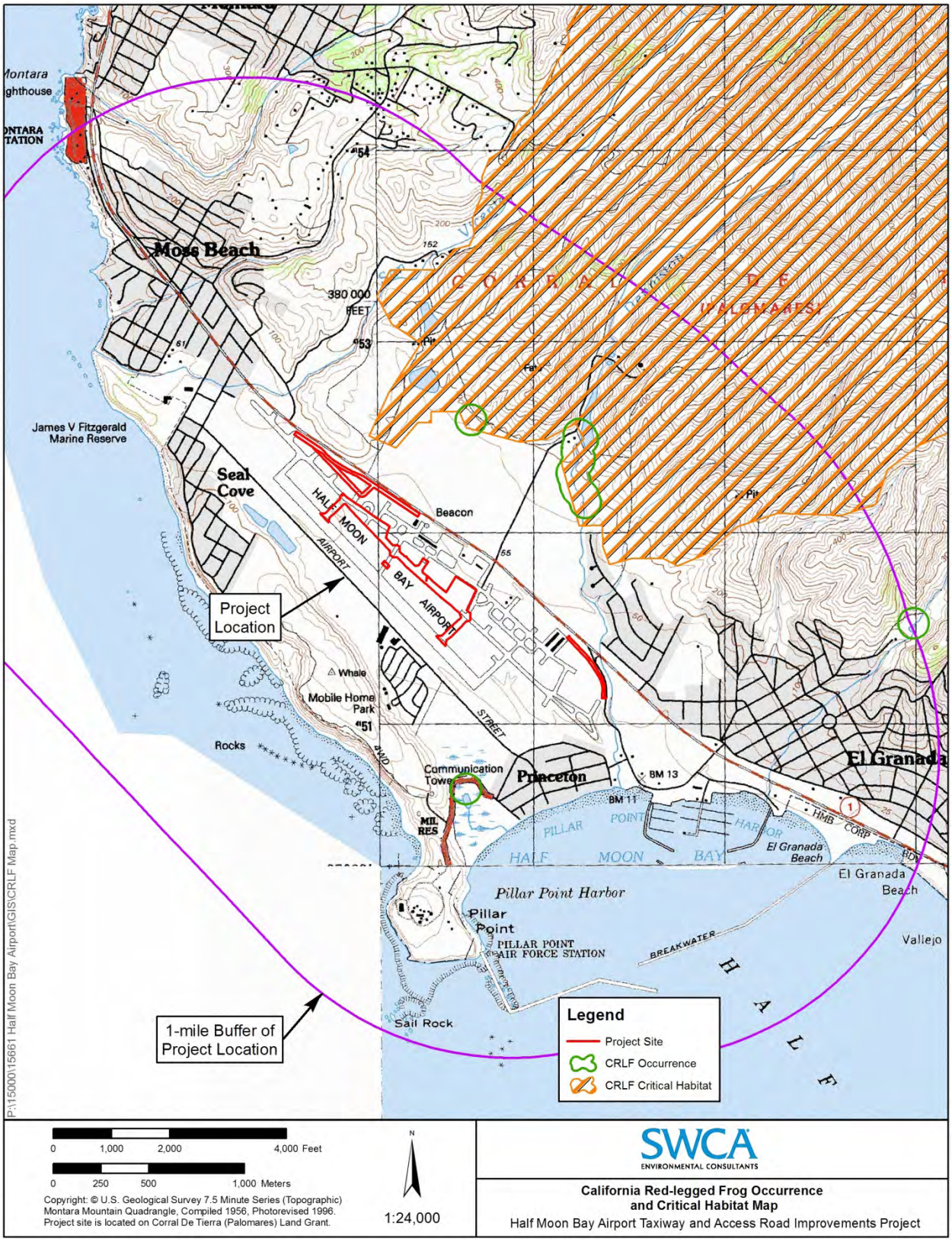

Figure 3. CRLF Occurrences and Critical Habtiat

CRLF Habitat within 1 mile of the Project Site

The airport property and proposed project sites provide limited habitat for CRLF. SWCA's review of the NWI database, aerial photographs, and field surveys of the airport property and adjacent areas identified thirteen noteworthy aquatic features within 1 mile of the proposed project site (see Table 1 and Figure 4).

There are two additional features that show up on the NWI and topographic maps as freshwater ponds, located west of the airport along Airport Street. They appear to be historic irrigation ponds but did not display signs of holding water in recent times when the field survey was conducted (see Photo 14 in Appendix A).

Habitat for resident and breeding CRLF does not exist in the project footprint, and adjacent suitable aquatic and upland habitats are separated from the project area by features that may limit successful movement of CRLF across the site including active agricultural lands, Highway 1 and other roads surrounding the airport that frequently support high traffic volumes, dense residential development, a perimeter fence, and movements of aircraft and vehicle traffic on the airport.

4. CONCLUSION AND RECOMMENDATIONS

Typically, adult CRLF need dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3 feet deep) still or slow-moving water for breeding habitat. Well-vegetated terrestrial areas within the riparian corridor can provide important sheltering habitat during winter. Additionally, CRLF may aestivate in small mammal burrows and moist leaf litter during the dry months, and have been found up to 100 feet from water in adjacent dense riparian vegetation. CRLF will make straight-line movements through upland habitats when moving between aquatic sites.

Agricultural, ruderal, non-native grassland, and eucalyptus woodland habitats are present within the footprint of the proposed project. Small areas of coastal and valley freshwater marsh are located on the airport along drainage ditches downstream of the project footprint (photo 6, Appendix A), but these features do not exhibit characteristics that would provide suitable aquatic habitat (depth and cover) for resident or breeding CRLF. Suitable upland habitat for CRLF is limited on the airport to the riparian vegetation in and along the margins of the drainage ditches. However, these areas are weeded regularly to maintain airport safety. Areas immediately adjacent to the ditches are regularly mowed and disced as part of ongoing agricultural and airport operations.

The airport property is within 1 mile of 13 aquatic features that could support CRLF, and three records of the species exist in the CNDDB at these features. Straight-line movements between these aquatic features are possible, though these movements are not likely to cross the airport property and more specifically, the project area, because they are separated by dense residential development, agricultural land that is frequently tilled and disced, Highway 1 and other roads that often have heavy traffic, the perimeter fence of the airport, and active airport operations. However, if CRLF were to successfully cross the surrounding impediments during migration between other more suitable aquatic features in the vicinity, the small, shallow, ponded areas within drainage ditches on the airport may provide marginal aquatic stopover habitat.

The proposed project site does not support suitable habitat for resident or breeding CRLF. Focused protocol surveys are not necessary to establish presence or absence of CRLF on the airport, though standard Best Management Practices to protect water quality and pre-construction surveys to assure that CRLF are not present in the project disturbance footprint at the time of construction are recommended.

Table 1. Potential California Red-legged Frog Habitat within 1 Mile of the Project Area

Site ID*	Habitat Description	Distance and Direction from Project Site
1	Freshwater pond (0.3 acre) situated on private property. Separated from project site by 0.8 mile of open space and Highway 1.	Approximately 0.9 mile from the northeast project boundary
2	Unnamed perennial drainage; outflow to Pacific Ocean is at Point Montara Lighthouse. Separated from project site by dense residential area and Highway 1.	Approximately 0.9 mile from the northeast project boundary
3	San Vicente Creek, located immediately north of the airport boundary. Separated from project site by agricultural fields.	Approximately 0.15 mile from the northeast project boundary
4	Cabrillo Farms Irrigation Pond 3 (0.2 acre). Separated from project site by agricultural fields and Highway 1 (see Photo 10, Appendix A).	Approximately 0.3 mile from the east project boundary
5	Cabrillo Farms Irrigation Pond 2 (4 acres). Separated from project site by agricultural fields, coastal scrub, and Highway 1 (see Photo 11, Appendix A).	Approximately 0.3 mile from the east project boundary
6	Cabrillo Farms Irrigation Pond 1 (3.8 acres). Separated from project site by agricultural fields, open space, and Highway 1 (see Photo 12, Appendix A).	Approximately 0.5 mile from the east project boundary
7	Denniston Creek Reservoir Settling Basin 1 (0.1 acre). Separated from project site by Denniston Creek Reservoir Settling Basin 2, Denniston Creek Reservoir and Dam, agricultural fields, agricultural development, and Highway 1.	Approximately 0.9 mile from the east project boundary
8	Denniston Creek Reservoir Settling Basin 2 (0.1 acre). Separated from project site by Denniston Creek Reservoir and Dam, agricultural fields, agricultural development, and Highway 1.	Approximately 0.9 mile from the east project boundary
9	Denniston Creek Reservoir (1 acre). Separated from project site by Denniston Creek Reservoir Dam, agricultural fields, agricultural development, and Highway 1 (see Photo 9, Appendix A).	Approximately 0.6 mile from the east project boundary
10	Denniston Creek, located southeast of project site across Capistrano Road (see Photo 8, Appendix A).	Approximately 150 feet from the southeast project boundary
11	Freshwater pond (0.1 acre), situated on private property. Separated from project site by open space, dense residential development, agricultural fields, and Highway 1.	Approximately 1 mile from the southeast project boundary
12	Freshwater marsh (0.02 acre) and unnamed drainage. Immediately adjacent to airport property along southwest corner, along Airport Street. Collects runoff from airport and conveys to Pillar Point Marsh (see Photo 7, Appendix A).	Approximately 0.3 mile from the southwest project boundary
13	Pillar Point Marsh. Separated from project site by West Point Avenue, open space, agricultural fields, and Airport Street (see Photo 13, Appendix A).	Approximately 0.5 mile from the southwest project boundary

* See Figure 5 for site locations.

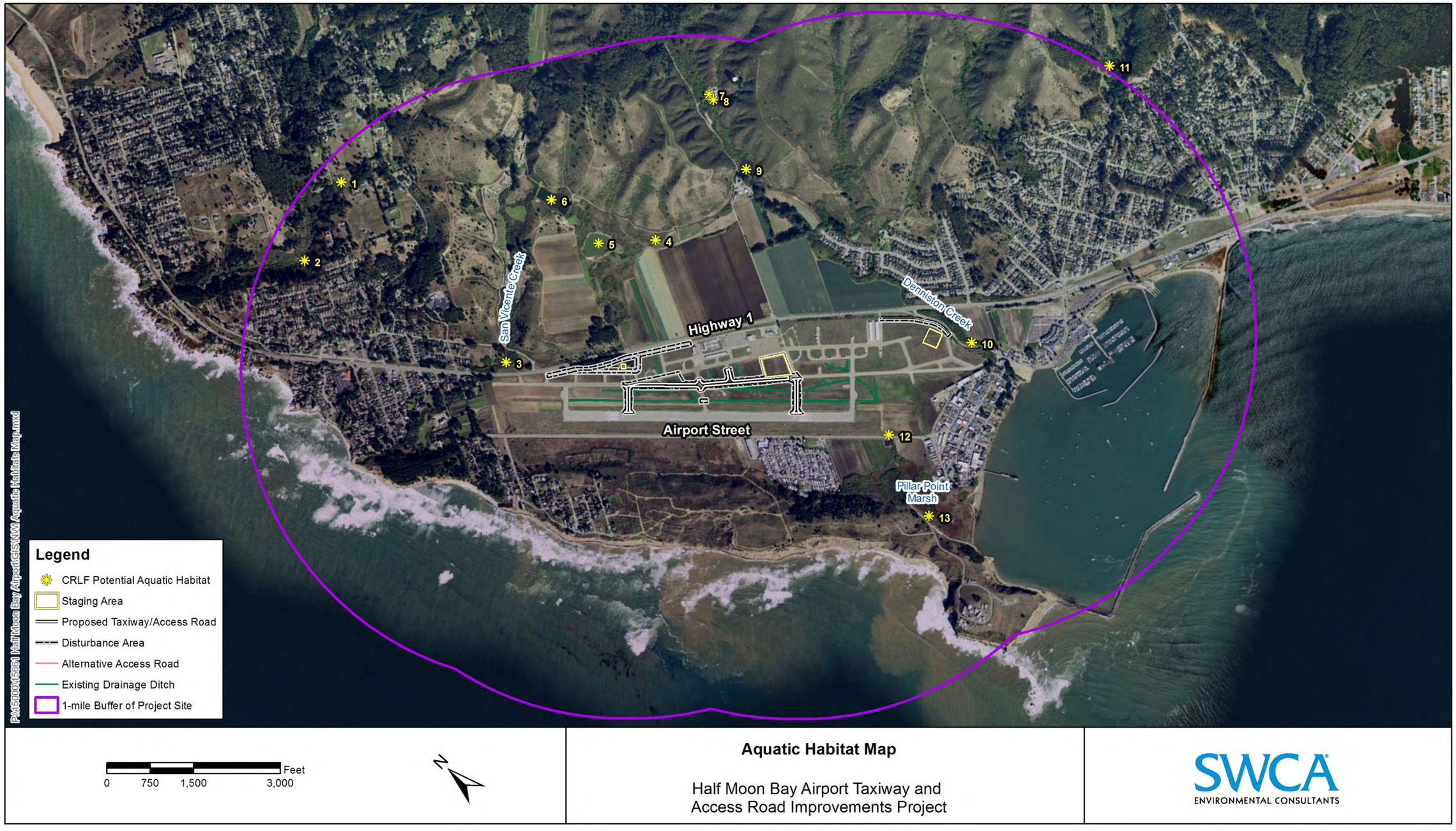

Figure 4. Aquatic Habitats

5. REFERENCES

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APPENDIX A.
Photo Documentation

Figure A-1. Photo Locations

Photo 1: Non-native grassland along south access road alignment, view north

Photo 2: Non-native grassland along north access road alignment, view north along drainage ditch toward eucalyptus woodland

Photo 3: Drainage ditch and agricultural field near taxiway project area, view northwest

Photo 4: Agricultural field near north access road northern terminus, view south

Photo 5: Typical Half Moon Bay Airport culvert under existing taxiway

Photo 6: Coast and valley freshwater marsh habitat near culvert entrance southwest of taxiway project footprint – water depth approximately 4 inches

Photo 7: Coast and valley freshwater marsh west of airport fenceline, view west across Airport Street

Photo 8: Denniston Creek adjacent to Capistrano Road near project site

Photo 9: Denniston Creek Reservoir east of the project site, view south

Photo 10: Agricultural irrigation pond #1 east of project site, view south, airport visible in background

Photo 11: Agricultural irrigation pond #2 east of project site, view south, airport visible in background

Photo 12: Agricultural irrigation pond #3 east of project site, view north

Photo 13: Pillar Point Salt Marsh southwest of project site, view east

Photo 14: Abandoned irrigation pond along Airport Street west of airport, view south

APPENDIX B.
Data Sheets

Appendix B.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (bio logist)

Date of Site Assessment: 9/22/2010
(mm/dd/yyyy)

Site Assessment Biologists: Hart, Benjamin _____
(Last name) (first name) (Last name) (first name)

_____ _____
(Last name) (first name) (Last name) (first name)

Site Location: San Mateo County, Half Moon Bay Airport, 37.513363°, -122.497992°
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)** (See Report)

Proposed project name: Half Moon Bay Airport Taxiway & Access Road Improvements Project
Brief description of proposed action:
Construction of new taxiways, access roads, and drainage improvements to support safe movement of aircraft and vehicles on the Airport. See report for detailed project description.

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? (YES) NO
If yes, attach a list of all known CRF records with a map showing all locations.
↳ See Report

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: NA Maximum depth: NA

Vegetation: emergent, overhanging, dominant species: _____
_____
_____

Substrate: _____
_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix B.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES NO
If yes,
Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____

Vegetation: emergent, overhanging, dominant species: _____
_____
_____

Substrate: _____
_____

Bank description: _____
_____
_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Drainage Ditches present on Airport within project footprint.

Other aquatic habitat characteristics, species observations, drawings, or comments:
Small shallow ponded areas may occur in drainage ditches near existing culverts within the project area. While these do not appear to be more than approximately 12" deep during high-flow events based on waterlines on existing culverts and soil and vegetative conditions in the ditches, and as such do not likely provide suitable aquatic habitat for resident or breeding CRLF, they could potentially provide suitable aquatic stop-over habitat for CRLF making straight-line movements across the airport between other more suitable aquatic features in the vicinity.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

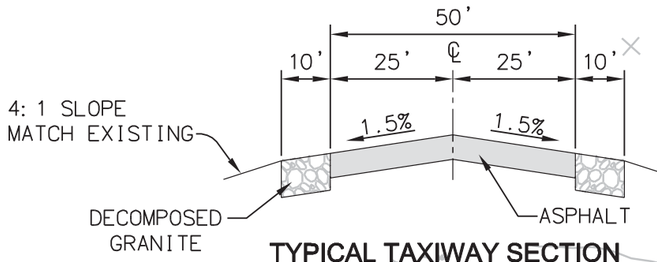
↳ See Report

APPENDIX C.
Site Plans

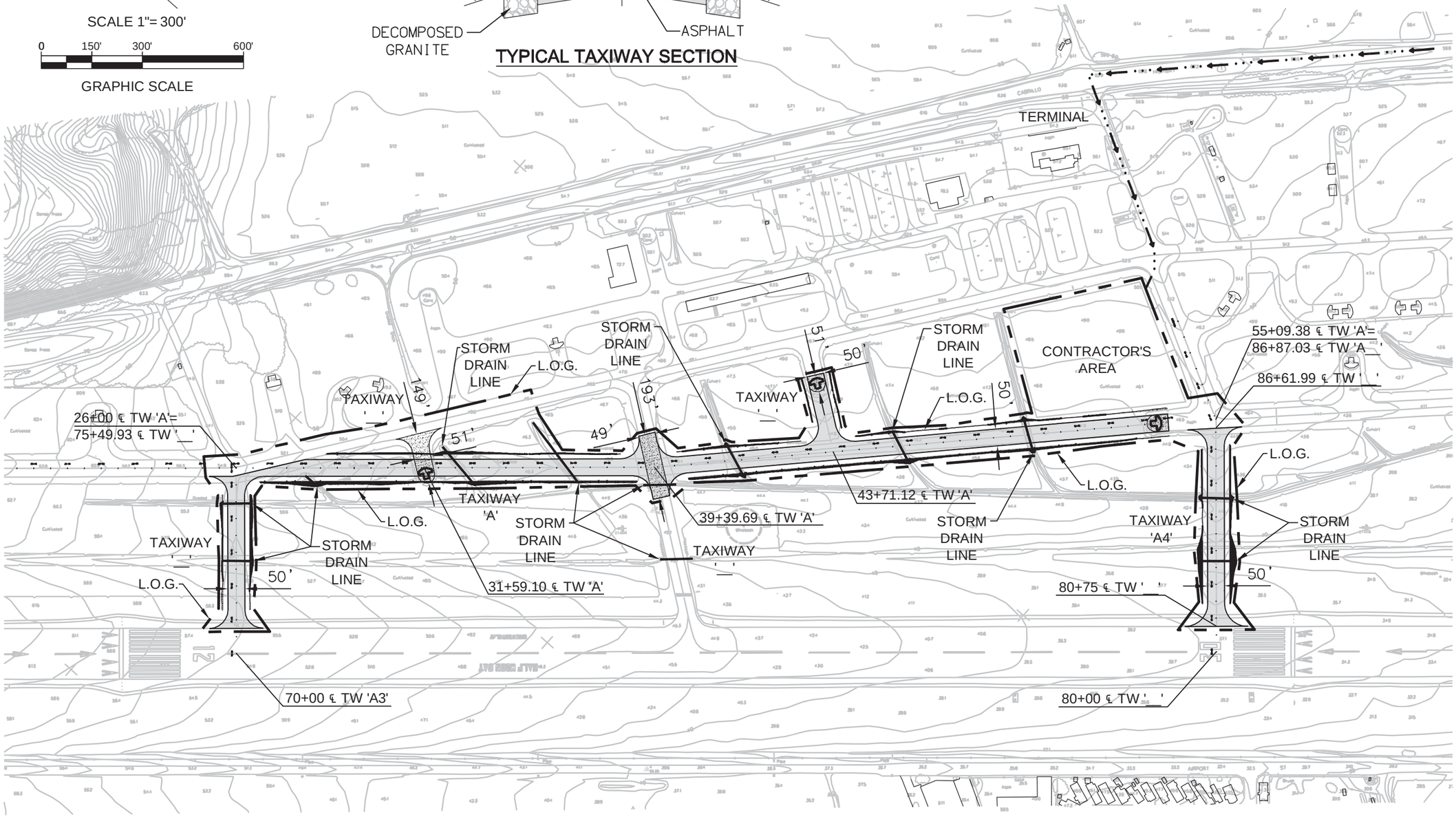
SCALE 1"= 300'

0 150' 300' 600'

GRAPHIC SCALE



TYPICAL TAXIWAY SECTION



CONSTRUCTION PATH

STORM DRAIN LINE
1,381 LF

DISTURBED AREA
736,205 SF

DEMOLITION
22,950 SF

ASPHALT
213,000 SF

HANGARS RELOCATED
3 EACH

PARSONS-BRINCKERHOFF
3311 E. SHELBY STREET
ONTARIO, CA 91764
TEL: 909.980.1982
FAX: 909.941.0891

REGISTERED PROFESSIONAL ENGINEER * INGRAHAM * No. 44780 * 03/31/12 * STATE OF CALIFORNIA * CIVIL

DATE	No.	REVISIONS

HALF MOON BAY AIRPORT (HAF)
620 AIRPORT DRIVE
SAN CARLOS, CA 94070

TAXIWAY ALIGNMENT

XXXXXXXXXX

COUNTY OF SAN MATEO
555 County Center, 5th Floor
Redwood City, CA 94063

DESIGN AIP No.: XXXXXXX
CONSTRUCTION AIP No.: XXXXXXX
PB Job Number: 13280B
DESIGNED BY: C. SWONKE
DRAWN BY: B. WALLANDER
CHECKED BY: C. McCORMICK

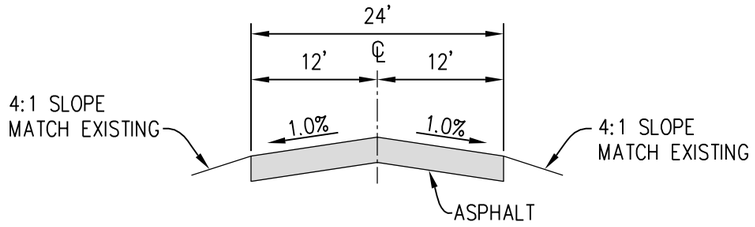
1 OF 1

File: T:\13280SanMateoCounty\CAD\HAF\dwg\EXHIBITS\Taxiway\01-Taxiway.dwg Jul 20, 2010 - 11:48am hernandez

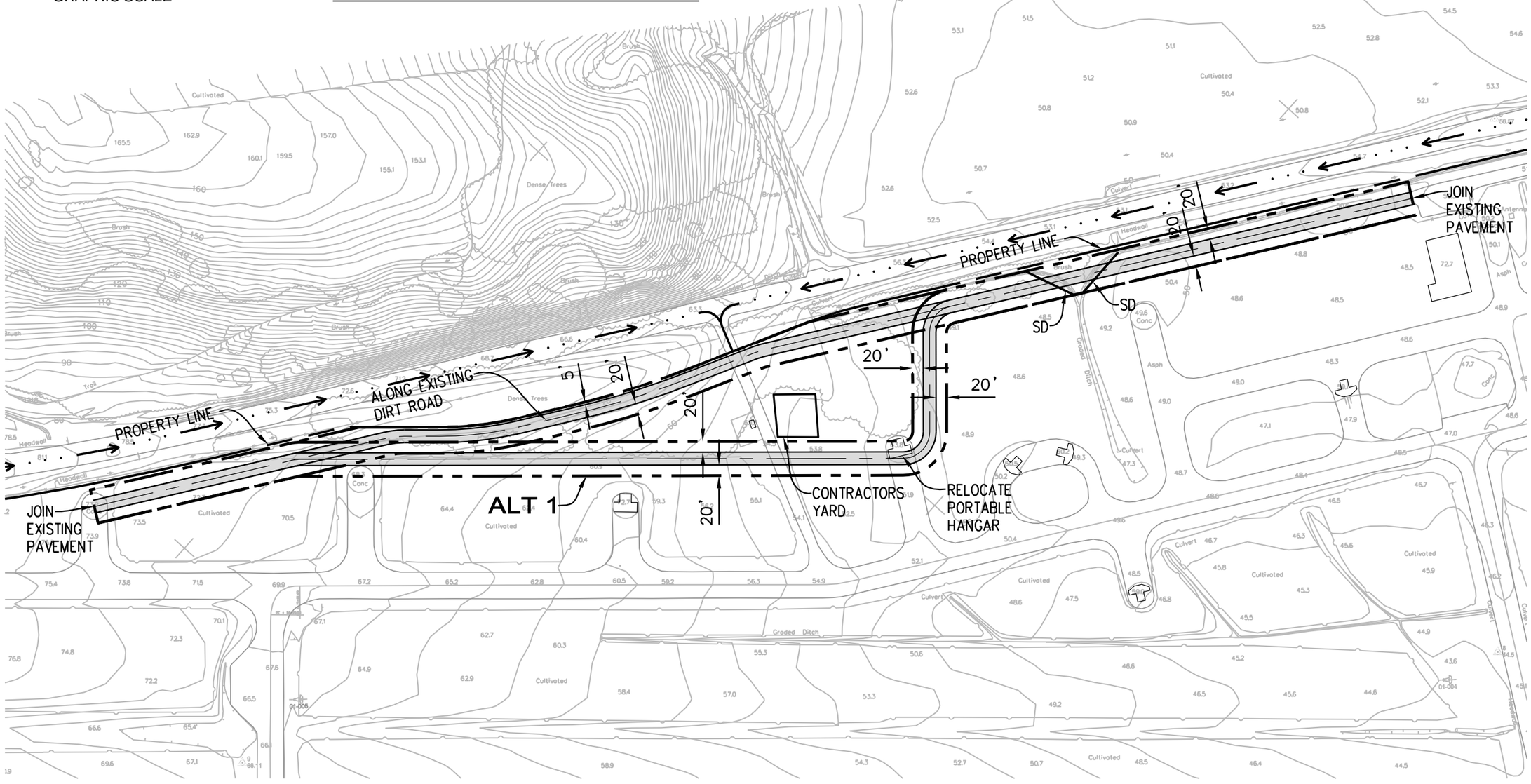
SCALE 1"=200'

0 100' 200' 400'

GRAPHIC SCALE



TYPICAL ACCESS ROAD SECTION



CONSTRUCTION PATH

STORM DRAIN LINE 204 LF

20' OFFSET DISTURBED AREA 151,502 SF ALT 1: 176,490 SF

ASPHALT 61,250 SF ALT 1: 66,185 SF

HANGARS RELOCATED 1 EACH

PARSONS-BRINCKERHOFF
311 E. SHELBY STREET
OTHELLO, CA 99764
TEL: 909.980.1982
FAX: 909.941.0891

REGISTERED PROFESSIONAL ENGINEER * C. INGRAHAM * No. 44780 * Exp. 03/31/12 * CIVIL * STATE OF CALIFORNIA

DATE	No.	REVISIONS

HALF MOON BAY AIRPORT (HAF)
620 AIRPORT DRIVE
SAN CARLOS, CA 94070

NORTH ACCESS ROAD

XXXXXXXXXX

COUNTY OF SAN MATEO
555 County Center, 5th Floor
Redwood City, CA 94063

DESIGN AIP No.: XXXXXXX

CONSTRUCTION AIP No.: XXXXXXX

PB Job Number: 13280B

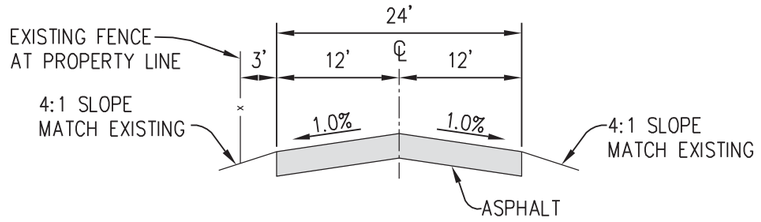
DESIGNED BY: C. SWONKE

DRAWN BY: B. WALLANDER

CHECKED BY: C. McCORMICK

1 OF 1

File: T:\13280SanMateoCounty\CAD\HAF\DWG\EXHIBITS\Taxiway\02-Access Rd N.dwg Feb 15, 2011 - 10:10am swonke



TYPICAL ACCESS ROAD SECTION

SCALE 1"= 200'

0 100' 200' 400'

GRAPHIC SCALE

JOINT EXISTING PAVEMENT

ACCESS ROAD

24'

ALONG EXISTING PERIMETER ROAD

JOINT EXISTING PAVEMENT

CONTRACTORS YARD

CONSTRUCTION PATH

20' OFFSET DISTURBED AREA
81,400 SF

ASPHALT
30,200 SF

PARSONS-BRINCKERHOFF
3311 E. SHELBY STREET
ONTARIO, CA 91764
TEL: 909.980.1982
FAX: 909.941.0891

REGISTERED PROFESSIONAL ENGINEER * INGRAHAM * No. 44780 * 03/31/12 * STATE OF CALIFORNIA

REVISIONS

DATE	No.	

HALF MOON BAY AIRPORT (HAF)
620 AIRPORT DRIVE
SAN CARLOS, CA 94070

SOUTH ACCESS ROAD

XXXXXXXXXX

COUNTY OF SAN MATEO
555 County Center, 5th Floor
Redwood City, CA 94063

DESIGN AIP No.: XXXXXXX

CONSTRUCTION AIP No.: XXXXXXX

PB Job Number: 13280B

DESIGNED BY: C. SWONKE

DRAWN BY: B. WALLANDER

CHECKED BY: C. McCORMICK

1 OF 1

File: T:\13280SanMateoCounty\CAD\HAF\dwg\EXHIBITS\Taxiway\03-Access Rd S.dwg Jul 20, 2010 - 11:50am hernandez

Judi Krauss

From: Theresa Yee <tyee@smcgov.org>
Sent: Thursday, January 17, 2013 10:50 AM
To: Judi Krauss
Subject: Fw: HAF: Status of Informal Consult Regarding Half Moon Bay Airport

From: Dan_Cordova@fws.gov
AWP-SFO-ADO, San Francisco, CA
To: Camille Garibaldi/AWP/FAA@FAA,
Date: 12/19/2011 09:58 AM
Subject: Re: HAF: Status of Informal Consult Regarding Half Moon Bay Airport

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Camille,

I received your phone message last week. I am currently trying to finalize two other projects and then will be addressing you request in more detail. My initial concerns are the apparent lack of avoidance and minimization measures for the California red-legged frog. They are likely to occur in the area; therefore, I would think that a Biological Opinion would be more appropriate. A BO would also provide coverage for incidental take and your project would not likely have to stop if a frog is encountered. As I stated, I will be looking closer at your project in the near future.

Sincerely,

Dan

Dan Cordova
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Coast Bay Forest Foothills Division
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825
(916) 414-6600

U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

San Francisco Airports District Office
1000 Marina Boulevard, Suite 220
Brisbane, CA 94005-1835

February 2, 2012

Dan Cordova
Sacramento Ecological Field Office
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

Subject: Formal Section 7 Consultation for Half Moon Bay Airport, Half Moon Bay, California – Proposed Taxiway, Access Road, Fence and Drainage Improvements

Dear Mr. Cordova:

As discussed on January 11, 2012, the Federal Aviation Administration (FAA) is seeking to initiate formal Section 7 consultation under Title 50, Code of Federal Regulations (CFR) Part 401 and the implementing regulations for the Endangered Species Act (ESA) of 1973, as amended. After considering the Biological Assessment (BA) provided on September 1, 2011 the you felt that there is a potential for California red-legged frog (*Rana draytonii*) to be present in the proposed Half Moon Bay Airport (HAF) project area. The San Mateo County Department of Airports the owner and operator of the airport is proposing improvements to improve safety, security, circulation, and drainage HAF.

The enclosed BA was updated to indicate that the previously "recommended" California red-legged frog Conservation Measures are "required" measures. Additionally, the biologist conducting survey and monitoring work will be a United States Fish and Wildlife Office (USFWS) approved biologist. The biologist will inspect the exclusion fencing on a daily basis and will report any occurrences of listed species.

The FAA is seeking USFWS concurrence with its determination that the proposed action may affect, but is not likely to adversely affect, the California red-legged frog and the San Francisco garter snake.

Your attention to this matter is appreciated. If you have any questions or concerns about the County's proposed improvements at HAF or the enclosed BA, I am available at (650) 827-7613

Sincerely,

(*Original Signed By:*)

Camille Garibaldi
Environmental Protection Specialist

Enclosure

U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

San Francisco Airports District Office
1000 Marina Blvd, Suite 220
Brisbane, CA 94005-1835

June 25, 2012

Dan Cordova
Sacramento Ecological Field Office
United States Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

Subject: Endangered Species Act, Section 7 Consultation for Half Moon Bay Airport, Proposed Taxiway, Access Road, Fence and Drainage Improvement Project – Proposed Access Road Alignment Modification

Dear Mr. Cordova:

The County of San Mateo modified the alignment of a portion of the proposed airport access road in the Proposed Taxiway, Access Road, Fence and Drainage Improvement Project at the Half Moon Bay Airport, Half Moon Bay, California. As shown on the enclosed Proposed South Access Road figure, the road was shifted to provide a 50-foot buffer from the riparian corridor associated with Denniston Creek.

Review of the Habitat Map (Figure 3) of the Biological Assessment, originally submitted to your office on September 1, 2011 and updated on February 2, 2012, indicates that the proposed road alignment would be located in an area of non-native grassland.

The FAA is seeking United States Fish and Wildlife Service (USFWS) concurrence that the Proposed Taxiway, Access Road, Fence and Drainage Improvement Project may affect, but is not likely to adversely affect, the California red-legged frog and the San Francisco garter snake.

The County of San Mateo has indicated that it is eager to move forward with its proposed project. The Federal Aviation Administration is unable to complete the National Environmental Policy Act review of this project until our Endangered Species Act consultation is complete, therefore we would appreciate the USFWS response within 30 days of receipt of this letter.

Your attention to this matter is appreciated. I am available at (650) 827-7613 if you have any questions regarding the project or the biological information provided.

Sincerely,

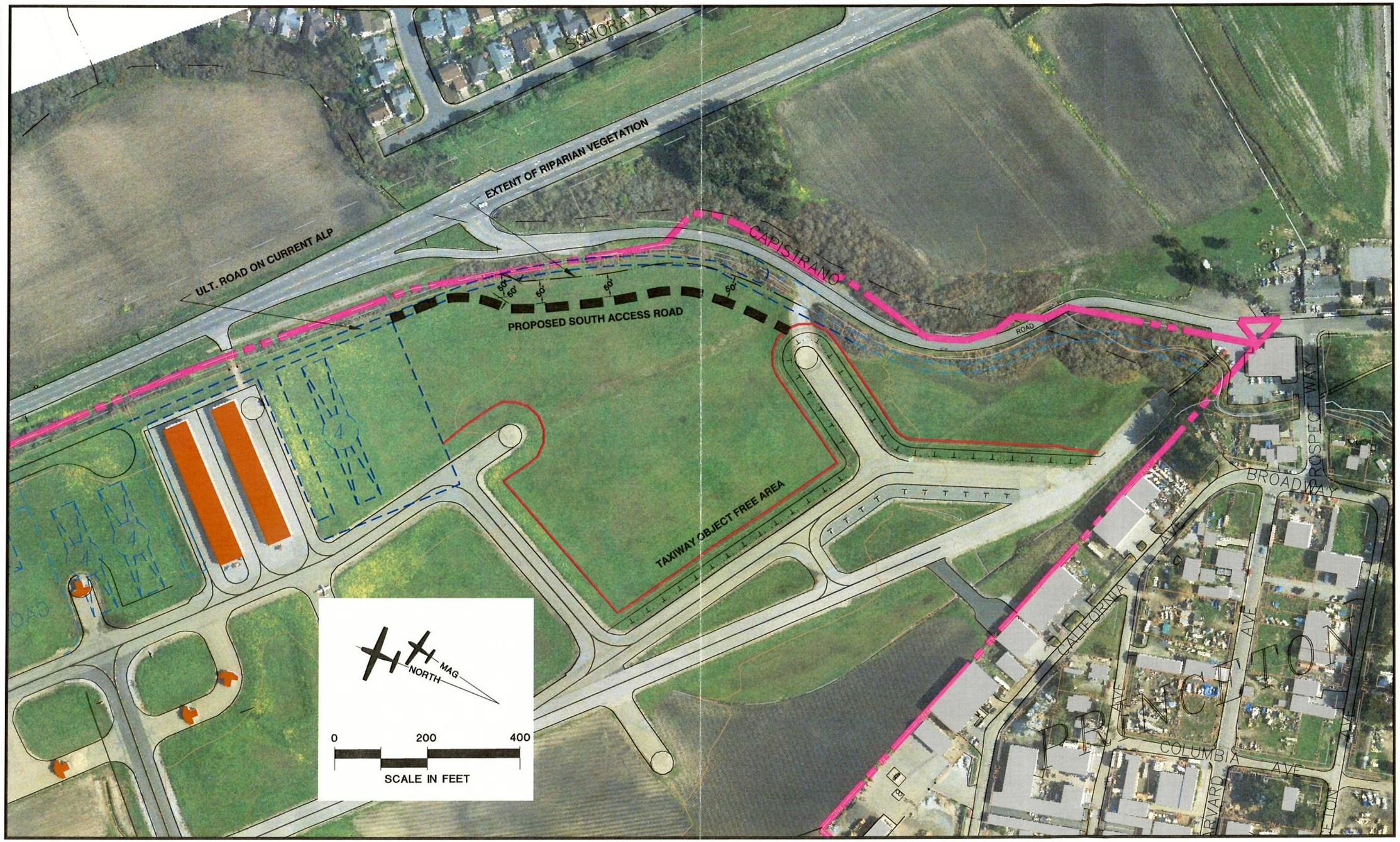
(*Original Signed By:*)

Camille Garibaldi
Environmental Protection Specialist

Enclosure

cc:
Teresa Yee, County of San Mateo
Judi Krauss, Coffman Associates

09-EA-22 HMB SOUTH ACCESS RO.dwg 06/07/2012



PROPOSED SOUTH ACCESS ROAD
OUTSIDE OF 50' RIPARIAN BUFFER
HALFMOON BAY AIRPORT