

## **5.6 WATER QUALITY**

This section evaluates the existing hydrology, site drainage, and water quality at Gness Field Airport (DVO or Airport) and the potential impacts as a result of the Sponsor's Proposed Project and its alternatives. Details concerning the methodology and data sources are included in Appendix G, *Water Quality*.

### **5.6.1 REGULATORY SETTING**

#### **5.6.1.1 Federal Regulations**

##### **FEDERAL CLEAN WATER ACT**

The 1972 Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), establishes the basic structure for the U.S. Environmental Protection Agency (USEPA) to regulate discharges of pollutants into waters of the U.S. The CWA's primary intent is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

Section 401 of the CWA (33 USC § 1341) requires any Federal license or permit applicant to obtain a water quality certification if any proposed project activity may result in a discharge of pollutants into waters of the U.S. This certification assures that the discharge would comply with the applicable effluent limitations and water quality standards. Section 301 of the CWA (33 USC § 1311) prohibits discharges to waters of the U.S. except with a permit. As a condition of the permit, application of the best practicable control technology currently available is required.

##### National Pollutant Discharge Elimination System (NPDES)

The CWA was amended in 1987 with the addition of Section 402(p), which established a framework for regulating stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). The NPDES permit system was established in the CWA to regulate point source pollution such as municipal and industrial discharges to surface waters of the United States. In California, the USEPA has given the state the authority to administer the NPDES program, which is implemented by the State Water Resources Control Board (SWRCB).

##### **SAFE WATER DRINKING ACT**

If the potential exists for contamination of an aquifer designated by the USEPA as a sole or principal drinking water resource within the project area, the Federal Aviation Administration (FAA) is required to consult with the USEPA regional office, Tribal, state, or local officials as required by Section 1424(e) of the Safe Drinking Water Act, as amended.

## **FISH AND WILDLIFE COORDINATION ACT OF 1980**

If a proposed action would impound, divert, drain, control, or otherwise modify the waters of any stream or other body of water, the Fish and Wildlife Coordination Act is applicable, unless the project is for the impoundment of water covering an area of less than ten acres. The Fish and Wildlife Coordination Act requires the FAA to consult with the U.S. Fish and Wildlife Service and the applicable state agency to identify means to prevent loss or damage to wildlife resources resulting from a proposed action. Separate from, but related to this Act is the Magnuson-Stevens Fishery Conservation and Management Act, which governs U.S. marine fisheries management. The act mandates the identification of Essential Fish Habitat for managed species, as well as measures to conserve and enhance the habitat necessary for fish to carry out their life cycles. More information regarding potential impacts to essential fish habitat is located in Section 5.9, *Fish, Wildlife, and Plants*.

### **FAA ORDER 1050.1E, CHANGE 1, ENVIRONMENTAL IMPACTS: POLICIES AND PROCEDURES**

FAA Order 1050.1E, Change 1, Appendix A, Section 17, Water Quality, states that the Federal Water Pollution Control Act, as amended (commonly referred to as the Clean Water Act), provides the authority to establish water quality standards, control discharges, develop waste treatment management plans and practices, prevent or minimize the loss of wetlands, and regulate other issues concerning water quality. The Fish and Wildlife Coordination Act also applies if a proposed Federal action would impound an area greater than ten acres, or divert, drain, control, or otherwise modify the waters of any stream or other body of water. The USEPA must be conferred with if there is the potential for contamination of an aquifer designated as a sole or principal drinking water resource for the area, as required by section 1424(e) of the Safe Drinking Water Act, as amended.

To determine significant impacts, FAA Order 1050.1E, Change 1, states that water quality regulations and issuance of permits will normally identify any deficiencies in the proposal with regard to water quality. It goes on to state that if consultation or analysis shows that there is the potential for exceeding water quality standards, identifies water quality problems that cannot be avoided or mitigated, or indicates difficulties in obtaining permits, then it may be concluded that the project would result in a significant impact.

#### **5.6.1.2 State Regulations**

### **PORTER-COLOGNE WATER QUALITY CONTROL ACT**

The Porter-Cologne Water Quality Control Act establishes the SWRCB and the Regional Water Quality Control Board (RWQCB) as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e., beneficial uses of surface

waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. NPDES permits for projects must be consistent with the Basin Plan for the region.

**STATE WATER RESOURCES CONTROL BOARD AND REGIONAL WATER QUALITY CONTROL BOARDS**

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. Where multiple beneficial uses exist, water quality standards must protect the most sensitive use.

The SWRCB and the nine RWQCBs are responsible for ensuring implementation and compliance with the provision of the Federal CWA and California’s Porter-Cologne Water Quality Control Act. The project area is situated within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

Regional boards have the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction and through multiple enforcement mechanisms. Regional water quality objectives for all water bodies in the Petaluma River watershed (including Black John Slough and its tributaries) are specified in the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, prepared by the San Francisco Bay RWQCB in compliance with the Federal CWA and the Porter-Cologne Water Quality Control Act. Section III of the Basin Plan contains both narrative and numeric water quality objectives that are intended to protect these beneficial uses. **Table 5.6-1** summarizes the beneficial uses pertinent to the proposed project site.

**Table 5.6-1  
BENEFICIAL USES PERTINENT TO THE PROPOSED PROJECT  
Gross Field Airport**

COUNTY WATER BODY	AQUATIC LIFE USES						WILDLIFE USES	RECREATIONAL USES		
	COLD	EST	MIGR	RARE	SPWN	WARM	WILD	REC-1	REC-2	NAV
Petaluma River	E	E	E	E	E	E	E	E	E	E
San Antonio Creek	E		P		P	E	E	P	P	

**Key:**

- |   |                                       |
|---|---------------------------------------|
| 1 E: Existing Beneficial Uses                       | 8 SPWN: Fish Spawning                 |
| 2 P: Potential Beneficial Uses                      | 9 WARM: Warm Freshwater Habitat       |
| 3 COLD: Cold Freshwater Habitat                     | 10 WILD: Wildlife Habitat             |
| 4 EST: Estuarine Habitat                            | 11 REC-1: Water Contact Recreation    |
| 5 MIGR: Fish Migration                              | 12 REC-2: Noncontact Water Recreation |
| 6 RARE: Preservation of Rare and Endangered Species | 13 NAV: Navigation                    |

## **CALIFORNIA WATER CODE**

Section 13260 of the California Water Code requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the state, shall file a Report of Waste Discharge (ROWD) with the appropriate regional board. Section 13260 of the California Water Code requires a ROWD for persons discharging or proposing to discharge waste that could affect the quality of the waters of the state. The Regional Board reviews the applicant's ROWD and may establish Waste Discharge Requirements (WDRs) for the proposed action. WDRs may include effluent limitations, as well as monitoring and reporting requirements.

### **5.6.2 EXISTING CONDITIONS**

#### **5.6.2.1 Regional Hydrology**

The proposed project site is located within the San Francisco Bay Hydrologic Region (HR), as defined by the California Department of Water Resources. Within this HR, the Airport is located in the 146 square mile Petaluma River watershed (Hydrologic Unit Code #18050002). The Petaluma River is the major drainage within this watershed and empties into San Pablo Bay.

#### **5.6.2.2 Local Hydrology**

The existing hydrologic boundaries of the DVO area are the southeastern slope of Burdell Mountain to the west of the Airport, the northernmost extent of the Airport levee to the north, the levee along Black John Slough to the south, and the easternmost levee between the Airport and the adjacent agricultural field. The following discusses surface waters and groundwater within the area.

## **SURFACE WATERS**

Surface water drainage flows at the Airport can be delineated into the following four basic categories:

- 1) Run-on/perimeter flows
- 2) Runway/taxiway flows
- 3) Asphalt apron flows
- 4) Offsite flows

### Run-On/ Perimeter Flows

Water from the adjacent hillside, which includes open space, the Olompali State Park, and fully developed land, flows towards DVO through culverts under Highway 101. These waters are currently routed around the Airport and are combined with Airport runoff on the east side of Airport property, which is then pumped over the levee into the Petaluma River (see **Exhibit 5.6-1, Local Drainage** and **Exhibit 5.6-2, Site Drainage**).

### Runway and Taxiway Flows

The existing asphalt runway and taxiway were each designed with a center crown whereby rainfall would flow to the shoulders of the runway and the taxiway. Rainfall that flows to the shoulders continues flowing into the vegetated perimeter channel. Stormwater runoff between the taxiway and runway flows together in the center drainage inlets and then flow east through culverts under the runway into the perimeter drainage channel (see Exhibit 5.6-2, *Site Drainage*).

### Asphalt Apron Flows

Precipitation that falls onto the asphalt hangar and operational aprons on the west side of the Airport flows east into the drainage ditch parallel to the taxiway, which then flows north into the vegetated perimeter channel or waters flow directly north into the perimeter channel. Rainfall on the southwestern most portion of the proposed project site flows south into the southern vegetated area, then east to join the north flowing vegetated perimeter channel on the eastern most property boundary. Rainfall that reaches the eastern asphalt hangar apron flows northeasterly in the northern portion, easterly from the wash area in the central portion of the eastern apron, and southeasterly in the southern portion. The north and south portions flow into the vegetated perimeter channels immediately adjacent to their locations.

Flows in the central portion of the eastern asphalt apron drain into a subsurface stormwater filtration conveyance system. The flows that enter the wash drain flow through a sediment filter and then through an oil and grease separator before the flows are released into an evaporation basin on the eastern portion of Airport boundary. If it should occur during an extreme storm condition that runoff volumes exceed the capacity of the evaporation basin, the flows would enter the vegetated perimeter channel prior to offsite discharge.

### Offsite Flows

Offsite flow is the fourth category of surface water at the Airport. Due to the existing levee system, these flows would not enter the runway and taxiway environment unless the unlikely event of a levee breach was to occur during an extreme storm condition. These flows originate from Burdell Mountain and Olompali State Park to the north. Rainfall from these areas is directed along Highway 101 to culverts, and with highway runoff, exit on the east side of the Highway and continue east through culverts under the railroad tracks and into the

tributaries and sloughs adjacent to the Petaluma River. Off-site surface water flows are pumped into the Petaluma River to the northeast of the Airport (see Exhibit 5.6-1, *Local Drainage*).

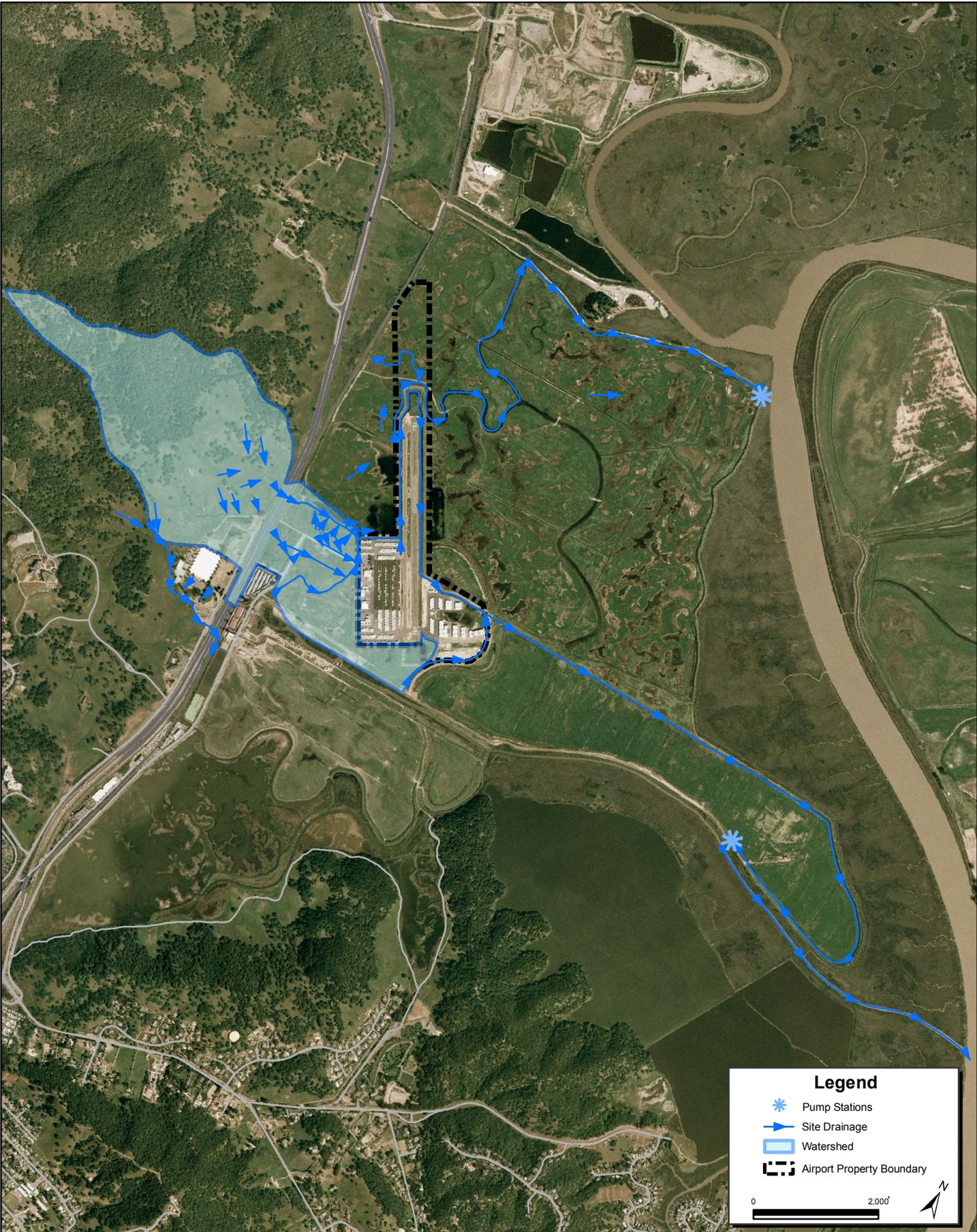
## **GROUND WATER**

The Airport is located within the northern San Francisco Bay region within the North Coast Ranges geomorphic province of California. Ground water occurs principally in alluvial deposits of Pleistocene to Holocene age that unconformably overlay non-water bearing rocks of the Franciscan assemblage. The alluvial deposits are composed of unconsolidated clay, silt, and sand with discontinuous lenses of gravel. The total thickness of the alluvial deposits ranges from 60 feet near the City of Novato to more than 200 feet near San Pablo Bay. Wells in sand and gravel layers 25 feet to 50 feet deep generally yield an average of 50 gallons per minute.

Natural recharge occurs principally as infiltration from streambeds that exit in the upland areas within the drainage basin and from direct percolation of precipitation that falls on the basin floor. Groundwater is typically of the calcium bicarbonate type. Groundwater in the tidal areas of the alluvium is of the sodium chloride type and the total mineral content is greater than in areas farther from the bay.

In 1991, three Underground Storage Tanks (USTs) (one jet fuel and two aviation gasoline USTs), each with a capacity of 10,000 gallons, were removed from Airport property, east of the manager's office. During removal, it was determined that the USTs and product lines were pitted and had holes in them. In 1999, during excavation work to replace a section of the storm drain sewer line, groundwater with a sheen and solvent-like and petroleum odors were encountered. Sixty-three tons of soil and 9,600 gallons of groundwater were subsequently removed from the excavation and transported off-site to proper disposal facilities. Soil samples of the excavated soil were also completed. It was recently determined by the SFBRWQCB that this subsurface contamination poses a potential threat to human health and water quality and needs to be addressed. Marin County was issued a Requirement for Technical Report in June 2009. Marin County submitted a Technical Report in September 2009 and is currently coordinating with the RWQCB to address this situation.

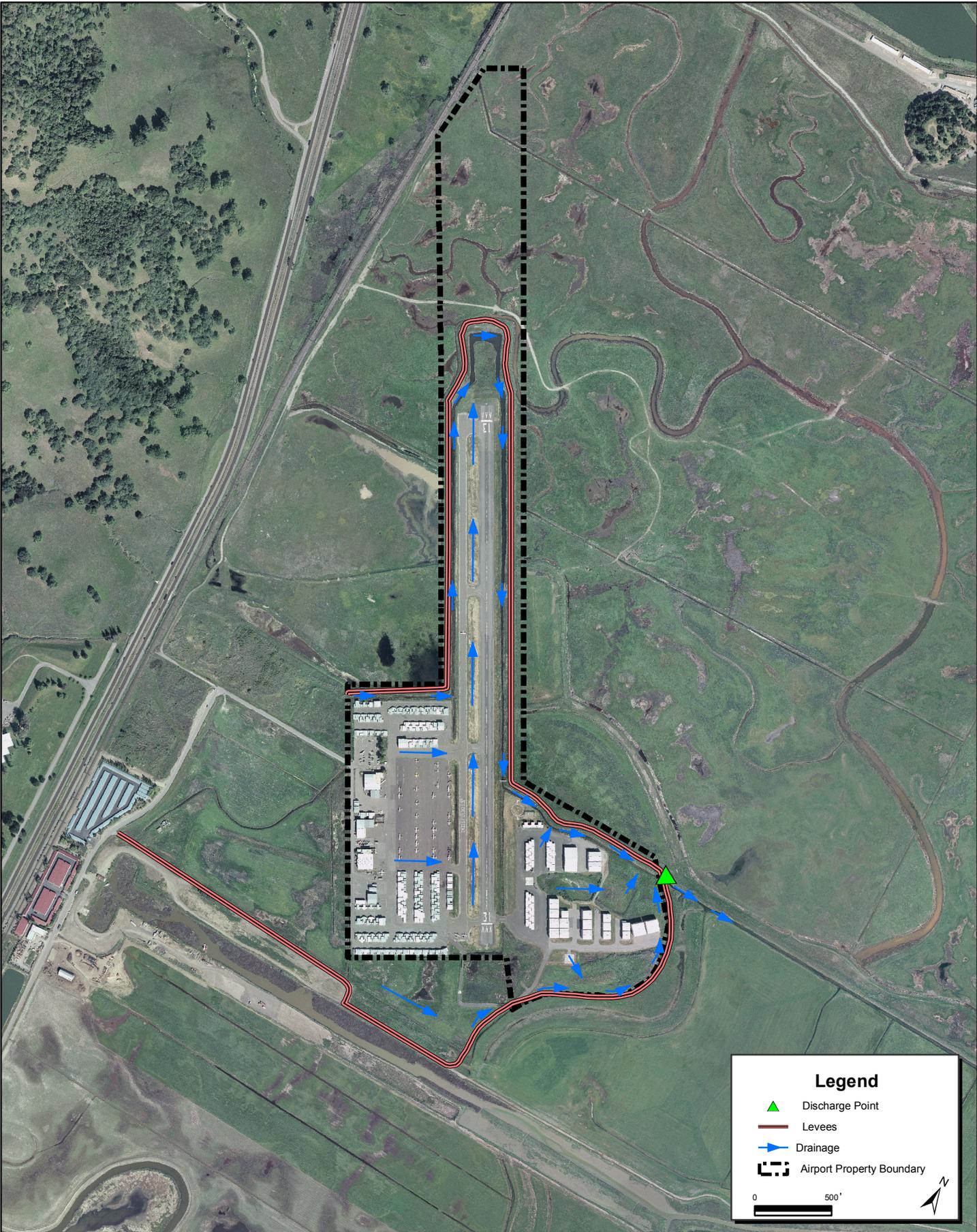
The area in question is located immediately east of the Airport manager's office and would not be disturbed by the Sponsor's Proposed Project or its alternatives. As this site is not located in the vicinity of any of the project alternatives, it is not anticipated that contaminated groundwater would be found during construction. Any groundwater quality issues or contamination that is associated with this site would be remediated with or without implementation of the Sponsor's Proposed Project. Therefore, this information will be included in the discussion of cumulative impacts (see Appendix L, *Hazardous Materials*, for a copy of the correspondence regarding this issue). See Section 5.17, *Hazardous Materials, Pollution Prevention, and Solid Waste*, of this chapter for additional information.



**Legend**

- \* Pump Stations
- ➔ Site Drainage
- ▭ Watershed
- ▭ Airport Property Boundary

0 2,000'



**Legend**

-  Discharge Point
-  Levees
-  Drainage
-  Airport Property Boundary

0 500'



### **5.6.2.3 Existing Permits**

Gross Field Airport operates under the current Industrial Permit for Air Transportation Industrial Activities, SIC code 4581, under Waste Discharge Identification Number 221I000647. Under the NPDES permit system, the SWRCB adopted the current Industrial Stormwater General Permit (General Industrial Permit) in 1997. The General Industrial Permit regulates discharges associated with ten broad categories of industrial activities, each of which are identified in the Federal regulations by a Standard Industrial Classification (SIC).

Pollutant thresholds are not defined by the Airport's current General Industrial Permit. General conditions of NPDES Permits require stormwater discharges to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions of the General Industrial Permit require the implementation of management measures (Best Management Practices or BMPs) that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards. However, the SWRCB has determined that it is not feasible at this time to establish numeric effluent limitations, nor have thresholds been established by this permit for individual pollutants.

Nonpoint pollution sources are defined as those that originate over a wide area, rather than from a definable location or point source. Nonpoint sources of pollution are generally exempt from Federal NPDES permit program requirements with the exception of stormwater discharges. Stormwater discharges during and after project construction can transport pollutants from impervious surfaces such as roads and parking lots into creeks and streams. NPDES municipal Phase II regulations require jurisdictions to initiate actions to prevent long term non-point pollution through appropriate design. Marin County operates under a General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems and has developed a Stormwater Management Plan (EOA 2005). The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of BMPs.

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the SWRCB requires that any construction activity affecting one acre or more must obtain coverage under the General Construction Activity Stormwater Permit (Construction General Permit, 99-08-DWQ). Additionally, permit applicants are required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies erosion and sediment control BMPs to reduce or eliminate construction-related impacts on receiving water quality. Permit applicants are also required to perform regular inspections of all BMPs.

#### **5.6.2.4 Existing Best Management Practices (BMPs)**

Daily use of the current BMPs employed at DVO reduces concentrations of pollutants of concern below regulatory criteria and minimize or eliminate stormwater quality impacts to Black John Slough and the Petaluma River. BMPs in effect currently at DVO include:

- Existing Airport levee system and vegetated drainage ditch.
- Designated aircraft wash area on the southeastern asphalt apron that drains all wash waters into a subsurface stormwater filtration system. This system is comprised of a sediment filter and an oil separator and then an evaporation basin. Wash waters normally do not enter the perimeter drainage.
- Established Spill Prevention, Control, and Countermeasure (SPCC) plans:
  - Spill response items include oil booms, absorbent pads, absorbent materials, brooms, shovels, and waste containers.
  - Perimeter drainage channel can be closed with sluice gates at the twin culverts on the east side of the Airport in case of required spill response activities and subsequent water quality protection.
- Airport activities such as herbicide application along runway and taxiway aprons, and along perimeter drainage channels use chemicals that have the potential to pollute stormwaters. In order to reduce or eliminate the potential for contact with stormwaters, spraying activities are scheduled for non-rain days with low to non-existent winds. Herbicides are only applied in accordance with herbicide labeling directions and EPA label requirements. In addition, chemical spray solutions are mixed away from storm drainages.
- The Airport tests the outflow of runoff monthly and reports the results annually to the Regional Water Quality Control Board.

Construction BMPs include:

- Use of temporary mulching, seeding or other stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and
- Installation of traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw wattles or silt fencing to minimize the amount of uncontrolled runoff that could enter storm drain inlets or surface water.

Implementation of these BMPs ensures that projects are managed carefully through proper implementation, monitoring, and maintenance of daily and construction activities.

**5.6.2.5 Existing Pollutant Loads**

Airport activities have the potential to generate pollutants that could enter the stormwater drainage system and subsequently affect surface water quality in Black John Slough and the Petaluma River. These activities and the potential pollutant types are described in **Table 5.6-2**.

**Table 5.6-2  
AIRPORT OPERATIONS WITH THE POTENTIAL TO AFFECT STORMWATER  
POLLUTANT LOADS  
Gross Field Airport**

<b>CURRENT AIRPORT OPERATIONS</b>	<b>POTENTIAL STORMWATER POLLUTANTS</b>
Aircraft, vehicle and equipment maintenance/cleaning	Cleaning solutions, petroleum hydrocarbons, rubber particles, solvents, oils and grease, paint, and metals
Airport construction activities	Sediment, oil, grease, petroleum hydrocarbons, pH, and pesticides
Aircraft, vehicle and equipment fueling	petroleum hydrocarbons, rubber particles, oil and grease
Aircraft runway maintenance	petroleum hydrocarbons, rubber particles, oil and grease, and paint
Chemical storage and wastewater pretreatment	Cleaning solutions, herbicides, petroleum hydrocarbons, oil, rubber particles, and solvents
Fire/Department Public Safety training activities	Firefighting foam; petroleum hydrocarbons, rubber particles, and oil and grease
Fuel storage and transfer	Petroleum hydrocarbons, oil and grease
Loading/unloading operations	Rubber particles
Grounds and Building maintenance	Petroleum hydrocarbons, herbicides, fertilizers, paint, and sediment
Roadway Maintenance	Herbicides and fertilizers
Outdoor equipment, material and waste storage	Petroleum hydrocarbons, oils, grease, solvents, herbicides, fertilizers, and trash
Non-allowable non-stormwater discharges/Spill response	Petroleum hydrocarbons, oils, hydraulic fluids, grease, cleaning solutions, Aircraft firefighting foam, herbicides, and paint
Stormwater channel maintenance and rehabilitation	Sediment and herbicides
Non-Point Source Pollution	Sediment

Source: Foothill Associates, 2009.

In order to determine the potential for water quality impacts of the Sponsor's Proposed Project and its alternatives, the limitations on acceptable pollutant levels in the DVO area were obtained from the following sources:

- The San Francisco Bay Basin Water Quality Control Plan (Basin Plan);
- The conditions required by the SWRCB for the Airport's General Industrial Permit mandated by the NPDES (Water Quality Order No. 97-03-DWQ NPDES General Permit No. CAS000001);
- The American Association of Airport Executives (AAAE) and the Airport Research and Development Foundation (ARDF) Monitoring Group Stormwater Monitoring Requirements; and
- The California Environmental Protection Agency (CEPA) 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments for San Francisco Bay.

The Basin Plan identifies the following state-established pollutants of concern, many of which are generally found in stormwater runoff and airport runoff (see Appendix G for detailed descriptions of each pollutant):

- pH
- Specific conductance
- Oil and Grease
  - Total Petroleum Hydrocarbons (TPH)
    - Diesel
    - Gasoline
    - Motor Oil
- Total Organic Carbon (TOC)
- Biological Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Sediment
  - Total Suspended Solids (TSS)
  - Turbidity
- Nutrients
  - Total Nitrogen (TN)
  - Total Kjeldahl Nitrogen (TKN)
  - Total Phosphorous (TP)
- Metals
  - Copper (Cu)
  - Lead (Pb)
  - Nickel (Ni)
  - Zinc (Zn)
- Pathogens
  - Total Coliform
  - Fecal Coliform
- Pesticides
  - Diazinon
  - Glyphosate

Although the Basin Plan identifies the pollutants listed above for airports, thresholds have not been established for all the pollutants listed above. In addition, as previously stated, pollutant thresholds are not defined by the Airport's current General Industrial Permit. Furthermore, the SWRCB has determined that it is not feasible at this time to establish numeric effluent limitations, nor have thresholds been established by this permit for individual pollutants.

After reviewing all available sources listing potential pollutants of concern, including the Industrial General Permit pollutant parameters, the Group Stormwater Monitoring Plan (GMP), the current water quality sampling data, and all of the Airport operational activities that potentially contribute these pollutants, a subset of nine pollutants were identified for the Airport that could be expected in stormwater runoff and that had useable data for analysis. These nine pollutants include: Total Copper (Cu); Total Lead (Pb); Total Zinc (Zn); Biological Oxygen Demand (BOD); Oil & Grease; Chemical Oxygen demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and Total Phosphorous (P). **Table 5.6-3** provides the average annual pollutant load for each of the nine pollutants.

**Table 5.6-3  
EXISTING AVERAGE ANNUAL POLLUTANT LOAD (LBS/YEAR)  
Gross Field Airport**

<b>POLLUTANT</b>	<b>EXISTING CONDITIONS (2008)</b>
Total Copper (Cu)	4
Total Lead (Pb)	17
Total Zinc (Zn)	7
Biological Oxygen Demand (BOD)	2,800
Total Suspended Solids (TSS)	13,078
Total Phosphorous (P)	147
Total Kjeldahl Nitrogen (TKN)	808
Oil and Grease	1,021
Chemical Oxygen demand (COD)	32,705

Source: Foothill Associates *Water Quality Technical Report, GROSS Field Airport, Marin County, California*, November 2009. See Appendix G.

### **5.6.3 FUTURE CONDITIONS: 2018**

This section presents the potential impacts from the Sponsor's Proposed Project and its alternatives to the existing water quality at DVO and the surrounding area. As previously noted, there are no overall numeric thresholds for pollutants, therefore the discussion of significance will focus on the ability to obtain permits.

#### **Alternative A: No Action**

The estimated water quality pollutant loads discharged to receiving waterbodies under Alternative A would not change from those described for the Existing Conditions (2008) because there would be no new construction or development. The Airport currently operates within the limits of its General Industrial Permit and the limits of the Basin Plan, which includes use of BMPs, including the Airport levee system, vegetated drainage ditch, oil and grease separator, evaporation basin, spill prevention procedures, and spill clean-up procedures.

Increased aircraft operations at DVO are anticipated by 2018 with or without the implementation of the Sponsor's Proposed Project or its alternatives. Activity is expected to grow from 85,500 operations in 2008 to 100,500 in 2018. This increase in activity would result in increased industrial uses within the facility through aircraft washing and maintenance activities. However, as DVO will continue to operate under its SWPPP and continue to implement BMPs to minimize the potential for pollutants to be discharged to the waterbodies adjacent to the Airport, implementation of Alternative A would not result in a significant impact on water quality.

**Alternative B:  
Extend Runway to the Northwest by 1,100 Feet (Sponsor's Proposed Project)**

Under Alternative B, there would be an increase in impervious surfaces from the 1,100-foot runway extension, which would result in an increase in stormwater runoff. However, modifications to the Airport levee and ditch system would result in an additional 4,400 feet of drainage ditch being created. The increase in length of the uniform linear ditch system would also increase the overall volume capacity of the ditch system, which would more than compensate for the additional runoff created by the increased impervious surface.<sup>1</sup>

As mentioned under Alternative A, operations at DVO are anticipated to increase by 2018 with or without a runway extension. This increase, like in Alternative A, would result in increased industrial uses within the Airport facility through aircraft washing and maintenance activities. Although these pollutants levels would increase, it is expected that compliance with the Industrial General Permit through participation in the Group Monitoring Plan would ensure that the Airport would continue to meet or exceed water quality regulatory standards. In addition, adherence to or modification of existing SWPPP and future sampling and visual observations if warranted would be employed to eliminate or minimize water quality impacts to a level that is acceptable under the Industrial General Permit and the Group Monitoring Plan.

Short-term impacts to water quality may potentially occur during the construction phase of the proposed project. Grading and construction activities typically increase the potential for sediment related pollutants (e.g., TSS, nutrients, metals) to enter waterbodies. Short-term impacts would be minimized through vigilant adherence to construction schedule, the project SWPPP, and BMPs. Construction of Alternative B would require the facility to obtain coverage under the NPDES General

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<sup>1</sup> Section 5.9, *Fish, Wildlife, and Plants* and Section 5.10, *Wetlands* report a reduction in the net acres of ditch/channel for both Alternative B and Alternative D. It is important to note that the discussion of ditch/channel in those sections refers to land cover/habitat in acres versus volume capacity of the ditch/channel system. The existing ditch/channel system is irregularly shaped in some areas, resulting in wide but shallow water collection points. From a land cover/habitat perspective both alternatives would result in less acres of ditch/channel. However, the proposed ditch/channel system under Alternative B and D would be more uniform in both depth and width, as well as 2,178 feet longer than the existing system. Therefore, the overall volume capacity would be increased significantly from existing conditions.

Construction Permit for construction activities. As of July 1, 2010, coverage under the newly adopted General Construction Permit must be obtained electronically via the SWRCB.

Implementation of Alternative B would require the fill of jurisdictional waters of the U.S. pursuant to Section 404 of the CWA. Any fill of waters of the U.S. would require authorization from the U.S. Army Corps of Engineers through a Section 404 permit. Pursuant to Section 401 of the CWA, any applicant for a Federal permit or license is also required to obtain and provide to the U.S. Army Corps of Engineers (USACOE) a 401 Water Quality Certification from the state. Therefore, development of Alternative B would require 401 Water Quality Certification through the State Water Resources Control Board. Pollutant loading changes to stormwater runoff would contribute to minor impacts to Black John Slough and the Petaluma River. However, as previously described, implementation of the measures outlined in the SWPPP, in accordance with the NPDES Construction General Permit, and Industrial General Permit coupled with the implementation, monitoring and maintenance of site-specific BMPs, is expected to reduce the potential for impacts to water quality and maintain water quality objectives.

Development of Alternative B would require Marin County to submit a Change of Information (COI) (found on the General Industrial Permit Notice of Intent) to the State Water Resources Control Board. The COI would update the facility information to include a revised site map with drainages, the facility acreages, the new site imperviousness percentage, and any changes that may relate to facility operations (i.e., SIC code changes). If at any time the Airport is found to not be in compliance with the SWPPP or the Industrial General Permit conditions, the facility inspector is required to document noncompliance specifics and modifications to the facility SWPPP and BMPs may be required. Similarly, if warranted by sampling data analyses, the SWRCB may require modifications to the SWPPP and BMPs.

Based on the current BMPs, SWPPP, and permits that are in place, it is not anticipated that Alternative B would exceed water quality standards, create water quality problems that cannot be avoided or mitigated, or result in difficulties in obtaining permits. Therefore, no significant impacts are anticipated with implementation of Alternative B.

**Alternative D:  
Extend Runway to the Southeast by 240 Feet and to the Northwest by  
860 Feet**

Under Alternative D, there would be an increase in impervious surfaces from the 1,100-foot runway extension, which would result in an increase in stormwater runoff. However, modifications to the Airport levee and ditch system would result in an additional 3,670 feet of drainage ditch being created. This increase in the ditch system would more than compensate for the additional runoff created by the increased impervious surface.

As described previously in Alternative A, the forecasted increase in operations would result in an increase in industrial uses within the Airport facility through aircraft washing and maintenance. However, these increases would not change the discharges to a point where they would not be able to be addressed through the BMPs, SWPP, and permits.

Based on the current BMPs, SWPPP, and permits that are in place, it is not anticipated that Alternative D would exceed water quality standards, create water quality problems that cannot be avoided or mitigated, or result in difficulties in obtaining permits. Therefore, no significant impacts are anticipated with implementation of Alternative D.

#### **5.6.4 PERMITTING AND MITIGATION**

Daily use of the current BMPs employed at DVO reduces concentrations of pollutants of concern below regulatory criteria, and minimizes or eliminates stormwater quality impacts to Black John Slough and the Petaluma River. Similar construction BMPs would be utilized to address potential pollutant impacts as a result of construction activities associated with Alternative B or Alternative D. BMPs employed would include levee extensions around the entire project and a slow flowing vegetated internal drainage system that would facilitate pollutant uptake and settlement prior to reaching the Airport discharge point. Additionally, Airport operations utilize multiple spill prevention and clean up procedures that protect against potential pollutant impacts.

Under the NPDES permit system, the SWRCB adopted the current Industrial Stormwater General Permit in 1997. The General Industrial Permit regulates discharges associated with ten broad categories of industrial activities, one being Transportation Facilities. The General Industrial Permit requires the implementation of management measures that would achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology. The Sponsor's Proposed Project at DVO would be covered by the current Industrial Permit for Air Transportation Industrial Activities. The Waste Discharge Identification Number is 221I000647.

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the SWRCB requires that any construction activity affecting one acre or more must obtain coverage under the General Construction Activity Stormwater Permit (Construction General Permit, 99-08-DWQ). Effective July 1, 2010 all those seeking a permit are required to obtain coverage under the new Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

Additionally, permit applicants are required to develop and implement a SWPPP that specifies erosion and sediment control BMPs to reduce or eliminate construction-related impacts on receiving water quality. Permit applicants are also required to perform regular inspections of all BMPs. Examples of construction BMPs identified in SWPPPs include: using temporary mulching, seeding or other stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan, installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw wattles or silt fencing to minimize the amount of uncontrolled runoff that could enter storm drain inlets or surface water.

In order to construct Alternative B or Alternative D, Marin County would need to obtain a CWA, Section 404, permit from the USACOE authorizing the necessary fill of waters and wetlands within CWA jurisdiction, and obtain a CWA, Section 401, State Water Quality certification for the CWA 404 permit from the SFBRWQCB. A NPDES permit under CWA Section 402 would be required for point-source discharges into waters within CWA jurisdiction, and a Rivers and Harbors Act (RHA), Section 10, permit would be required from the Army Corps of Engineers if the construction altered or obstructed waters regulated under the RHA. CWA and RHA permitting and mitigation requirements are discussed in more detail in Section 5.10.5.

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