CHAPTER SIX
CUMULATIVE IMPACTS

6.1 INTRODUCTION

This chapter provides a discussion of cumulative impacts of actions proposed at Gnoss Field Airport (DVO or Airport) evaluated in this Environmental Impact Statement (EIS), in combination with other related or independent actions in the vicinity of DVO. The analysis of cumulative impacts recognizes that while the impacts of individual actions may be small, when combined with the impacts of past, present, and reasonably foreseeable future actions on populations or resources in and around DVO, the impacts could be potentially significant.

Cumulative impacts are those that can be reasonably expected to occur as a result of implementation of the proposed action, in combination with the impacts from other past, present, and reasonably foreseeable future activities, development, and/or projects that may be connected by geography or time. The known adverse impacts associated with past, present, or reasonably foreseeable future actions were incorporated into the evaluation of the No Action and development alternatives, as described in Chapter Five, *Environmental Consequences*.

6.2 REGULATORY SETTING

The Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (*See* 40 § Code of Federal Regulations (CFR) 1508.7.) Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.[1]

Cumulative impacts must be evaluated relative to the direct and indirect effects of the proposed action for each environmental category discussed in Chapter Five, *Environmental Consequences*. As with the discussion of environmental consequences, the Existing Condition (2008) serves as the reference point against which potentially significant cumulative impacts are evaluated. Significant cumulative impacts are determined according to the same thresholds of significance used in the evaluation of each environmental category in the environmental consequences discussion.

[1] 40 CFR Part 1500, *Council on Environmental Policy*, Section 1508.7 *Cumulative Impact*.

It can be difficult to determine levels beyond which cumulative impacts significantly degrade a resource. Local, state, and Federal standards for some resources would apply, and goals or objectives from land use management plans and other guiding programs may serve as thresholds. Where numerical thresholds are not available or cannot be determined, impacts are typically qualified in relative terms of magnitude. The thresholds of significance for each environmental category, where applicable, are defined in FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.*

6.3 IDENTIFICATION OF PERTINENT PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

The evaluation of cumulative impacts in this EIS considers the past, present, and reasonably foreseeable future projects or actions undertaken at the Airport by Marin County or other parties, as well as other actions, including development undertaken within the General Study Area (GSA). For the purposes of this assessment, the past actions are defined as those that were completed before or during 2008. Present actions are defined as those completed in 2009 and 2010. Foreseeable future actions are defined as those planned to be completed between 2010 and 2018, which is within the planning horizon of this EIS. The 2018 planning horizon represents a timeframe that is long enough to identify potential follow on impacts yet near enough that realistic predictions of projects and impacts can be made. This section identifies those past, present, and reasonably foreseeable future projects.

6.3.1 PAST PROJECTS

Recent past projects could potentially add incremental impacts to those created by the Sponsor's Proposed Project or its alternatives. The availability of older data often determines how far back past effects may be examined. Certain types of data "may be available for extensive periods in the past," while other data "may be available only for much shorter periods," according to CEQ guidance. Consequently, because the data describing past conditions are usually scarce, the analysis of past impacts is often qualitative.[2] This section includes a discussion of recently completed past projects that were identified to have occurred within the GSA that have the ability to contribute to the cumulative impacts for this EIS.

6.3.1.1 DVO Levee Maintenance Project

The DVO Levee Maintenance Project consisted of two actions. The first was adding additional material to the top and sides of the levees and the second was the installation of culverts and flow control gates. These improvements provide a greater degree of flood protection for Airport facilities and allow the Airport to be autonomous in the event of an outer levee breach or intrusion of floodwater from downstream. In 2001, Marin County prepared an initial study in accordance with

[2] *Considering Cumulative Impacts Under the National Environmental Policy Act*, Council on Environmental Quality, January 1997.

the California Environmental Quality Act, which found no significant impacts would result from the project. The only impacts discussed were related to construction activity and all would occur only during the period when construction was occurring. Since the maintenance project was completed in 2007 and none of the impacts were identified to occur beyond the construction period, the impacts related to the levee maintenance project are not included in the discussion of cumulative impacts.

6.3.2 PRESENT PROJECTS

Projects that are presently ongoing, or soon to get underway could potentially add incremental impacts to those created by the Sponsor's Proposed Project or its alternatives. This section includes a discussion of development and improvement plans within the GSA that are currently being proposed, are underway, or that were recently completed.

6.3.2.1 North Coast Rail Authority Russian River Division Freight Rail Project

The Russian River Division of the North Coast Rail Authority (NCRA) rail corridor extends approximately 142 miles from Willits in Mendocino County, California southward to Lombard in Napa County. From Willits the line runs southward generally following Highway 101 through Redwood Valley, Calpella, Ukiah, Hopland, Cloverdale, Geyserville, Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati, Petaluma, and Novato. South of Novato, at Highway 37, the line runs eastward near the shore of San Pablo Bay, over the Petaluma River, past Black Point, past the old station at Schellville, over the Napa River, and terminates in Lombard north of the city of American Canyon. The NCRA proposed resuming freight rail service from Willits to Lombard, traveling through Novato. The rail line has provided rail service dating back to the early 1900's and required rehabilitation before trains could safely resume operations. Commercial freight operations began on July 13, 2011.[3]

6.3.2.2 Binford Road LLC Storage Project

This project involves the development of multi-purpose self-storage facility on 29 acres of the Binford Road LLC's 47.3-acre project site, located at 8190 Binford Road, Novato, directly west of DVO. The project would contain approximately 685 storage units in 25 buildings (approximately 247,440 square feet of floor area) ranging from 18 to 24 feet in height for personal vehicles, RV's, boats, general household items and office storage. Access to the storage units would be from Binford Road and from two internal roadways that would extend along the north and south levees of the Black John Slough. A public viewing area with parking for viewing the marsh wetlands would be provided immediately off Binford Road to afford the public views down the length of the canal towards the Petaluma River. The project includes amending the Countywide Plan Land Use Designation from RC (Recreational Commercial) to IND (Industrial) (Parcels 1 and 2) and OS

[3] *North Coast Rail Authority Draft Environmental Impact Report, 2009,* On-line at: http://www.northcoastrailroad.org

(Open Space) (Parcel 3) and re-zoning the property from RCR (Resort and Commercial Recreation District) to BFC-IP (Bayfront Conservation – Industrial Planned District) (Parcels 1 and 2) and BFC-OA (Bayfront Conservation –Open Space) (Parcel 3).[4] The Marin County Board of Supervisors adopted County Ordinance 3467 on April 3, 2007, to rezone the property for the Binford Road LLC Self-Storage Facility. Construction is expected to begin in the Fall of 2012.[5]

6.3.3 REASONABLY FORESEEABLE FUTURE ACTIONS

This section describes foreseeable future development and improvement plans at DVO and at other facilities in the vicinity of DVO that are under preliminary study or designed for possible future development. Like past and present projects, future projects could potentially add incremental impacts to those created by the Sponsor's Proposed Project or its alternatives.

6.3.3.1 Redwood Landfill Solid Waste Facility[6]

The Redwood Landfill (RLI) is located approximately 1.5 miles north/northwest of DVO along Highway 101. This project would include the following activities:

- Merge the existing landfill permit and composting permit into a single solid waste facility permit;
- Establish maximum daily tonnages of solid waste, compostable material, cover material and recyclables, the total of which is 2,310 tons per day;
- Increase traffic to 662 vehicles per day;
- Clarify hours and days for the receipt of wastes and other materials and for certain landfill activities;
- Add food waste as a compost feedstock;
- Increase site capacity; and
- Extend the estimated closure date to July 2024.

Mitigation for this project, which is included as a condition of the expanded permit from Marin County, includes the continued implementation of the RLI bird control program. To discourage gull populations, RLI currently implements multiple operational controls as part of its bird management plan.

- Minimize the area of the working face and push distance when possible;
- Use pyrotechnic devices to discourage scavenging gulls during refuse placement and compaction;
- Place daily cover consisting of a 6-inch thickness of compacted soil or approved alternative;

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4 Marin County Planning Commission, Meeting Agenda, August 28, 2006. On-line at: http://www.co.marin.ca.us/EFiles/docs/CD/PlanCom/06_0828_AG_060818125653.pdf

5 Telephone conversation between Landrum & Brown and Curtis Havel, Senior Planner, Marin County; October 19, 2011.

6 *Redwood Landfill Solid Waste Facilities Permit Revision Final Supplemental Environmental Impact Report*. On-line at: http://www.ciwmb.ca.gov/permittoolbox/Notices/RedwoodLF/default.htm.

- Employ an outside contractor in the winter months who uses falcons to deter gulls from the landfill; and
- A propane gas-fired cannon may be used in conjunction with the pyrotechnic devices. The cannon emits a loud blast that discourages gulls from approaching the active face of the landfill.

This program has significantly reduced gull activity at the site as compared to prior years and has resulted in an effective bird control program that demonstrates no interference with the Airport. Currently, aircraft fly over all portions of the RLI when arriving to and departing from DVO and there have been no reported bird strikes related to activity at the RLI.

In 2009 the landfill received and updated Waste Discharge Requirements from the San Francisco Regional Water Quality Control Board and received a Title 5 Air Permit from the Bay Area Air Quality Management District in 2010.[7]

6.3.3.2 Sonoma Marin Area Rail Transit Project

The Sonoma-Marin Area Rail Transit District (SMART) project includes development of a 70-mile-long passenger railroad and parallel bicycle-pedestrian path along the existing Northwestern Pacific Railroad right of way through Marin and Sonoma counties. The rail line would run from Cloverdale, at the north end of Sonoma County, to Larkspur, where the Golden Gate Ferry connects Marin County with San Francisco. Stations are to be located at major population and job centers of the North Bay, including San Rafael, Novato, Petaluma, Cotati, Rohnert Park, Santa Rosa, Windsor, and Healdsburg. Estimated project cost is $690 million, the majority of which would be funded by a voter-approved one-quarter percent sales tax increase.

Since that vote, the economic downturn has reduced SMART's projected revenues by several hundred million dollars over the 20-year life of the sales tax, leaving the agency short of the money needed to complete the project as originally envisioned. Consequently, SMART's Board of Directors has decided to build in stages. The first segment, 37 miles from downtown San Rafael with Railroad Square in Santa Rosa, will connect the two largest cities in the North Bay and all of the cities in between. Construction on this segment is scheduled to begin in 2011, with passenger train service scheduled to begin in late 2014. Future segments, ultimately completing the project from Larkspur to Cloverdale, will be built as additional revenues become available. [8]

[7] *Redwood Landfill Final Environmental Impact Report*. On-line at: http://www.ciwmb.ca.gov/permittoolbox/Notices/RedwoodLF/default.htm. California Integrated Waste Management Board. September 26, 2011.

[8] *Sonoma Marin Area Rail Transit Project*, On-line at: www.sonomamarintrain.org Retrieved September 26, 2011.

6.3.3.3 Redevelopment of Fireman's Fund Campus/The Commons at Mount Burdell

American Assets, Inc., a San Diego based real estate investment and development company, has submitted a proposal to the City of Novato to redevelop the Fireman's Fund Office Campus located on San Marin Drive, just north of the intersection with Redwood Boulevard, approximately 1.5 miles south/southwest of DVO along Highway 101. The project proposes a comprehensive redevelopment of the 65-acre Fireman's Fund campus to add approximately 700,000 sq. ft. of new office and retail space, pedestrian-friendly walkways, parks and plazas, an interactive museum on sustainability, a hotel/meeting center, health club, community facility, 150 multi-family residential units, and underground and structured parking facilities. The existing three office buildings at the site (totaling 710,000 sq. ft) would remain. In addition, a proposed SMART Rail Station would be located near the southeast corner of the project site, along Redwood Boulevard, in between the project site and Highway 101. Associated traffic improvements at major intersections surrounding the project site are also proposed. The project has been designed with the goal of achieving carbon neutral building operations, relying on passive and active measures to meet the energy, heating/cooling, water, and solid waste disposal needs of the development. A public scoping meeting was held on October 5, 2009 to accept comment on the preparation of an Environmental Impact Report (EIR) for the proposed development. The project is currently under environmental review. A release date has not been determined. [9]

6.3.3.4 Marin Sonoma Narrows HOV Widening Project

This proposed project would widen Highway 101 along specific freeway portions located in Novato and Petaluma in Marin and Sonoma Counties, respectively. This widening would occur primarily in the existing freeway median. The proposed project also includes widening and realigning the roadway in the Petaluma portion, and upgrading the Highway 101 facility along its entire length. The various improvements that are being proposed include:

- Adding northbound and southbound High Occupancy Vehicle (HOV) lanes the entire project length of 26.0 kilometers (km) (16.1 miles) that would be restricted to vehicles carrying two or more people per vehicle (also referred to as carpool lanes). These HOV lanes would be installed in the median of Highway 101 and directly connect to proposed HOV lanes to the south near the SR 37 Interchange and to proposed HOV lanes to the north beginning at Old Redwood Highway in the City of Petaluma (Sonoma County); Widening and realigning Highway 101 in the Central Segment along the Novato Narrows, which makes up 13.1 km (8.1 miles) of the entire project boundaries. This would result in converting the existing expressway to an access-controlled freeway. Access would be available through new interchanges and existing local roads, which would be reconfigured to connect to new interchanges in this segment;

[9] Email from Stephen Marshall, September 29, 2011.

- Replacing bridges and constructing new bridges across San Antonio Creek and replacing the Petaluma River Bridge;
- Constructing soundwalls along the Novato and Petaluma Segments;
- Constructing bicycle and pedestrian paths within the Central Segment to replace bicycle access that currently exists along the expressway shoulder; and
- Upgrading drainage facilities.

A Final EIR was released in July 2009. Ground was broken on July 14, 2011 on the project with construction expected to take two years.[10]

6.4 POTENTIAL INCREMENTAL INCREASES IN ADVERSE EFFECTS

Chapter Four, *Affected Environment,* describes the existing environmental conditions within the study area for the runway development alternatives. If no action were to take place, it can be reasonably determined that the existing environment at DVO and its vicinity would not change significantly from current conditions. However, as the population of the region changes in the future, related changes are anticipated to occur; these changes would occur regardless of whether any of the runway and safety area development alternatives are approved and implemented. Therefore, the conditions described in Chapter Four, *Affected Environment,* serve as a basis for comparison of the incremental increases in adverse effects that would potentially result from implementation of any of the runway development alternatives.

6.5 CUMULATIVE IMPACT COMPARISON

Impacts of the Sponsor's Proposed Project evaluated in this section as compared to the Alternative A (No Action) for the future years. Several projects in the vicinity of DVO, past, present, and future, are described in this section as they may relate or contribute cumulatively within the various environmental categories evaluated in this EIS. In general, those projects are included because they are either within the existing Airport boundary where the EIS alternatives would be implemented or are in close proximity of the Airport and related to airport business. Consideration of impacts beyond the DVO property boundary is dependent on the environmental resource being considered, and is influenced by such factors as political and land use jurisdictions, any unique characteristics of the resource, importance of the resource in a local and regional setting, and the distance the impact within that resource can travel.

[10] *Marin Sonoma Narrows*, On-line at: http://www.dot.ca.gov/dist4/msn/index.html Retrieved September 26, 2011.

The following discussion of cumulative impacts discloses only those environmental categories where potential impacts would be caused by Alternative B (Sponsor's Proposed Project) or Alternative D. Those categories are: air quality; water quality; fish, wildlife, and plants; wetlands and streams; natural resources, energy supply, and sustainable design; and construction.

6.5.1 AIR QUALITY

The air quality assessment of future conditions presented in Section 5.5, *Air Quality*, in Chapter Five, *Environmental Consequences*, is required to include all reasonably foreseeable[11] future conditions associated with emission sources at the Airport, particularly for the use of motor vehicles, Ground Service Equipment (GSE), and aircraft. As such, all known and quantifiable past, present, and reasonably foreseeable future actions relating to emission sources at the Airport for the 2018 and 2023 analyses were included in the emissions inventory. A discussion of this analysis is included in Appendix F, *Air Quality*. The analysis showed that none of the future baseline conditions or project alternatives (including the Sponsor's Proposed Project) would have the potential to cause significant air quality impacts.

DVO is located in Marin County which, for Federal air quality attainment status, is included in the San Francisco Bay Intrastate Air Quality Region. The region does not currently meet the Federal eight hour standard for ozone levels and has been designated by the U.S. Environmental Protection Agency (USEPA) as a marginal nonattainment area for ozone.[12] Further, USEPA has determined the county exceeds the 24 hour standard for emissions of fine particulate matter ($PM_{2.5}$). In the past Marin County was been designated as nonattainment for Carbon Monoxide (CO) but in April 1998 the Bay Area was redesignated to attainment and now operates under a maintenance plan in order to prevent emissions from exceeding the current CO standard.

For State of California air quality attainment status, DVO is located within the Bay Area Air Quality Management District (BAAQMD). California maintains more stringent standards than the USEPA for which the County must adhere called the California Ambient Air Quality Standards. Marin County has been designated by the BAAQMD as nonattainment for the eight-hour and one-hour standards for ozone, the annual arithmetic mean and the twenty four-hour standards for coarse particulate matter (PM_{10}), and the annual arithmetic mean standard for $PM_{2.5}$.[13]

Construction activities associated with this project would result in temporary air quality impacts, including direct emissions from construction equipment and trucks, fugitive dust emissions from site demolition and earthwork, and increased emissions from motor vehicles and haul trucks on the on-site and off-site roads.

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[11] FAA, *Environmental Impacts: Policies and Procedures Order 1050.1E*, Appendix A Section 2.1c, 2006.

[12] USEPA website, http://www.epa.gov/oar/oaqps/greenbk, accessed October 2011.

[13] BAAQMD website, http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm, accessed October 2011.

The impacts would occur only within the immediate vicinity of the construction site and would be mitigated through best management practices to reduce emissions, particularly fugitive particle emissions, during construction.

As discussed in Section 5.5, *Air Quality*, in Chapter Five, *Environmental Consequences*, and Appendix F, the increase in onsite emissions due to construction and project implementation would not exceed the applicable Clean Air Act (CAA) thresholds and are therefore not considered to be significant. As necessary, mitigation procedures would be implemented to minimize potential impacts that would occur during construction.

The following projects have the potential to cumulatively impact air quality along with the Proposed Project due their proximity to DVO and similar timing of construction within the San Francisco Bay Intrastate Air Quality Region/BAAQMD:

- Sonoma Marin Area Rail Transit Project – this project would cause a temporary increase in emissions during construction. Implementation of this project would generate less than significant amounts of CO, Reactive Organic Gas (ROG), Nitrogen Oxides (NO_x), and PM_{10}. Operation of the passenger trains would generate some new pollutant emissions as diesel fuel is consumed to operate the trains. However, reductions in pollutant emissions would be achieved as a result of a slight decrease in motor vehicle usage as some members of the public reduce their vehicle usage and take the train.[14] The net emissions of CO, ROG, NO_x, and PM_{10} as a result of this project would not exceed the significance thresholds set by the CAA.[15]
- Marin Sonoma Narrows HOV Widening Project – this project would cause a temporary increase in emissions during construction. Implementation of this project would not cause an impact from emissions of criteria pollutants. Implementation would lead to a reduction in traffic congestion along Highway 101 in Marin and Sonoma Counties.[16]
- Redwood Landfill Solid Waste Facility – construction and implementation of this project would cause an increase in emissions. This increase would not exceed the applicable CAA thresholds.[17]
- North Coast Rail Authority Russian River Division Freight Rail Project – this project would reintroduce freight rail service in Marin County along the existing Northwestern Pacific Railroad, the same route that would be used by the SMART passenger service. The Supplemental EIR for this project included an analysis of cumulative emissions from the freight rail service. This analysis found that the reintroduction of freight service would add to emissions; however, cumulative emissions were still below the applicable CAA significance thresholds.[18]

[14] *Sonoma-Marin Area Rail Transit Draft Environmental Impact Report*, November 2005.
[15] *Sonoma-Marin Area Rail Transit Final Environmental Impact Report*, June 2006.
[16] Marin-Sonoma Narrow (MSN) HOV Widening Project Final Environmental Impact Report/Final Environmental Impact Statement, July 2009.
[17] Redwood Landfill Solid Waste Facilities Permit Revision Environmental Impact Report, July 2005.
[18] Sonoma-Marin Area Rail Transit Draft Supplemental EIR, March 2008.

- Binford Road LLC Storage Project – construction of this project is underway and the earthwork construction is expected to be complete prior to construction of Alternative B or Alternative D; therefore air quality impacts from construction activity would not add to the cumulative air quality impacts for Alternative B or Alternative D. This project would likely increase emissions due to additional surface vehicles accessing the site; however, due to the minimal number of additional vehicles these emissions are likely to be below the CAA *de minimis* thresholds.
- Redevelopment of Fireman's Fund Campus/The Commons at Mount Burdell – this project would cause emissions due to construction and implementation would likely increase emissions from the additional surface vehicle traffic generated by the development. Analysis of this project is not yet complete; however, it is expected that this project would be required to comply with all applicable CAA and local air quality requirements.
- In addition to these projects, implementation of the Sponsor's Proposed Project or its alternatives would increase the need for electricity to light the extended runway and taxiway. This would require additional electricity generation offsite, which may increase emissions from fossil fuel burning power plants. The utility plants serving electricity to the Airport are required to follow strict guidelines concerning air emissions. The relatively small increase in electricity that would be needed to power the additional lights would not result in the need for additional power generating systems and therefore is assumed to be able to be handled by the existing system.

The emissions caused by Alternative B and Alternative D are below the CAA and BAAQMD *de minimis* thresholds, and as such the project is assumed not to cause an exceedance of the National Ambient Air Quality Standards (NAAQS).[19] Furthermore, none of the past, present, or reasonably foreseeable future projects described above would cause emissions that exceed CAA *de minimus* thresholds. Therefore, neither Alternative B nor Alternative D would cause significant cumulative impacts to air quality.

Marin County has been designated by the USEPA as a marginal nonattainment area for ozone, nonattainment for the 24 hour standard for emissions of $PM_{2.5}$, and maintenance for CO. In addition, Marin County has been designated by the BAAQMD as nonattainment for the eight-hour and one-hour standards for ozone, the annual arithmetic mean and the twenty four-hour standards for PM_{10}, and the annual arithmetic mean standard for $PM_{2.5}$.

The net increase in emissions calculated for the Sponsor's Proposed Project and the projects listed above are *de minimis* and as such are considered negligible and insignificant. Therefore, while the projects contribute to air quality conditions in

[19] FAA, *Air Quality Procedures for Civilian Airports and Air Force Bases*, April 1997, quoted from Section 2.5.1, *NAAQS Assessment*, "If the action is in a nonattainment or maintenance area and exempt or presumed to conform under conformity requirements, it is assumed that a NAAQS assessment is not required for an airport or air base action since it is unlikely the action's pollutant concentrations would exceed the NAAQS."

Marin County, the cumulative effect of the net emissions would not cause or contribute to any new violation of the NAAQS or the CAAQS, would not increase the frequency or severity of an existing violation, and would not delay timely attainment of any standard.

6.5.2 WATER QUALITY

Section 5.6, *Water Quality*, in Chapter Five, *Environmental Consequences*, discussed the potential water quality impacts of Alternative B and Alternative D. It is disclosed in that section that cumulatively there would be an increase in stormwater quantity from implementing the projects identified in this cumulative impact section. The increase would not exceed applicable standards. Marin County would amend the existing Stormwater Pollution Prevention Plan (SWPPP) for DVO and Best Management Practices (BMPs) would be adhered to in order to minimize erosion and runoff during construction.

The Sponsor's Proposed Action and project alternatives do not have the potential to disturb hazardous materials that could impact water quality. However, previous contamination from leaking underground storage tanks (USTs) exists on airport property. It was recently determined by the California Regional Water Control Board San Francisco Bay Region 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 Regional Water Quality Control Board to address this situation. The area in question is located immediately east of the Airport manager's office and would not be affected by the Sponsor's Proposed Project or its alternatives. As such, it is assumed for the purposes of this EIS that any impact to water quality that is present due to this site would be remediated with or without implementation of the Sponsor's Proposed Project or its alternatives. Due to these remediation efforts, the contamination it is not expected to cause significant cumulative impacts to water quality.

The other projects identified in this chapter would be required to comply with all existing and future water quality regulatory criteria and permit requirements. In addition, these projects would also be required to develop BMPs that would ensure that concentrations of pollutants of concern do not exceed regulatory criteria. Therefore, there would be no significant cumulative impacts to water quality.

6.5.3 FISH, WILDLIFE, AND PLANTS

As discussed in Section 5.9, *Fish, Wildlife, and Plants*, in Chapter Five, *Environmental Consequences*, both Alternative B and Alternative D have the potential to disturb between 22.93 and 26.67 acres of plant and wildlife habitat. Loss of habitat, in particular wetland habitat, would require formal mitigation in the form of replacement of resources as described in Section 5.10, *Wetlands and Streams*, in Chapter Five, *Environmental Consequences*. Impacts to wetlands

would be 'replaced in kind' at wetland banks approved by the U.S. Army Corps of Engineers (USACOE) at a 1:1 ratio, while jurisdictional ditch/canal features would be 'replaced in kind' on site in an amount that would be at a minimum of 2:1.

With implementation of proper mitigation procedures, the disturbance of annual grassland habitat would not cause a significant impact to any special status species. As discussed in Section 5.9, *Fish, Wildlife, and Plants*, in Chapter Five, *Environmental Consequences*, Alternative B would remove approximately 22.93 acres of plant and wildlife habitat, including wetlands, aquatic areas, and upland grassland. The loss of grassland habitat is not significant as this habitat is the most common habitat in the area and is common both locally and regionally. The losses of aquatic habitat under Alternative B are considered significant, and would be mitigated. A suitable mitigation bank or mitigation area would be determined through formal Endangered Species Act (ESA) Section 7 consultation with the USFWS. During formal ESA Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS), mitigation ratios and location of the mitigation effort would be determined.

Alternative D would remove approximately 26.67 acres of plant and wildlife habitat, which includes wetlands, annual grassland, and aquatic areas. The loss of annual grassland habitat is not significant as this habitat is the most common habitat in the area and is common both locally and regionally. The losses of aquatic habitat under Alternative D are considered significant, and would be mitigated. Coordination with the USACOE and local wetland banks is on-going. Marin County, as the Airport sponsor, would be responsible for developing a mitigation plan acceptable to the USACOE. Conceptual options include:

- San Francisco Bay National Wildlife Refuge
- Offsite Restoration by Private Entity
- Offsite Restoration by Conservation Group or Public Entity

The following projects have the potential to cause cumulative impacts to the same biological resources as the Sponsor's Proposed Project due to their geographic proximity.

- Sonoma Marin Area Rail Transit Project – this project would result in the permanent loss of approximately 31.7 acres of wetland habitat and temporary disturbance of upland habitat. A portion of this acreage is within the GSA for the Sponsors' Proposed Project and its alternatives. Temporary impacts to upland habitat would be minimized to the extent possible and permanent loss of wetlands would be mitigated through wetland replacement at a minimum ratio of 1:1. This project also has the potential to disturb nesting birds. Impacts to nesting birds would be mitigated through surveying, limiting construction activity to periods when birds are not present, and adherence to appropriate buffers around nesting locations. [20]

[20] *Sonoma-Marin Area Rail Transit Draft Environmental Impact Report*, November 2005.

- Marin Sonoma Narrows HOV Widening Project – right-of-way acquisition for this project would cause the loss of up to 7.3 acres of wetlands, depending upon the access option that is selected. A portion of these wetlands are located within the GSA for this project. Impacts to wetlands would be mitigated through wetland replacement at ratios to be determined by the U.S. Army Corps of Engineers. The project also has the potential to disturb nesting birds. Impacts to nesting birds would be avoided by conducting surveys and removing nesting locations prior to construction. [21]
- Redwood Landfill Solid Waste Facility – construction and implementation of this project has the potential to disturb the western burrowing owl and other bird species. This impact is not considered significant due to the abundance of habitat for these species located to the west of the landfill.[22]

Because the impacts from these other projects are expected to be mitigated to below significant levels through wetland and habitat replacement, as well as monitoring and avoidance of species, cumulative impacts would not be considered significant.

6.5.4 WETLANDS AND STREAMS

Wetlands located on Airport property were delineated and classified in 2009. Section 5.10, *Wetlands and Streams*, in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative B and Alternative D on wetlands and streams. These alternatives would result in the filling of approximately 11.83 acres and 12.73 acres of wetlands, respectively. Marin County would conduct wetland mitigation in accordance with USACOE guidelines, including 'replacement in kind' for wetlands at a 1:1 ratio. As described above in Section 6.5.3, due to the implementation of mitigation measures, including wetland replacement, impacts to wetlands from all past, present, and future projects would be reduced below the level of significant impact. Therefore, cumulative impacts would not be considered significant.

6.5.5 ENERGY SUPPLY, NATURAL RESOURCES, AND SUSTAINABLE DESIGN

Section 5.15, *Energy Supply, Natural Resources, and Sustainable Design,* in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative B (Sponsor's Proposed Project) and Alternative D on the supply of energy and natural resources. Implementation of this alternative would result in increased use of energy resources, such as natural gas, fuel, and electricity. Implementation of the Sponsor's Proposed Project and project alternatives would increase the need for electricity to light the extended runway and taxiway. This would require additional electricity generation offsite. There would also be a temporary increase in demand for building materials. However, none of the

[21] Marin-Sonoma Narrow (MSN) HOV Widening Project Final Environmental Impact Report/Final Environmental Impact Statement, July 2009.
[22] Redwood Landfill Solid Waste Facilities Permit Revision Environmental Impact Report, July 2005.

increased demand for energy or building supplies would result in significant or adverse impacts due to the relatively small amount of anticipated increase in demand for each.

None of the other present or reasonably foreseeable projects have the potential to include significant adverse impacts on natural resources or energy supply. The types of projects considered would have minimal needs for natural resources during construction and would have minimal requirements for energy. Construction of either Alternative B or Alternative D would consume resources including pavement and fill material. These resources are not rare, nor are they in short supply. The power company, PG&E, was contacted to determine the ability of the company to meet the increase in demand. PG&E indicated that they could serve this load for the Airport with no further infrastructure upgrades.[23] Therefore, the increase would not constitute a significant impact to the supply of electricity. Further, combining the impacts of other past, present, or reasonably foreseeable future projects with those of Alternative B or Alternative D would not result in significant natural resource or energy supply impacts.

6.6 CONCLUSIONS AND FINDINGS

The discussion of cumulative impacts discloses the impacts of the runway extension and safety area development under consideration in this EIS in combination with other past, present, and reasonably foreseeable future actions at DVO.

As described in Chapter Four, *Affected Environment*, the GSA encompasses approximately 12,655 acres and is defined as the area where potential indirect impacts may result from the Sponsor's Proposed Project or its alternatives. The area surrounding DVO within the GSA is predominantly agricultural, vacant, and open space to the east and south with light industrial/office areas to the north and west. With combined cumulative effects of the Sponsor's Proposed Project and the past, present and reasonably foreseeable projects described in this chapter, cumulative impacts are limited to those categories listed under Section 6.5, *Cumulative Impact Comparison*. The level of cumulative impacts anticipated to occur within these categories would not be considered significant due to the types of projects proposed, the extent of the built environment in which they would occur, and the options considered or implemented to mitigate for unavoidable impacts.

[23] Email correspondence between Consultant and Peter Niewieroski, Account Executive – North Coast (Marin County account representative) Pacific Gas and Electric Company, December 22, 2010. See Appendix K.