OTAY MESA LAND PORT OF ENTRY

MODERNIZATION AND EXPANSION

DRAFT ENVIRONMENTAL IMPACT STATEMENT

OTAY MESA, CALIFORNIA

General Services Administration

Pacific Rim Region

August 2018

GENERAL INFORMATION ABOUT THIS DOCUMENT

The United States (U.S.) General Services Administration (GSA) proposes the modernization and expansion of the existing Otay Mesa Land Port of Entry (LPOE). The Otay Mesa LPOE is located in Otay Mesa, a community in the southern section of the City of San Diego, California, just north of the international border between the U.S. and Mexico. The GSA has prepared this Draft Environmental Impact Statement (DEIS), which examines the purpose and need for this project; alternatives considered; the existing environment that could be affected; and the potential impacts resulting from each of the alternatives; and proposes best management practices and/or mitigation measures.

The views and comments of the public are necessary to help determine the scope and content of the environmental analysis. A DEIS public meeting will be held on Wednesday, September 5, 2018 from 4 to 7 PM at:

Holiday Inn Express and Suites San Diego
2296 Niels Bohr Court
San Diego, CA 92154
619-710-0900

Comments on the Draft EIS must be received by Tuesday, October 9, 2018 and emailed to osmahn.kadri@gsa.gov or sent to:

General Services Administration
Attention: Osmahn Kadri, NEPA Project Manager
50 United Nations Plaza, 3345 Mailbox #9
San Francisco, CA 94102

For individuals with sensory disabilities, this document can be made available in alternate formats. To obtain a copy in an alternate format, if special assistance is needed to attend and participate in the DEIS public meeting, or for further information concerning this DEIS, please contact Osmahn Kadri at the email or address provided above or call 415-522-3617.

After comments are received from the public and reviewing agencies, the GSA may (1) give environmental approval to the Project, (2) undertake additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is appropriated, the GSA could design and construct all or part of the Project.

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ACRONYMS AND ABBREVIATIONS

µg/m^3	Micrograms per Cubic Meter
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-containing Materials
ADT	Average Daily Traffic
AEA	Atomic Energy Act
APE	Area of Potential Effect
APHIS	Animal and Plant Health Inspection Service
AQCR	Air Quality Control Region
AST	Aboveground Storage Tank
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BMP	Best Management Practice
btu/sf-yr	British Thermal Units per Square Foot per Year
CA	California
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAB	Commercial Annex Building
CalSTA	California State Transportation Agency
CALTRANS	California Department of Transportation
CARB	California Air Resources Board
CBP	Customs and Border Protection
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CH_4	Methane
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
CPIOZ	Community Plan Implementation Overlay Zone
CRHR	California Register of Historic Resources
CT	Census Tract
CWA	Clean Water Act
dB	Decibel
dBA	Decibel, A-weighted
DEIS	Draft Environmental Impact Statement
DHHS	Department of Health and Human Services

DHS	Department of Homeland Security
EA	Environmental Assessment
ECM	Energy Conservation Measure
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EVOC	Emergency Vehicles Operations Course
FAST	Free and Secure Trade
FDA	Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FMCSA	Federal Motor Carrier Safety Administration
FONSI	Finding of No Significant Impact
FP&F	Fines, Penalties and Forfeitures
GHG	Greenhouse Gas
gpf	Gallons per Flush
GSA	General Services Administration
GWP	Global Warming Potential
HRB	Historical Resources Board
HVAC	Heating, Ventilation and Air Conditioning
IL	Industrial-Light
LCS	Lead-containing Surface
LEED®	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Sound Level
LOS	Level of Service
lpf	Liters per Flush
LPOE	Land Port of Entry
MBTA	Migratory Bird Treaty Act
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAFTA	North America Free Trade Agreement
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards

NWR	National Wildlife Refuge
O_3	Ozone
OSHA	Occupational Safety and Health Administration
OWD	Otay Water District
Pb	Lead
PCB	Polychlorinated Biphenyl
PCPI	Per capita personal income
PM	Particulate Matter
PM_{10}	Fine particulate matter
$PM_{2.5}$	Very fine particulate matter
POE	Port of Entry
POV	Privately-owned Vehicle
ppb	Parts per Billion
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROC	Region of Comparison
ROI	Region of Influence
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric Company
SDMTS	San Diego Metropolitan Transit System
SDWA	Safe Drinking Water Act
SENTRI	Secure Electronic Network for Travelers Rapid Inspection
sf	Square Foot
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMP	Soil Management Plan
SO_2	Sulfur Dioxide
SPCC	Spill Prevention, Control and Countermeasures
SR	State Route
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TRB	Transportation Research Board
TSCA	Toxic Substances Control Act
U.S.	United States
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

UST	Underground Storage Tank
VOC	Volatile Organic Compound
WCM	Water Conservation Measure

1.0 PURPOSE AND NEED FOR THE PROJECT

The Otay Mesa Land Port of Entry (LPOE) is located in Otay Mesa, a community in the southern section of the City of San Diego, California, just north of the international border between the United States (U.S.) and Mexico. The General Services Administration (GSA) proposes to reconfigure and expand the existing Otay Mesa LPOE. The GSA has prepared this Draft Environmental Impact Statement (DEIS) in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC} 4321 *et seq.*) and other relevant Federal and state laws and regulations. This DEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

1.1 INTRODUCTION

Otay Mesa is abutted on the north by the Otay River Valley and the City of Chula Vista, California; on the west by Interstate 805 and the neighborhoods of Ocean View Hills and San Ysidro; on the north and east by unincorporated San Diego County, including East Otay Mesa and the San Ysidro Mountains; and on the south by the Otay Centenario borough of Tijuana Municipality in Mexico. Major thoroughfares include Otay Mesa Road/California State Route 905, Otay Valley Road/Heritage Road, Siempre Viva Road and California State Route 125. The Otay Mesa LPOE is one of three ports of entry in the San Diego-Tijuana metropolitan region, connecting Otay Mesa and the City of San Diego with the Otay Centenario borough of Tijuana. Figure 1.1-1 shows the regional location of the Otay Mesa LPOE.

The Otay Mesa LPOE is owned by the General Services Administration (GSA) and operated by U.S. Department of Homeland Security (DHS) Customs and Border Protection (CBP). The LPOE houses personnel from the Food and Drug Administration (FDA); TTEC (including Secure Electronic Network for Travelers Rapid Inspection [SENTRI], Free and Secure Trade [FAST], and Global Entry), CBP, I-94 Processing, and Fines, Penalties, and Forfeitures (FP&F). When it was constructed in 1983, its primary purpose was to divert growing commercial truck traffic from the increasingly busy San Ysidro LPOE to the west at the southern terminus of Interstate 5 (I-5). The LPOE handles commercial and privately-owned vehicle (POV) and pedestrian traffic. Since the LPOE opened, vehicle and pedestrian traffic and the population and general development in the area have grown. It is now one of the ten busiest land ports in the country and is the busiest commercial port on the California-Mexico border, handling the second highest volume of trucks, and third highest dollar volume of trade among all U.S.-Mexico LPOEs (GSA, 2013).

Figure 1.1-1. Regional Location of the Otay Mesa LPOE

The Otay Mesa LPOE processes an average of approximately 16,000 POVs, 2,000 commercial trucks, 100 buses and 3,500 pedestrian inspections per day (GSA, 2013). Total commercial flows have increased by an average of 2.25 percent per year since 2005 (GSA, 2017a). Pedestrian traffic is expected to increase. In March of 2017, the San Diego Association of Governments (SANDAG) began constructing the South Bay Rapid, a new transit line connecting the existing Otay Mesa LPOE to downtown San Diego via eastern Chula Vista. SANDAG will also build a new transit center adjacent to the existing Otay Mesa LPOE so border crossers have a new travel choice in addition to driving. The transit line is expected to improve pedestrian connectivity between San Diego and the Otay Mesa LPOE. The GSA proposed to reconfigure, expand, and update the existing Otay Mesa LPOE. The proposed Otay Mesa LPOE improvements are herein referred to as the "Project." The anticipated maximum extent of disturbance, including improvements, staging areas, and temporary impacts resulting from Project construction is 13.5 acres (GSA, 2017a). Figure 1.1-2 shows the Project study area and vicinity.

Figure 1.1-2. Otay Mesa LPOE Project Study Area and Vicinity

1.2 PURPOSE AND NEED

The Project's purpose, or the Project's goal, is to improve the efficiency, effectiveness, security and safety at the existing Otay Mesa LPOE. The Project's need, or the need to which the GSA is responding, is twofold. First is the need to increase the LPOE's capacity due to increased demand; second is the need to address public and employee safety and border security concerns.

1.2.1 Purpose of the Project

The purpose of the Project is to improve operational efficiency, effectiveness, security and safety for cross-border travelers and Federal agencies at the Otay Mesa LPOE. More specifically, the goals of the Project are to:

- Increase vehicle and pedestrian inspection processing capacities at the Otay Mesa LPOE;
- Improve the safety of the Otay Mesa LPOE for employees of the LPOE and for commercial, POV and pedestrian traffic crossing the border;
- Modernize facilities to accommodate current and future demands and implementation of border security initiatives.

1.2.2 Need for the Project

The need(s) for the Project is to increase the LPOE's capacity to process vehicle and pedestrian traffic and to address public and employee safety and border security concerns.

1.2.2.1 Additional Capacity

As the only commercial port of entry in the San Diego area, the Otay Mesa LPOE is a major asset for the Southern California and Baja economies. In the 35 years since the Otay Mesa LPOE opened, commercial, POV and pedestrian traffic and the population and general development in the area have grown. This growth has rendered the staging areas and circulation capacity inadequate; the commercial port is no longer able to keep pace with commercial needs. Pedestrian processing is undersized as is and the planned development of a new transit center adjacent to the LPOE is expected to further increase congestion at pedestrian processing facilities.

More specifically, the over-capacity level of activity at the Otay Mesa LPOE (as well as at other regional LPOEs) causes excessive vehicle queueing. The average processing and wait time for commercial freight crossings at the Otay Mesa LPOE is currently between 1.5 and 2 hours, with 10 percent of commercial crossers waiting as long as four hours; these wait times are anticipated to increase in the future due to an increase in vehicle traffic (Caltrans/SANDAG, 2017a). Border delays in freight movement can result in increased transportation costs and interruptions in manufacturing and delivery cycles. With border processing times averaging more than two hours per truck, it is estimated that San Diego County loses approximately $539 million in annual revenue from reduced freight activity. This translates to more than 2,900 jobs, or $155 million in lost labor income per year (Caltrans/SANDAG, 2017a).

Cross-border travel is forecasted to continue to grow with local and regional growth and increasing bilateral commerce. Border delays are expected to increase proportionally, placing a further strain on existing facilities and infrastructure at the Otay Mesa LPOE. In addition, as mentioned in Section 1.1, SANDAG is constructing a new transit facility adjacent to the Otay Mesa LPOE that is expected to further increase pedestrian traffic.

1.2.2.2 Safety and Security

The Project will also address public and employee safety and border security concerns. Buildings within the inspection facilities are approximately 35 years old and cannot effectively support DHS infrastructure and enforcement operations. New security initiatives require increased capacity and new inspection technology to be installed and implemented at the existing facilities. For example, the detention areas in the main building do not meet current CBP design guide standards and expose the traveling public and

officers to unnecessary risk. Due to the age and condition of the existing buildings, reconfiguration and renovation of the existing facilities is required to accommodate operational needs. Installation of energy and water conservation measures (WCMs), security system updates and safety improvements, lighting improvements, repaving of old asphalt surfaces and refurbishing of flooring and paint are all needed across the Otay Mesa LPOE.

1.2.3 Existing Facilities

The Otay Mesa LPOE currently consists of the Pedestrian, Commercial Import and Export buildings and 12 POV inspection booths.

1.2.3.1 Pedestrian Building

The Pedestrian Building is located in between the POV and commercial inspection areas and handles pedestrian and bicycle processing operations. Currently, there are six pedestrian inspection lanes.

1.2.3.2 Commercial Import Building and Commercial Inspection Lot

The Commercial Import Building is used by CBP personnel to inspect commercial vehicles traveling from Mexico to the U.S. A majority of the import shipments are Mexican trucks that are completing the first leg of their round trip (i.e., from Mexico to the U.S. and then back into Mexico). The Commercial Import Building and the Commercial Inspection Lot are unable to handle the existing volume of commercial traffic experienced on a daily basis. Figure 1.2-1 shows the existing Commercial Import Building.

Figure 1.2-1. Commercial Import Building at Existing Otay Mesa LPOE

1.2.3.3 Commercial Export Building

The Commercial Export Building is used by CBP personnel to inspect commercial vehicles traveling from the U.S. to Mexico. A majority of the export shipments are Mexican trucks that are completing their round trip back into Mexico.

1.2.3.4 Privately-Owned Vehicle Inspection Booths

There are currently 12 POV primary inspection booths in operation at the Otay Mesa LPOE as shown in Figure 1.2-2. They are used by CBP personnel to inspect POVs and their occupants traveling from Mexico to the U.S. A secondary inspection lot is located north of the primary inspection booths and adjacent to the pedestrian bridge. It includes 28 inspection areas for CBP personnel to conduct a more thorough inspection of POVs suspected of containing contraband (i.e., secondary inspection), an impound lot (i.e., an area used to store POVs seized by CBP personnel), a canopy structure over the secondary inspection spaces and parking areas.

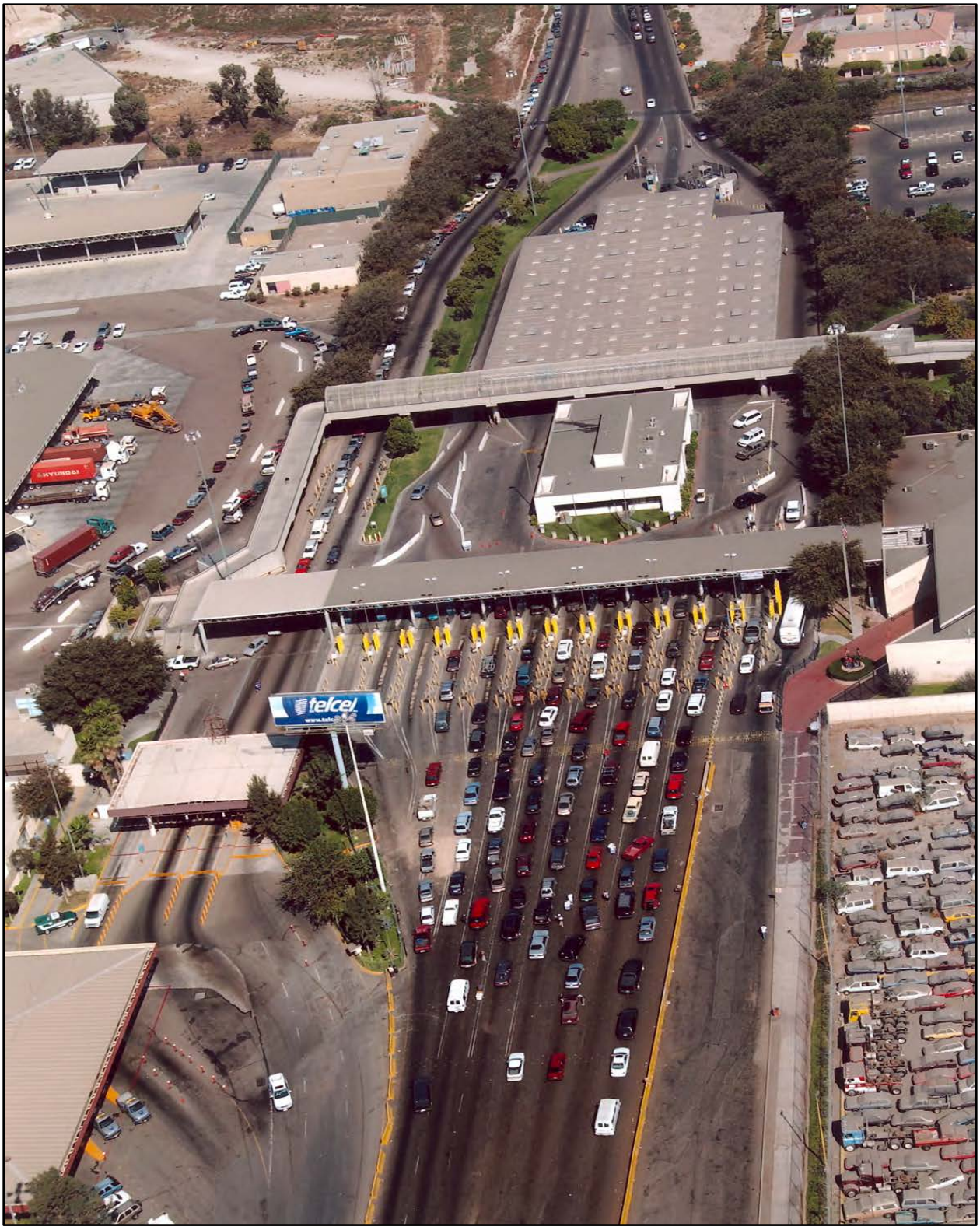


Figure 1.2-2. POV Primary Inspection Booths at the Existing Otay Mesa LPOE

1.3 PUBLIC INVOLVEMENT

The NEPA process provides several opportunities for public involvement. During these times, interested and affected parties (stakeholders) may express their concerns and provide their views about:

- The Project and its possible impacts on the natural and human environment;
- What should be addressed in the analysis and evaluation of the Proposed Action; and
- The adequacy of the NEPA analysis and documentation of potential impacts in the EIS.

1.3.1 Notification of a Public Scoping Meeting

The public was notified of the Otay Mesa LPOE scoping meeting through multiple channels of communication, including a Notice of Intent (NOI) in the *Federal Register*, four newspaper ads, radio station announcements, letters to interested parties and social media posts.

1.3.2 Public Scoping Meeting

A public meeting was held on Thursday, February 8, 2018 from 4 to 6 PM at the Holiday Inn Express and Suites San Diego located at 2296 Niels Bohr Court, San Diego, California 92154. Ten people attended the meeting.

An open house format was used to encourage discussion and information sharing and to ensure that the public had opportunities to speak with representatives of the GSA. Informational posters about the proposed alternatives, Project background, purpose and need and scoping comments were provided at the meeting. Additional materials available at the public scoping meeting included a sign-in sheet, a comment form and a handout (in English and Spanish).

1.3.3 Summary of Public Scoping Comments

The GSA invited written comments to be submitted via mail or email on the Otay Mesa LPOE EIS. More specifically, the GSA invited comments on the key topics that should be covered in the EIS; examples of potential adverse and beneficial impacts from the proposed Project; and any other relevant information. Comments were submitted using comment forms, letters and emails.

A total of six unique commenters provided input during the scoping period. The comments received regarded Project alternatives; air quality; biological resources; cumulative impacts; hazardous materials; public health and safety; requests for information; socioeconomics; sustainability; and water resources. As shown in Table 1.3-1, most of the comments received concerned public health and safety, cumulative impacts and hazardous materials. A total of 43 comments were received.

Table 1.3-1. Public Scoping Commenters and Comments by Category

Category	Number of Commenters	Number of Comments
Alternatives	1	2
Air Quality	1	3
Biological Resources	1	4
Cumulative Impacts	1	6
Hazardous Materials	3	6
Public Health and Safety	3	14
Requests for Information	2	2

Category	Number of Commenters	Number of Comments
Outside the Scope of the EIS	1	3
Socioeconomics	1	1
Sustainability	1	1
Water Resources	4	1
Total		**43**

The Otay Mesa LPOE EIS Final Scoping Report includes a more detailed description of comments (see Appendix B). Public Scoping Meeting materials and the Final Scoping Report are also available on the Project website at https://www.gsa.gov/about-us/regions/welcome-to-the-pacific-rim-region-9/land-ports-of-entry/otay-mesa-land-port-of-entry.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Per the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) at 40 Code of Federal Regulations (CFR) Part 1502.14, the Federal government must consider reasonable alternatives to a proposed action. Considering alternatives helps avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decision (any necessary preceding events must have taken place), affordable, capable of implementation, and must meet the purpose of and need for the action. Said otherwise, reasonable alternatives are practical or feasible from a common sense, technical and economic standpoint; and meet the Project's purpose and need. The Proposed Action and reasonable alternatives are described in Sections 2.1 through 2.3. Alternatives considered but eliminated from further analysis are discussed briefly in Section 2.4.

2.1 PROPOSED ACTION ALTERNATIVES

The Project entails the reconfiguration and expansion of the existing Otay Mesa Land Port of Entry (LPOE) to enhance traffic circulation, specifically the flow of commercial traffic, and to address the projected increase in vehicle traffic. Two Project build alternatives were considered by a multidisciplinary team during the Project design process, following a scoping meeting and consultation with the community. Because the Project concerns improvements to a LPOE, alternative Project locations were not considered because the precise location of such a facility requires a formal agreement between the Governments of the United States and Mexico. The alternatives described and evaluated in this Draft Environmental Impact Statement (DEIS) include the Preferred Alternative, the Reduced Build Alternative and the No Action Alternative.

2.1.1 Preferred Alternative (Alternative 1)

The Preferred Alternative would include the development of an approximately 10-acre General Services Administration (GSA)-owned plot of land to the immediate east of the existing commercial import lot. The new lot would be used to construct commercial inspection buildings and additional commercial import lanes. Figure 2.1-1 shows the 10-acre lot in its current condition.

Figure 2.1-1. GSA-Owned Lot Proposed for Development (viewed from northwest)

Improvements to existing pedestrian lanes (located in the Pedestrian Building) and personal vehicle inspection lanes; relocation of personnel currently housed in the Pedestrian, Commercial Import and Commercial Export buildings; renovation of existing facilities throughout the Otay Mesa LPOE; and demolition of facilities that would no longer be needed would also occur under the Preferred Alternative. New construction would include commercial import and exit booths, six additional pedestrian lanes in the Pedestrian Building, a Commercial Annex Building (CAB), a return-to-Mexico lane for commercial traffic, a pedestrian ramp and parking areas for the new commercial lot. Building renovations would include the installation of energy conservation measures (ECMs) and water conservation measures (WCMs) across the Otay Mesa LPOE, the correction of deficiencies throughout existing facilities (e.g., updating security systems, improving lighting and repaving old asphalt surfaces), and refurbishing the interior of the pedestrian, commercial import and commercial export buildings (e.g., new flooring and paint).

During and after construction, personnel would be relocated to the new CAB building. These include personnel from the FDA; TTEC (including Secure Electronic Network for Travelers Rapid Inspection [SENTRI], Free and Secure Trade [FAST], and Global Entry); Customs and Border Protection (CBP); I-94 Processing; and Fines, Penalties & Forfeiture (FP&F) paralegal personnel. All facilities that are no longer needed would be demolished and the land they were on would either be backfilled or used for the expansion of other facilities. Additional detail about the new/impacted facilities is included in the following subsections.

2.1.1.1 Commercial Annex Building

The new 34,000 square-foot (sf) CAB would be constructed on the 10-acre lot owned by the GSA and would be used by personnel relocating from other areas of the Otay Mesa LPOE. The new CAB would contain office space, temporary holding cells, a watch tower and storage space for equipment and supplies.

2.1.1.2 Pedestrian Building

The renovation of the Pedestrian Building would be done in three phases. During Phase 1, an unused area, adjacent to the existing pedestrian lanes, would be converted into six new pedestrian lanes; the six existing pedestrian lanes would remain open during this process. Phase 2 includes the SENTRI and I-94 Processing personnel being relocated to the new CAB. The vacated spaces would become a new detention center and soft secondary[1] with a secure, controlled entryway. The six existing pedestrian lanes would be closed and refurbished to match the new lanes constructed under Phase 1. Pedestrian traffic would utilize the six new pedestrian lanes during this time. During Phase 3, all 12 pedestrian lanes, the detention center and the soft secondary would be opened.

2.1.1.3 Commercial Export Building

Under the Preferred Alternative, the FP&F processing and records storage space would be relocated to the CAB and the vacant space would be reconfigured for CBP's Training Center needs. The existing hazardous materials docks would be demolished and the Training Center would be renovated as needed during this time. The existing hazardous materials docks would be relocated from their current location to the CAB.

2.1.1.4 Commercial Import Building and Commercial Inspection Lot

Interior paint and carpet would be replaced in the office spaces inside the Commercial Import Building. Other activities would include the construction of six new lanes for commercial cargo, 3 additional lanes for unladen commercial vehicles, and additional exit booths to improve the primary inspection capacity of the Otay Mesa LPOE. This alternative would also involve the relocation of the hazardous materials docks, which are currently located in the Export lot, in order to improve both import and export operations at the LPOE. The docks are used to inspect anything that CBP considers hazardous, for example crushed cars being transported for recycling that might be leaking oil. However, hazardous material would not be moved or disturbed while relocating the docks, as only the inspection capabilities are being moved.

The existing U.S. Department of Agriculture (USDA) Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre plot of land located east of the existing commercial import lot. Potential impacts from construction of a new, 13,000-gross sf building have been analyzed in a separate NEPA document, *The Final Environmental Assessment (EA) for the USDA Animal and Plant Health Inspection Service (APHIS) Plant Inspection Station at the Otay Mesa LPOE*. Construction of the USDA Plant Inspection Station will be considered as a connected action[2] to this Project because it is an interdependent element of the Project.

2.1.1.5 Renovations at Existing Buildings

Under the Preferred Alternative, all buildings at the Otay Mesa LPOE would be renovated as needed. These activities would include:

- Updating building heating, ventilation and air conditioning (HVAC) systems in some areas to meet current building codes;

[1] Soft secondary refers to the inspection area where a more thorough inspection is undertaken than what occurs in the primary inspection area. After undergoing primary inspection, passengers may be escorted to soft secondary inspection for further investigation (DOJ, 1997).

[2] Actions are connected if they automatically trigger other actions that may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously or are interdependent parts of a larger action and depend on the larger action for their jurisdiction.

- Updating security systems (e.g., installing new/updated computer systems, fingerprinting equipment, ID camera equipment and Personal Identity Verification stations); and
- Refurbishing some of the interior of the pedestrian, commercial import, and commercial export buildings (e.g., repainting, installing new flooring, improving lighting and repaving parking areas).

Improved ECMs and WCMs would also be installed throughout the Otay Mesa LPOE to meet current water and energy use goals (discussed further below under Section 2.1.1.7). Additional information about the specific building renovations/improvements that would occur under the Preferred Alternative can be found in the Project Needs Assessment Study (included as Appendix A of this EIS).

2.1.1.6 Other New Construction

Other construction activities that would occur under the Preferred Alternative include:

- Pedestrian path improvements and a new north-side ramp from the existing pedestrian bridge to the South Bay Rapid Transit system at the SR-905 on-ramp;
- A return-to-Mexico lane at the new commercial import lot for trucks sent back to Mexico;
- Parking areas for the new CAB and commercial import lot; and
- A dedicated area for the Federal Motor Carrier Safety Administration (FMCSA) to inspect buses for safety (e.g., brake lines, tires, lights, drive train). This work area would consist of a canopy, a small building for inspectors with a bathroom and a pit for inspectors to inspect the underbelly of the bus. Figure 2.1-1 below shows the location of the proposed FMCSA inspection facility. Note that the exact components of the FMCSA bus inspection area are unknown at this time and are subject to change during the design phase of the Project.

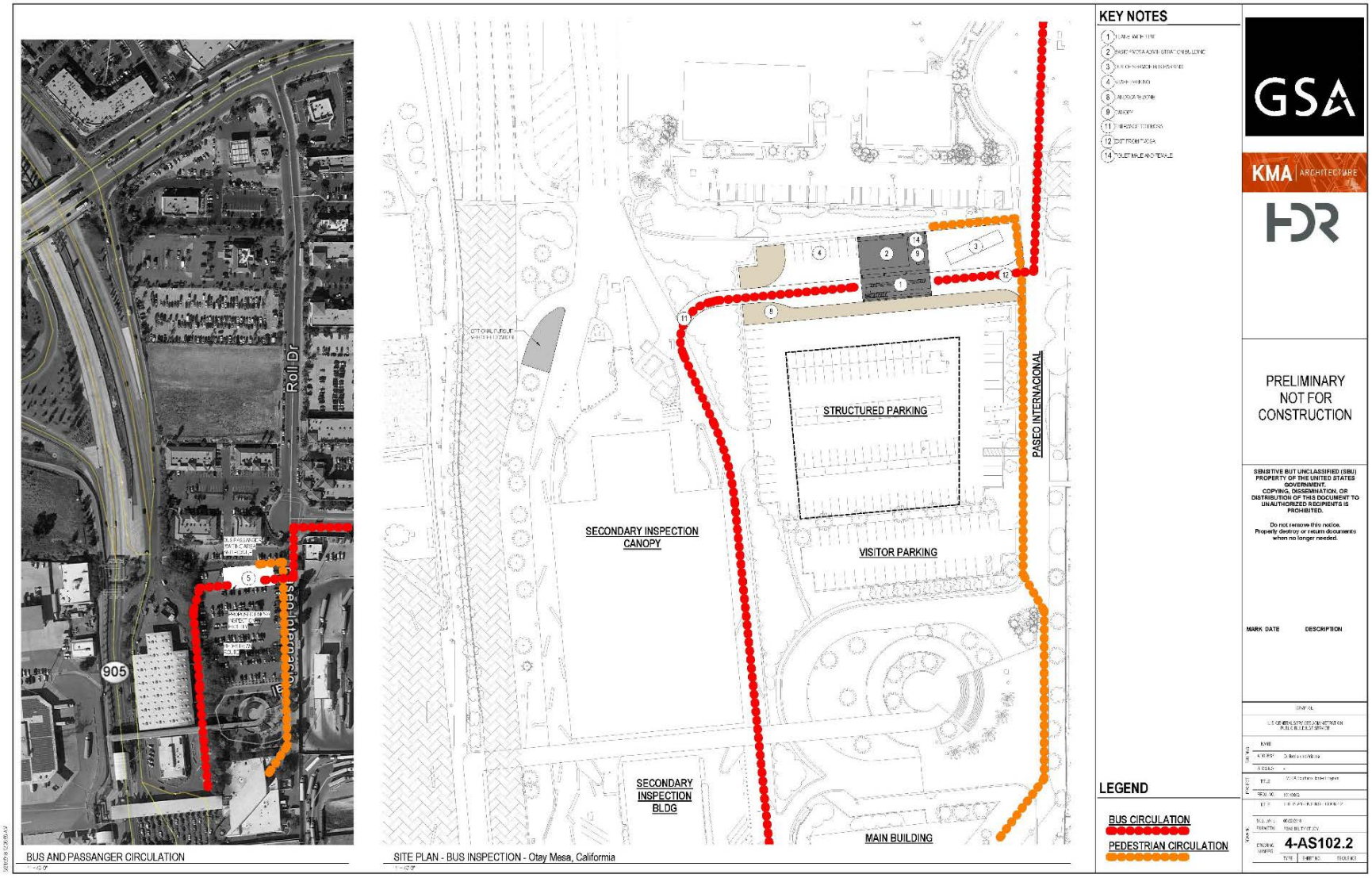


Figure 2.1-2. Proposed FMCSA Bus Safety Inspection Facility

2.1.1.7 Sustainability

At a minimum, the GSA requires that new construction and substantial renovation of its facilities obtain a Leadership in Energy and Environmental Design (LEED®) Gold certification. However, the GSA aims to obtain a Platinum certification – the highest LEED® certification – at all of its facilities.

Technologically sound and proven methods would be implemented to meet the applicable energy and sustainability requirements of the LEED certification process and to minimize energy and water use. ECMs could include daylighting (i.e., using daylight to provide internal lighting); solar orientation (i.e., positioning a building to take advantage of heating and lighting from the sun); and installing more efficient insulation. WCMs could include low-flow fixtures and installing a detention system to collect stormwater for irrigation.

2.1.2 Reduced Build Alternative (Alternative 2)

The Reduced Build Alternative would include many of the activities discussed under the Preferred Alternative; however, the overall activity level would be lower. Notably, no new construction would occur on the 10-acre, GSA-owned plot of land located east of the Commercial Import Building; The Reduced Build Alternative would not include construction of the CAB and therefore not any of activities related to construction of the CAB. Instead, commercial inspection booths would be reconfigured to increase traffic flow. The Reduced Build Alternative would still include the renovation of existing facilities, but activities would be limited to updating security systems and HVAC systems and repainting interiors; implementation of ECMs and WCMs would not occur with these minor renovations. Specific components of the Reduced Build Alternative are described further in the following subsections.

2.1.2.1 Commercial Annex Building, Commercial Export Building, Pedestrian Building, and Other New Construction

Under the Reduced Build Alternative, the CAB described under the Preferred Alternative would not be constructed. As such, the existing hazardous materials docks would not be relocated to the CAB. Similarly, the FP&F processing and records storage space would not be relocated to the CAB. Without the vacant space from relocating the FP&F processing and records storage, the Training Center would not be reconfigured or renovated. Renovation of the Pedestrian Building and the six new pedestrian lanes under the Preferred Alternative would not occur. The other new construction activities described under the Preferred Alternative would not occur under the Reduced Build Alternative.

2.1.2.2 Commercial Import Building and Commercial Inspection Lot

Instead of constructing the CAB on the 10-acre plot of GSA-owned land directly east of the Otay Mesa LPOE, as described under the Preferred Alternative 1, under the Reduced Build Alternative the entire lot would be paved and used as additional space for the commercial vehicle inspection. The paved area would be used to relocate or extend two commercial exit booths. This would provide more room for trucks to turn, thereby increasing traffic flow. The Reduced Build Alternative would not include the construction of four new commercial lanes and additional commercial inspection and exit booths. In fact, no new construction would occur on the 10-acre, GSA-owned plot of land under the Reduced Build Alternative except for the USDA Plant Inspection Station.

As under the Preferred Alternative, the existing USDA Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre, GSA-owned plot of land located east of the existing commercial import lot. However, under the Reduced Build Alternative, the existing FDA offices would not be relocated to the CAB.

2.1.2.3 Renovation of Existing Buildings

As under the Preferred Alternative, the pedestrian, commercial import, and commercial export buildings would also be renovated to bring the HVAC systems up to current building codes, improve safety and security, and improve the interior aesthetics. However, the refurbishing activities would be limited to repainting the interior of these buildings and would not include activities such as installing new flooring, improving lighting and repaving parking areas that are included under the Preferred Alternative.

2.1.2.4 Sustainability

Because the renovations described above would not include new construction or substantial renovation of its facilities, the Otay Mesa LPOE would not be required to obtain LEED® Gold certification. As such, the Reduced Build Alternative would not include the ECMs and WCMs described under the Preferred Alternative.

2.2 No Action Alternative

The No Action Alternative is included and analyzed to provide a baseline for comparison with impacts from the Project and also to satisfy Federal requirements for analyzing "no action" under NEPA (40 CFR 1502.14(d)).

The No Action Alternative assumes that no construction or renovations to the existing Otay Mesa LPOE would occur. Minor repairs would occur as needed and maintenance and operation of the existing facilities would continue as described in Chapter 1. As under the Preferred and Reduced Build Alternatives, the existing USDA Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre, GSA-owned plot of land located east of the existing commercial import lot.

This alternative would not meet the purpose and need of the Project (as identified in Chapter 1 of this EIS) as the modernization and expansion of existing facilities to address deficiencies in the effectiveness of the Otay Mesa LPOE would not occur.

2.3 Comparison of Preferred, Reduced Build and No Action Alternatives

Table 2.3-1 compares the Preferred, Reduced Build and No Action Alternatives by Project element, or element of the Preferred Action Alternative. Proposed activities at each of the Project elements are described for each alternative. Project elements include the CAB; Pedestrian Building; Commercial Export Building; Commercial Import Building and Commercial Inspection Lot; Renovations at Existing Buildings; Other New Construction; and Sustainability.

Table 2.3-1. Comparison of Preferred, Reduced Build and No Action Alternatives

Project Element	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
Commercial Annex Building (CAB)	Construct new CAB, including office space, temporary holding cells, a watch tower, storage space for equipment and supplies.	New CAB would not be constructed.	New CAB would not be constructed.
Pedestrian Building	• Add six new pedestrian lanes and refurbish six existing pedestrian lanes (ultimately a total of 12 lanes). • Relocate SENTRI and I-94 Processing personnel to new CAB and use vacated space for new detention center and soft secondary.	No renovation or activities would occur at the Pedestrian Building.	No renovation or activities would occur at the Pedestrian Building.
Commercial Export Building	• Relocate FP&F processing and records storage space to CAB; reconfigure and renovate vacant space for CBP's Training Center needs. • Demolish hazardous materials docks. • Relocate existing hazardous materials docks to new CAB.	No renovation or activities would occur at the Commercial Export Building.	No renovation or activities would occur at the Commercial Export Building.
Commercial Import Building and Commercial Inspection Lot	• Move existing USDA Plant Inspection Station to a new standalone building on the 10-acre, GSA-owned lot. • Construct nine new commercial lanes (six laden, three unladen) and additional commercial inspection and exit booths.	• Move existing USDA Plant Inspection Station to a new standalone building on the 10-acre, GSA-owned lot. • Pave 10-acre plot of GSA-owned land. • Relocate or extend two commercial exit booths onto newly paved, 10-acre, GSA-owned plot of land.	Move existing USDA Plant Inspection Station to a new standalone building on the 10-acre, GSA-owned lot.

Project Element	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
Renovations at Existing Buildings	Renovations could include: • Updating HVAC systems as necessary to meet current building codes; • Updating security systems (e.g., installing new/updated computer systems, fingerprinting equipment, ID camera equipment and Personal Identity Verification stations); and • Refurbishing the interior of the pedestrian, commercial import, and commercial export buildings (e.g., repainting, installing new flooring, improving lighting and repaving parking areas).	Renovations could include: • Updating HVAC systems as necessary to meet current building codes; • Updating security systems (e.g., installing new/updated computer systems, fingerprinting equipment, ID camera equipment and Personal Identity Verification stations); and • Refurbishing activities limited to repainting the interior of the pedestrian, commercial import, and commercial export buildings.	No renovations would occur at the pedestrian, commercial import, and commercial export buildings. Minor repairs would occur as needed and current maintenance and operation of the existing facilities would continue as described in Chapter 1.
Other New Construction	Could include: • Pedestrian path improvements and a new north-side ramp from the existing pedestrian bridge to the South Bay Rapid Transit system at the SR-905 on-ramp; • A return-to-Mexico lane at the new commercial import lot for trucks sent back to Mexico; • Parking areas for the new CAB and commercial import lot; and • FMCSA bus safety inspection facility.	No new construction would occur.	No new construction would occur.
Sustainability	ECMs and WCMs would be implemented at all newly constructed and substantially renovated facilities to obtain at least LEED Gold certification.	Minor renovations would not include the implementation of ECMs or WCMs.	ECMs and WCMs would not be implemented.

2.4 ALTERNATIVES CONSIDERED AND DISMISSED FROM DETAILED ANALYSIS

In addition to the Preferred and Reduced Build Alternatives, the Expanded Build Alternative was considered as a potential alternative during the Project design process. This alternative and the reasons for its elimination from further analysis are discussed below.

2.4.1 Expanded Build Alternative

The Expanded Build Alternative includes all of the activities discussed under the Preferred Alternative (Section 2.1.1) plus some additional improvements to the privately-owned vehicle (POV), pedestrian and commercial inspection facilities. Otay Mesa LPOE's POV inspection capabilities would be expanded by constructing 23 northbound POV lanes, 27 inspection booths (four of the lanes would be double-stacked), 52 POV secondary inspection spaces, a new canopy structure over the secondary inspection spaces and a new 11,000-square foot (sf) head house (a structure that allows CBP officers to surveil the entire border crossing). The pedestrian inspection capabilities of the LPOE would be expanded by constructing seven inbound pedestrian booths in a new pedestrian inspection building. The commercial inspection capabilities of the LPOE would be expanded by constructing 18 commercial import lanes, six commercial import lot exit booths, and 16 hazardous materials import dock spaces. While this alternative would meet the Purpose and Need (stated in Section 1.2), it was dismissed from further analysis because it would exceed the GSA's available budget for renovating and improving the Otay Mesa LPOE.

2.4 COMPARISON OF ALTERNATIVES

Table 2.4-1 compares the potential environmental impacts resulting from the alternatives. Potential impacts are summarized for each resource area affected by the alternatives. Chapter 3 of this EIS contains a detailed discussion of these potential impacts by resource area.

Table 2.4-1. Summary Comparison of Impacts

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
Land Use	Long-term, minor to moderate, medium or localized beneficial impacts at the existing LPOE site because suitability of land to support the current use would increase. Long-term, moderate, medium or localized and beneficial impacts at the 10-acre, GSA-owned site. The conversion of the currently vacant 10-acre lot to large, industrial buildings would not significantly change the type or classification of land use from its current state.	Long-term, negligible, small or limited beneficial impact at the existing LPOE site because suitability of land to support the current use would increase but would only be slight. Long-term, moderate, medium or localized and beneficial impacts at the 10-acre, GSA-owned site because the addition of a new building would increase the suitability of land to support the current use.	No beneficial or adverse impacts on land use at the LPOE site. Long-term, moderate, medium or localized, and beneficial impacts at the 10-acre GSA-owned lot.
Utilities and Infrastructure	Construction activities would result in adverse, moderate, short-term impacts with medium extent and high likelihood. Operation of new facilities would result in adverse, minor, long-term impacts to utilities with medium extent and high likelihood. Negligible impacts on utilities at existing facilities.	Refurbishing activities at the existing buildings would have none to negligible impacts to LPOE utility consumption in the short or long term.	Long-term utility consumption at the existing LPOE would be higher than under the Preferred Alternative or Reduced Build Alternative. However, the impacts would still be negligible because utility usage would be similar to current levels.
Hazardous Waste and Materials	Low likelihood of hazardous material contamination as a result of construction activities. However, hazardous materials would also be removed during construction which could result in worker or environmental contamination.	Impacts from construction would be less than under the Preferred Alternative and would be low likelihood, limited, intermittent, negligible and adverse. Negative impacts due to ongoing operations would be the same as the Preferred	No impacts from construction would be expected. Because no new property would be acquired and no changes to current land use or zoning are anticipated, no impacts differing from baseline conditions would occur. Ongoing

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	Construction impacts would be short-term, medium, and adverse with a low likelihood and small extent. Removing asbestos-containing materials (ACMs) and lead-containing surfaces (LCSs) during construction would have high likelihood of long-term, moderate beneficial impacts with medium extent. Long-term impacts would be minor and adverse with limited extent and low likelihood due to small spills of hazardous materials that could over time seep through cracks in the concrete and contaminate the soil beneath. Continued use of polychlorinated biphenyls (PCBs) would have a low likelihood of limited, long-term, minor adverse impacts. If PCBs are removed, there would be a high likelihood of medium, long-term, moderate beneficial impacts.	Alternative - low likelihood of limited, long-term, minor adverse impacts. If contaminated soils are not removed there would not be any beneficial impacts.	impacts would be similar to those resulting from current operations, consistent with existing hazardous material use and disposal practices.
Transportation and Traffic	Construction and demolition activities would have short-term, minor, adverse impacts with medium extent and high likelihood due to shipments of construction materials and waste to and from the construction site and construction worker commutes. Operation of the LPOE would have	Construction and demolition activities would have the same impacts as under the Preferred Alternative; however, due to the reduced amount of construction and demolition required under this alternative, the impacts to local roadways would be lower. Operation of the LPOE would have beneficial	Short-term, adverse, negligible impacts to transportation and traffic with a small extent and high likelihood during construction of the new USDA building. Once construction is completed, traffic would return to its historical levels, and there would be no long-term impacts

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	a long-term, beneficial, major impact with medium extent and high likelihood because commercial vehicle queue time at the LPOE would be reduced and commercial vehicles would be able to pass through the LPOE at a faster rate.	and moderate with medium extent and high likelihood impacts as reduction in wait times of commercial trucks would be less than under the Preferred Alternative.	associated with the new USDA building. Due to expected population growth and corresponding increase in vehicles on roadways in the region, impacts to transportation and traffic would be long-term, minor, and adverse with a medium extent and high likelihood.
Noise	Short- and long-term, minor, medium extent adverse impacts would be expected with a high likelihood of occurrence. Short-term effects would be mainly from heavy equipment noise during construction, while long-term effects would be due to increased noise from the increased vehicle capacity passing through the upgraded LPOE.	Impacts would be the same as under the Preferred Alternative, though noise levels and duration overall would be reduced in magnitude compared to the Preferred Alternative.	Noise levels would remain similar to current conditions at the LPOE.
Socioeconomics	Overall short-term, negligible to minor, medium to large extent adverse impacts would be expected with a high likelihood of occurrence. Short-term, adverse effects mainly include delays in shipments or deliveries as it relates to trade as well as increased noise and air emissions around the LPOE. Short-term, minor, large extent beneficial impacts with a high likelihood of occurrence would be	The types of impacts would be the same as under the Preferred Alternative, though both adverse and beneficial impacts would be reduced in magnitude.	Long-term, minor, large extent adverse impacts would be expected with a high likelihood of occurrence. San Diego County would continue to grow but the capacity and efficiency at the Otay Mesa LPOE would not increase, adversely affecting businesses in the economic zones as well as the entire county and indirectly in the state.

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	expected due to the creation of jobs. Long-term, negligible to minor, large extent adverse impacts would be expected with a high likelihood of occurrence. Adverse effects on population and housing would occur if additional personnel are hired to operate the Otay Mesa LPOE in the long term. Moderate to major, beneficial impacts on trade would be expected due to increased efficiency at the LPOE in the long term. The extent would be large with a high likelihood of occurrence.		
Environmental Justice and Protection of Children	Overall short- and long-term, negligible to minor, medium extent adverse impacts would be expected with a high likelihood of occurrence. Short-term, direct, disproportionate impacts on minority populations would occur due to increased congestion around the LPOE; and indirect impacts on children could occur due to increased air emissions. Short-term economic and health impacts could disproportionately benefit minority populations in search of a job; long-term benefits would be negligible. Direct and	The types of impacts would be the same as under the Preferred Alternative, though both adverse and beneficial impacts would be reduced in magnitude.	No disproportionate, adverse or beneficial effects to minority or youth populations are anticipated in the short or long term. Adverse and beneficial impacts described under the Preferred Alternative and Reduced Build Alternative would not occur under the No Action Alternative.

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	indirect, minor, large extent beneficial impacts would be expected with a high likelihood of occurrence.		
Visual Resources and Aesthetics	Short-term adverse impacts from construction activity would be moderate and localized due to the presence of construction materials, temporary holding cells, heavy equipment and construction vehicles. High likelihood of long-term, localized and moderate impacts based on the level and type of change that would occur; impacts may be considered beneficial or adverse depending on the perception of the viewer. High likelihood, localized, moderate and beneficial impacts as a result of renovation of existing facilities and infrastructure.	High likelihood of adverse, negligible, localized short-term impacts to the visual quality and character of the Project area as a result of construction, though impacts may be slightly reduced in magnitude as compared to the Preferred Alternative. Long-term impacts would be the same as under the Preferred Alternative. Beneficial impacts from renovations would be the same as under the Preferred Alternative.	Construction of the USDA Plant Inspection Station would be highly likely to create long-term, moderate, and localized impacts to visual resources and aesthetics.
Cultural Resources	Archeological Resources: If archaeological resources are discovered (the likelihood is anticipated to be low), impacts would be minor, permanent, small or limited in extent, and could be considered either adverse (if the resource were destroyed) or beneficial (if the resource was perceived as having value to the public).	Impacts would be the same as for the Preferred Alternative. There is a high likelihood that there would be no impacts to either archaeological or historic resources over both the short-term and the long-term.	Impacts would be the same as for the Preferred Alternative. There is a high likelihood that there would be no impacts to either archaeological or historic resources over both the short-term and the long-term.

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	Historic Resources: High likelihood of no impacts		
Geology, Seismicity and Soils	No impacts on geology or geologic hazards. Negligible, small extent, long-term adverse impacts on topography with a high likelihood of occurrence due to grading of the site. Adverse, long-term to permanent, minor to moderate impacts of medium extent with a high likelihood of occurrence from construction where soils are substantially altered or covered by impervious surfaces. Short-term, negligible to minor, limited adverse impacts with a high likelihood of occurrence where soils are disturbed by vehicle or foot traffic. Beneficial, long-term, minor, limited, impacts with a high likelihood of occurrence on soils that are revegetated and re-stabilized and soil erosion is reduced. There would not be any additional impacts on soils during operation of the LPOE.	No impacts on geology or geologic hazards. Impacts on soils and topography would be the same as under the Preferred Alternative.	No impacts on geology, topography, or geologic hazards. Impacts to soils from construction of the USDA Plant Inspection Station would be similar to those under the Preferred Alternative for the 10-acre lot.
Air Quality and Greenhouse Gas Emissions	Construction/demolition activities would cause short-term, minor adverse impacts with a medium extent and high likelihood on air quality and could affect individuals in close proximity to the LPOE.	Short-term impacts during construction would be the same as under the Preferred Alternative. Due to the reduced amount of construction required under this alternative, annual emissions of	Long-term, minor, and adverse impacts with a medium extent and high likelihood as only the USDA building would be constructed and the average queue times for commercial

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	Operations would result in long-term, moderate, beneficial impacts with a medium extent and high likelihood due to emissions reduction from the reduced vehicle idle time. Greenhouse gas (GHG) emissions produced during construction and demolition activities would have short term incremental, but overall negligible, contribution to climate change. Long-term, minor, beneficial effects with a medium extent and high likelihood due to reductions in GHG emissions from vehicles in queue during operations.	criteria pollutants would be lower than the emissions estimated for the Preferred Alternative. Long-term, minor, adverse impacts with medium extent and high likelihood would occur during operation because the improvements to the commercial inspection lanes would not occur and the queue time (i.e., vehicle idle time) would continue to increase. Short-term GHG emissions impacts during construction would be similar to the Preferred Alternative during construction but lower. Long-term, minor, adverse effects with medium extent and high likelihood as a reduction in GHG emissions would not occur.	vehicles would be expected to increase over time, resulting in increased criteria pollutant and GHG emissions.
Biological Resources	<u>Vegetation:</u> Construction would have adverse short- and long-term, minor, medium extent impacts on vegetation with a high likelihood of occurrence due to loss and disturbance of vegetation in the Project area. Impacts during operation would be beneficial, long-term, negligible, small and with a high likelihood of occurrence due to revegetation of disturbed areas with native plant species. <u>Wildlife and Migratory Birds:</u> Construction would have adverse	Impacts on vegetation, wildlife, migratory birds, and threatened and endangered species would be the same as under the Preferred Alternative.	No impacts on biological resources other than from construction of the USDA Plant Inspection Station, which would be the same as the Preferred Alternative for the 10-acre lot but on fewer acres.

Resource Area	Preferred Alternative (Alternative 1)	Reduced Build Alternative (Alternative 2)	No Action Alternative
	short- and long-term, minor to moderate, medium to large extent impacts on wildlife with a high likelihood of occurrence due to disturbance of animals and loss of habitat in the Project area. Impacts during operation would be adverse, long-term, negligible, medium extent with a high likelihood of occurrence due increased noise and disturbance from a higher volume of vehicles and pedestrians passing through the upgraded LPOE. Threatened and Endangered Species: No impacts on Federally listed species or critical habitat. Adverse impacts to special status species could be minimized or completely avoided if surveys detect any species and resource closures and mitigation is implemented. If any impacts occur, they would be similar to those for general wildlife.		
Water Resources	Adverse, minor, short-term, localized and low likelihood impacts from storm events greater than the 95th percentile rainfall event due to storm water runoff.	Impacts would be similar to the Preferred Alternative.	Impacts would be similar to the Preferred Alternative.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 describes the current environment for resource areas that may be affected by the Preferred Action (Alternative 1) and the Reduced Build Alternative (Alternative 2), and the potential environmental consequences associated with the alternatives. Resource areas analyzed include land use; utilities and infrastructure; hazardous waste and materials; transportation and traffic; noise; socioeconomics; environmental justice and protection of children; visual resources and aesthetics; cultural resources; geology, seismicity, and soils; air quality and climate change; biological resources; and water resources.

Affected Environment

The affected environment summarizes the current physical, biological, social, and economic environments of the area within and surrounding the Otay Mesa Land Port of Entry (LPOE). For each resource area, the bounds of the area for analysis that could be impacted by the Preferred and Reduced Build Alternatives are defined. The elements or components of the resource area that may be potentially affected are described.

For some resource areas, the geographic area for analysis of the affected environment extends beyond the LPOE to encompass the City of Otay Mesa or San Diego County. However, for many of the resource areas potentially affected by the alternatives, the area of analysis is located within the footprint of the Project site, where most of the Project elements (e.g., proposed Commercial Annex Building [CAB], existing buildings) are located.

Environmental Consequences

The analysis of environmental consequences for each resource area begins by explaining the methodology used to characterize potential impacts, including any assumptions made. The impacts analysis considers how the condition of a resource area would change as a result of implementing each of the alternatives; and describes the types of impacts that would occur (direct, indirect, beneficial, adverse). The types of impacts are defined in the next section. The significance of impacts is assessed using four parameters: magnitude, duration, extent, and likelihood of occurrence; these are described under "Significance Criteria" below.

Types of Impacts

The terms "impacts" and "effects" are used interchangeably in this chapter. According to the Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) Regulations at 40 Code of Federal Regulations (CFR) 1500-1508, direct and indirect effects are defined as:

Direct effects: Effects that are caused by the action and occur at the same time and place (1508.8(a)).

Indirect effects: Effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects also include "induced changes" in the human and natural environments (1508.8(b)).

In other words, direct impacts are those that are caused directly by the Preferred or Reduced Build Alternatives, such as excavation to construct a new building under the Preferred Alternative that could cause soil erosion. Indirect impacts are those follow-on effects induced by the initial impact. Loss of soil (soil erosion) could cause adverse impacts on water quality, such as turbidity and stream sedimentation.

Identified impacts may be either adverse or beneficial. The CEQ Guidelines that govern NEPA implementation describe the need for identifying and differentiating between adverse and beneficial impacts, but do not offer a definition of these terms. For the Otay Mesa Environmental Impact Statement (EIS), the following definitions have been used by NEPA analysts:

Adverse impacts: Those impacts which, in the judgment of an expert resource area analyst, are regarded by the general population as having a negative and harmful effect on the analyzed resource area. An adverse impact causes a change that moves the resource area away from a desired condition or detracts from its appearance or condition.

Beneficial impacts: Those impacts which, in the judgment of an expert resource area analyst, are regarded by the general population as having a positive and supportive effect on the analyzed resource area. A beneficial impact constitutes a positive change in the condition or appearance of the resource area or a change that moves the resource area toward a desired condition.

The adverse impact may be to the natural environment (e.g., decrease in available groundwater) and the beneficial impact may be to the human environment (e.g., economic benefits, such as an increase in jobs). Or the opposite may be true: the adverse impact may be to the human environment and the beneficial impact may be to the natural environment. Or, both adverse and beneficial impacts may occur to a single resource area. Adverse and beneficial impacts from the Preferred and Reduced Build Alternatives are not combined into a single, net impact. Rather, adverse and beneficial impacts are noted and assessed separately because an action may result in a significant adverse impact to a resource area even though there may be an overall beneficial effect (40 CFR 1508.27).

Significance Criteria

Documentation for projects similar to the Otay Mesa LPOE was reviewed to ascertain the activities associated with modernization and expansion that could potentially cause environmental impacts, and the types of impacts they could cause. This research was supplemented by professional judgment concerning impacts of typical concern for a large construction project.

Criteria were defined as a means of measuring the size of the impact and its significance. A structured framework is required to support conclusions concerning the significance of effects and to systematically integrate individual resource area assessments. For example, construction projects generally require some grading and soil disturbance. These activities have an impact on the soil, and they could also affect air quality (by creating fugitive dust), water quality (through erosion of the bare soil and sediment deposition in the surface water), and terrestrial resources (through the removal of vegetation and wildlife habitat). Using the same criteria to describe the size and significance of impacts for each of these resource areas allows for comparison of the impacts between resource areas and determination of the significance.

The significance of impacts was determined systematically by assessing four parameters of environmental impact: magnitude (how much), duration (how long), extent (sphere of influence), and likelihood of occurrence (probability). Each parameter was divided into the following levels:

Magnitude:

- Major – Substantial impact or change in a resource area that is easily defined, noticeable and measurable, or exceeds a standard.
- Moderate – Noticeable change in a resource area occurs, but the integrity of the resource area remains intact.
- Minor – Change in a resource area occurs, but no substantial resource area impact results.
- Negligible – The impact is at the lowest levels of detection – barely measurable but with perceptible consequences.
- None – The impact is below the threshold of detection with no perceptible consequences.

Duration:

- Permanent – Impact would last indefinitely.
- Long-term – Impact would likely last the lifetime of the Project, or for as long as the Otay Mesa LPOE is in operation.
- Medium-term – Impact would extend past the transition phase, or construction phase, and into the operations phase; eventually merging into the long-term.
- Short-term – Impact would last the duration of the construction phase.
- Temporary – Impact would be continuous and last for a portion of the construction phase.
- Intermittent – Impact would not be constant or continuous but rather recurring or periodic. Intermittent impacts could occur temporarily or in the short-, medium-, or long-term.

Extent:

- Large – Impacts would affect the resource area on a county, regional, or state level, extending well past the immediate Project area.
- Medium or localized – Impacts would affect the resource area only in the Project area or its immediate surroundings, and would not extend into the county, region, or state. For example, noise impacts from building construction activities are usually localized as they can be heard from approximately 1,000 feet.
- Small or limited – Impacts would affect the resource area over a portion of the Project area.

Likelihood:

- High – The impact is more likely to occur than not, i.e., approximately 50 percent likelihood or higher.
- Medium – The impact has some chance of occurring, but probably below 50 percent likelihood.
- Low – The impact has a non-zero but very small likelihood of occurrence.
- None – The impact has zero probability of occurring.

3.1 LAND USE

This section assesses the potential for existing land use patterns and development trends within the Project area to affect, or be affected by, implementation of the Project. The property on which the Project would take place is part of San Diego County and is located on Via De La Amistad. It includes the property associated with the existing, 41-acre Otay Mesa LPOE and 10 acres of undeveloped land owned by the General Services Administration (GSA) directly east of the LPOE.

3.1.1 Affected Environment

The Otay Mesa LPOE is a multi-modal (commercial, non-commercial, and pedestrian) port that provides a critical link between the border communities of Otay Mesa, California and Tijuana, Mexico. It is situated in the southeast portion of the City of San Diego. The LPOE opened in 1985, spurring the development of industrial establishments that support the production of consumer electronics, medical supplies, and a wide variety of other goods and services. The community surrounding the LPOE is comprised of a variety of uses such as industry, business, commercial, housing, education, and other uses.

Otay Mesa is abutted on the north by the Otay River Valley and the City of Chula Vista, California; on the west by Interstate 805 and the neighborhoods of Ocean View Hills and San Ysidro; on the north and east by unincorporated San Diego County, including East Otay Mesa and the San Ysidro Mountains; and on the south by the Otay Centenario borough of Tijuana Municipality in Mexico. The areas to the north and west of the Project site primarily consist of properties owned by commercial storage/transport companies. These neighboring properties typically contain a warehouse to store cargo and a paved or gravel parking area for trucks/cargo containers (GSA, 2018b). Immediately adjacent to the LPOE is an empty 10-acre lot owned by GSA. This lot is currently used as a vehicle staging area and temporary fill material storage area. Figure 1.1-2 shows the location of the Project area.

The area of analysis for land use includes the existing LPOE-related structures and paved areas (41 acres), as well as the adjacent 10-acre, GSA-owned site.

3.1.1.1 Municipal Zoning Designations

The City of San Diego has established zoning regulations to ensure that land uses within the City are properly located and that adequate space is provided for each type of development identified (City of San Diego, 2018a). Zoning designations in the Project area are defined in the San Diego Municipal Code Section 131. Current zoning designations in Otay Mesa include the following:

- Industrial-Light (IL)-2-1 is designated “to accommodate a range of industrial and manufacturing activities in designated areas to promote balanced land use and provide flexibility in the design of new and redeveloped industrial projects, while assuring high quality development and protecting land for industrial uses and limiting nonindustrial uses” (City of San Diego, 2018a). This zoning designation does not permit land use for the purposes of residential use, recreational use, natural resources preservation, or park facilities; and
- IL-3-1 allows for research and development, office and residential uses (San Diego, 2014).

3.1.1.2 Community Management Plan

The Otay Mesa Community Management Plan outlines the vision for Otay Mesa (San Diego, 2014). As described in the plan: “Otay Mesa is envisioned as a diverse international community due to its proximity to the U.S.-Mexico border. A mixture of industry, business, commercial, housing, recreation, education

services and civic uses make up this vibrant community. The long term needs in the region for business and residential uses will be achieved in Otay Mesa through careful long-range planning" (San Diego, 2014).

The parcels on which the LPOE and adjacent 10-acre GSA-owned property are situated are shown in Figure 3.1-1.

The Otay Mesa Community Management Plan includes a brief discussion of the Otay Mesa LPOE. The two recommendations listed for the LPOE include:

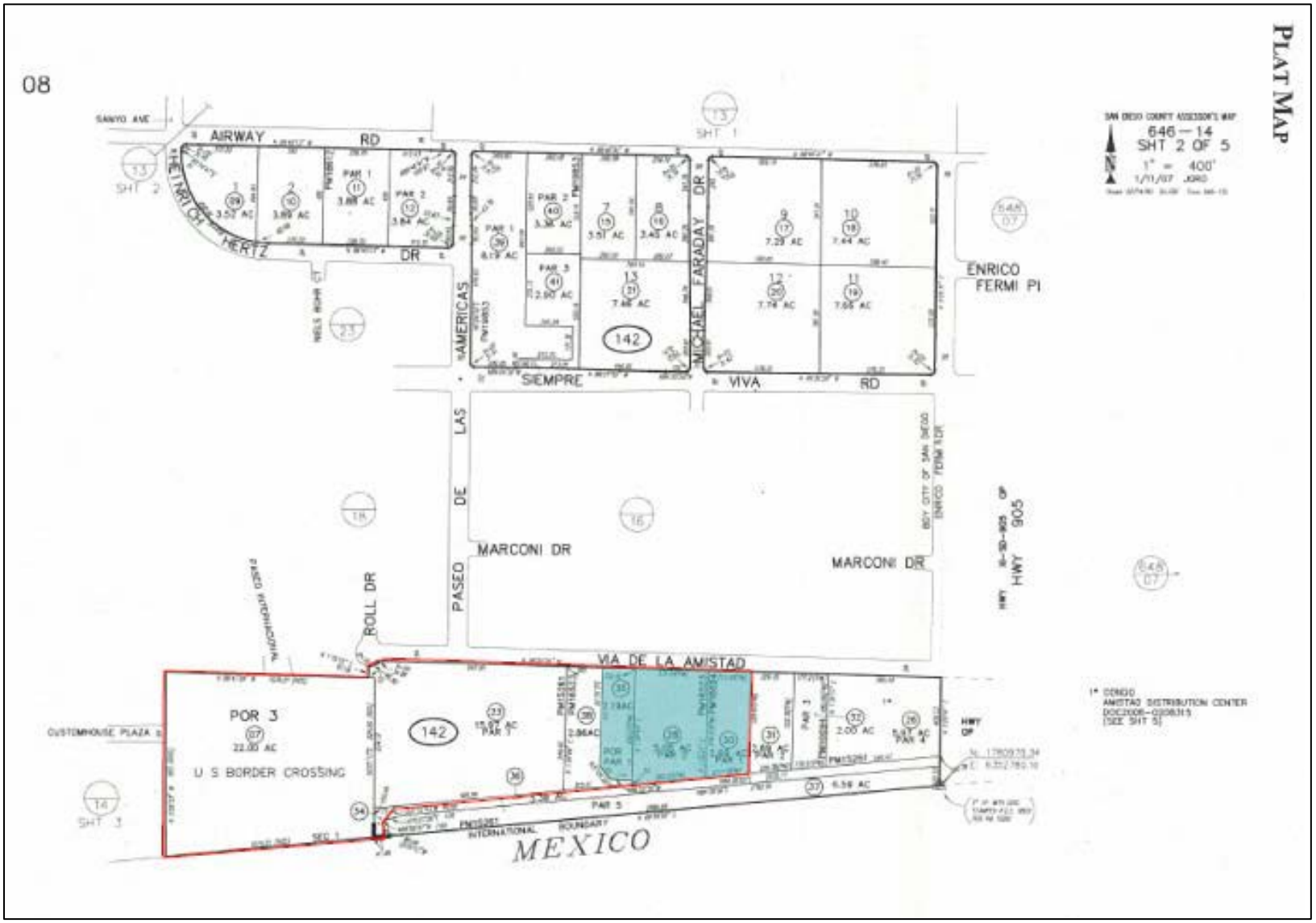
- Collaborate with Federal, State and local agencies to minimize impacts to Otay Mesa properties and infrastructure from any expansion of the existing facility; and
- Work cooperatively with outside agencies to minimize land use and infrastructure impacts to Otay Mesa from any new LPOE and its corresponding freeway/roadway network (San Diego, 2014).

3.1.2 Environmental Consequences

This section evaluates impacts to land use that may result from implementation of the Preferred Alternative, Reduced Build Alternative and the No Action Alternative. Impacts to land use would occur given the following conditions:

- Direct, adverse impacts to land use would occur if the action and no action alternatives:
  - Constitute a fundamental change in land use (i.e., re-designating a parcel of land from its existing use) that does not align with goals and priorities listed in applicable land use plans);
  - Reduce the suitability of land to support its current or planned use;
  - Are inconsistent with existing land use authority, guidelines, or management plans.
- Direct, beneficial impacts would occur if the action alternatives:
  - Increase the suitability of land to support its current or planned use;
  - Support the goals outlined in Otay Mesa's management plans.

The following sections describe the anticipated environmental consequences of each alternative.



Source: Parsons, 2009.

Figure 3.1-1. San Diego Assessor's Plat Map – Otay Mesa LPOE and Adjacent Land

3.1.2.1 Preferred Alternative (Alternative 1)

The Preferred Alternative would include improvements, renovation, demolition, and new construction within the LPOE and 10-acre lot as well as relocation to the new 34,000-square foot (sf) CAB. Also, the existing U.S. Department of Agriculture (USDA) Plant Inspection Station would be moved to a new standalone building in the 10-acre plot of land. Other activities would include the construction of four new commercial lanes and additional commercial inspection and exit booths.

Under the Preferred Alternative, there is a high likelihood that there would be no short-term impacts to land use because the entire area of analysis is already disturbed (the 10-acre, GSA-owned paved lot) or currently used to support industrial activities (the existing LPOE). The land is already zoned for industrial buildings and uses; thus, construction and renovation associated with these uses is compatible with existing and envisioned land use.

In the long term, activities that would occur at the existing LPOE site associated with the Preferred Alternative are anticipated to have a direct, minor to moderate, medium or localized, beneficial impact on land use. This is because proposed Project activities under the Preferred Alternative would increase the suitability of land to support the current use and would support the goals outlined in Otay Mesa's management plans.

Impacts associated with the Preferred Alternative at the 10-acre, GSA-owned site would be long-term, moderate, medium or localized, and beneficial. The conversion of the currently vacant 10-acre lot to large, industrial buildings would not significantly change the type or classification of land use from its current state but would increase the suitability of land to support the current use and would support the goals outlined in Otay Mesa's management plans.

3.1.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, the new CAB would not be constructed, and the existing import docks would not be demolished and relocated. Although several renovations and the other new construction activities would not occur within the LPOE, existing buildings would be renovated for code/safety reasons to include painting, new lighting, and repaving parking areas. The 10-acre lot would be paved and used for traffic flow. The USDA Plant Inspection Station would be constructed on this lot regardless of the alternative chosen.

As under the Preferred Alternative, there is a high likelihood that there would be no short-term impacts to land use under the Reduced Build Alternative because the Project area is already disturbed (the GSA-owned, 10-acre paved lot) or used to support industrial activities (the existing LPOE site). The land is already zoned for industrial buildings and uses; thus, construction and renovation associated with these uses is compatible with existing and envisioned land use.

In the long term, activities that would occur at the existing LPOE site associated with the Reduced Build Alternative are anticipated to have a direct, negligible, small or limited, beneficial impact on land use, though to a lesser degree than under the Preferred Alternative. While proposed Project activities under the Reduced Build Alternative would increase the suitability of land to support the current use and would support the goals outlined in Otay Mesa's management plans, improvements would only be slight.

Because the USDA Plant Inspection Station would still be constructed at the 10-acre, GSA-owned site under this alternative, impacts to land use at this portion of the site would be long-term, moderate, medium or localized, and beneficial. This is because the addition of the new building would increase the suitability of land to support the current use and would support the goals outlined in Otay Mesa's management plans.

3.1.2.3 No Action Alternative

Under the No Action Alternative, no construction or renovations to the existing Otay Mesa LPOE would occur. As under the Preferred and Reduced Build Alternatives, the existing USDA Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre, GSA-owned site previously described. There would be no beneficial impacts to land use from the No Action Alternative because renovations at the existing LPOE site would not occur. There would also be no direct adverse impacts to land use at the LPOE site under the No Action Alternative.

Because the USDA Plant Inspection Station would still be constructed at the 10-acre, GSA-owned site under the No Action Alternative, impacts to land use at this portion of the site would be long-term, moderate, medium or localized, and beneficial, as under the Reduced Build Alternative.

3.2 UTILITIES AND INFRASTRUCTURE

This section assesses the potential for existing utilities and support infrastructure within the Project area to affect, or be affected by, implementation of the Project. The property on which the Project would take place is part of San Diego County and is located on Via De La Amistad.

3.2.1 Affected Environment

For purposes of analysis, it was assumed that the area of analysis includes utilities located on or adjacent to the 41-acre Otay Mesa LPOE and the 10-acre lot directly east of the LPOE and utilities utilized by the Otay Mesa LPOE. Numerous existing utilities and support infrastructure including water and sewer, natural gas, electricity, communications and stormwater are located in the area of analysis, primarily within local roadways and the existing Otay Mesa LPOE. Mapped utilities are identified below.

3.2.1.1 Water and Sewer

Wastewater is generated at the existing Otay Mesa LPOE from the use of bathroom sinks, showers, and toilets, and from the use of kitchen sinks and dishwashers. Existing sewer facilities within Otay Mesa include the East Otay Mesa collection system, the Otay Valley Trunk Sewer system and the Otay Mesa Trunk Sewer within the Metropolitan Sewerage System (San Diego, 2014).

The wastewater from the eastern portion of the Otay Mesa Drainage Basin, where the Otay Mesa LPOE is located, is currently collected via sewer pipelines ranging from 6 to 33 inches in diameter and conveyed to a 30-inch-diameter main in Siempre Viva Road, located north of the Otay Mesa LPOE. A 27-inch-diameter City of San Diego sewer main that feeds into this system is located directly north of the Otay Mesa LPOE, along Via De La Amistad (San Diego, 2014).

The primary wholesale water supplier to the southern California metropolitan area is the Metropolitan Water District of Southern California. Within San Diego County, the San Diego County Water Authority (SDCWA) is the regional wholesaler to the various retail water agencies; it imports both potable and untreated water via the Second San Diego County Aqueduct. The Second San Diego Aqueduct starts at the Colorado River Aqueduct in San Jacinto, California and flows into the Lower Otay Reservoir which is located approximately 10 miles northeast of the Otay Mesa LPOE.

The Otay Mesa area receives water from both the City of San Diego and Otay Water District (OWD); both agencies are members of the SDCWA. The City of San Diego Public Utilities Department provides water to the western portion of Otay Mesa. The eastern portion is served by the OWD, which also supplies water to the unincorporated areas of the County and to the City of Chula Vista. The OWD obtains an average of approximately 10 percent of its water supplies from local recycled water but purchases most of its supply from the SDCWA. The LPOE is served by the OWD. A 12-inch potable water pipeline constructed of asbestos cement provides water to the Otay Mesa LPOE. The pipeline is located along Via De La Amistad north of the undeveloped GSA parcel (OWD, 2016).

Current yearly water consumption at the Otay Mesa LPOE is equal to 3,826,020 gallons. Water is consumed at the existing Otay Mesa LPOE for use in bathroom sinks, showers, and toilets, and from kitchen sinks and dishwashers.

3.2.1.2 Natural Gas/Electrical

Electricity and natural gas at the Otay Mesa LPOE is provided by the San Diego Gas and Electric Company (SDG&E), a regulated public utility that is owned by Sempra Energy. SDG&E has a 30-inch-diameter, 800-psi underground gas pipeline along Via De La Amistad. SDG&E underground electrical lines run along Via De La Amistad and along the southern portion of the Otay Mesa LPOE property and the undeveloped GSA parcel (San Diego, 2014).

Current yearly natural gas consumption at the Otay Mesa LPOE is equal to 2,747,912 cf and electricity consumption is 3,475,715 kwh. Natural gas is used at the Otay Mesa LPOE for heating and hot water. Electricity is consumed to power HVAC, lighting, and to power office electronics equipment.

3.2.1.3 Communications

Telephone and cable are provided by private utilities. Utilities in the surrounding area are located above and below ground within easements. Telephone and cable lines are buried along Via De La Amistad.

3.2.1.4 Stormwater Infrastructure

The majority of the stormwater in the Otay Mesa area drains south across the border to Mexico and eventually into the Tijuana River. There are a number of existing stormwater features at the Project area. On the Otay Mesa LPOE property, the storm drain system consists of cement pipe, inlets, catch basins and manholes that collect storm runoff from onsite and directly north of the LPOE. The runoff is then released into a stormwater detention/drainage channel along the south side of the Project area, that separates the site from Mexico. On the undeveloped 10-acre property, there is an existing 60-inch underground storm drain in a north-south direction, between Via de La Amistad and the existing detention/drainage channel. The drainage analysis report prepared for the Project indicates that stormwater runoff from the undeveloped 10-acre property, as well as the adjacent and existing Otay Mesa LPOE, would be retained for storm events less than or equal to the 95th percentile rainfall event, in compliance with requirements of the Energy Independence and Security Act (EISA) of 2007. During a Phase I Environmental Site Assessment (ESA) performed on the undeveloped portion of the property, the site reconnaissance team observed municipal stormwater features on adjoining properties and along Via De La Amistad (GSA, 2010; GSA, 2018b; ASTM, 2005).

3.2.2 Environmental Consequences

This section describes utilities located in the area of analysis that would be impacted under each alternative. For each alternative, the short- and long-term impacts are discussed separately to provide a more detailed analysis.

3.2.2.1 Preferred Alternative (Alternative 1)

New Construction

At this time, the precise locations of proposed utilities for new construction associated with the Preferred Alternative have not been finalized. It is likely that there would be connections to the existing utility lines along Via De La Amistad for the new CAB, bus inspection facility and USDA building. Coordination would occur with each utility company to ensure appropriate design and capacity for the utility connection to the proposed facilities.

Temporary construction-related impacts to utilities would potentially occur during construction of the Preferred Alternative. Major impacts would be avoided by consulting responsible utility providers to protect existing systems or arrange for the temporary or permanent relocation of existing utility lines.

During the construction phase, there would be an increase in demand for electricity and water because of construction-related activities. For example, additional water would be used to control fugitive dust generation and most of the construction activities would use existing electricity utilities, which would increase water and electricity usage at the site, respectively. These impacts would be small and would not impact the utility providers.

The surface of the 10-acre GSA-owned lot is currently dirt and gravel. Under the Preferred Alternative, construction of new buildings and paving of the lot would increase the amount of impervious surface area, with a corresponding increase in post-development runoff volumes and velocities. The impact from the increase in impervious surface would be negligible, because all three buildings would be constructed to achieve Leadership in Energy and Environmental Design (LEED) Platinum or Gold certification. To achieve this certification, offsite stormwater runoff would be avoided by the construction of new retention/infiltration basins. It is unknown at this time if the onsite stormwater features would tie into the existing 60-inch underground storm drain on the lot. Runoff into the existing storm drain would be a very rare event because of the newly constructed retention/infiltration basins. If the connection would occur, a permit would be required from the City of Otay Mesa (GSA, 2018a). Overall, construction activities would result in adverse, moderate, short-term impacts with medium extent and high likelihood.

Because the Preferred Alternative would expand the Otay Mesa LPOE, increases in demand for water, electric services and wastewater management would be expected. However, GSA would try to achieve a minimum of a LEED Gold certification by reducing the demand for such utilities. It is very likely that in order to obtain the LEED certification the new buildings would require onsite renewable energy generation and the use of LED lighting. It is unknown at this time if any of the newly constructed buildings would utilize natural gas. In addition, GSA Public Building Service P100 Facility Standards (P100 Standards) require that all three buildings must each not exceed the energy intensity of 30,978 British Thermal Units per square foot per year (btu/sf-yr). Water use would be minimized because GSA would be required to meet LEED and P100 Standards. To meet P100 Standards, toilets must be dual-flush or low-flow (1.28 gallons per flush [gpf]), urinals must be High Efficiency Urinals (0.5 liters per flush [lpf]), and lavatory faucets must be metered-type with 0.25 gallons per cycle. Water use for irrigation would be minimized by using xeriscaping[3]. As discussed above, stormwater would be captured onsite both to achieve LEED certification and to meet the stormwater requirements in Section 438 of EISA 2007 (GSA, 2017b). Overall, operation of new facilities would result in adverse, minor, long-term impacts to utilities with medium extent and high likelihood.

In addition to the construction of GSA facilities, the USDA plans to construct a new Plant Inspection Station on the GSA-owned parcel. As outlined in the Environmental Assessment (EA) for the USDA Plant Inspection Station, the newly constructed building will seek at minimum a LEED Gold certification. Utility connections will be made along Via De La Amistad and efforts will be made to avoid disruptions and adverse impacts. Mitigation measures identified in the Finding of No Significant Impact (FONSI) for that project include:

“The contractor shall identify existing utilities on construction plans and design the proposed facility to minimize utility disruption, providing plans and specifications for the protection of existing utilities, sizing

[3] Xeriscaping is landscaping that reduces or eliminates the need for additional water from irrigation.

and locating new utilities appropriately to serve program facilities, and providing for passage of emergency vehicles and construction vehicles in construction traffic control plans."

"The contractor shall prepare a stormwater management plan to reduce any discharge of pollutants to the storm-water drainage system that serves the surrounding road and facilities."

"The contractor shall implement low-water landscaping and comply with LEED standards. (GSA, 2018c)"

Because of the mitigation measures outlined in the FONSI, impacts from constructing the USDA building will be negligible.

Existing Facilities

As part of the Preferred Alternative, the existing buildings at the Otay Mesa LPOE would be renovated. As part of this renovation, GSA plans to implement energy conservation measures at the existing buildings. These upgrades would likely include the installation of lower wattage exterior and interior LED lights and heating, ventilation and air conditioning (HVAC) efficiency upgrades. Total reduction in water and energy usage cannot be calculated at this time because Project details have not been finalized. Any impacts to utilities during renovation activities would be negligible.

Overall, the energy and water conservation measures to be implemented would likely lower long-term electricity, natural gas and water consumption at the Otay Mesa LPOE buildings. Because the newly constructed buildings would seek at a minimum a LEED Gold certification and therefore minimize the increased demand on utilities at the LPOE, the Preferred Alternative is anticipated to have negligible impacts upon utilities and may actually reduce the overall usage of utilities at the Otay Mesa LPOE.

3.2.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, construction of the new CAB and bus safety inspection facility would not occur; however, construction of the USDA Plant Inspection Station and renovations to existing facilities at the Otay Mesa LPOE would still occur. The renovations to the existing buildings would be limited to refurbishing activities such as repainting, security upgrades and upgrading HVAC systems to meet current building codes.

Overall, the refurbishing activities at the existing buildings would have none to negligible impacts to LPOE utility consumption in the short or long term. Minor energy savings could be achieved through upgrades of HVAC equipment, but this could not be calculated at this time because Project details have not been finalized. However, since the energy and water conservation measures identified in the Preferred Alternative would not be implemented, utility consumption at the existing LPOE buildings would not be meaningfully reduced.

3.2.2.3 No Action Alternative

Under the No Action Alternative, only the construction of the USDA Plant Inspection Station would occur. No improvements or renovations at the Otay Mesa LPOE would be implemented. The impacts from the construction of the USDA Plant Inspection Station would be the same as under the Preferred and Reduced Build Alternatives.

For the existing LPOE buildings, the energy and water conservation measures identified under the Preferred Alternative and Reduced Build Alternative would not occur. Therefore, under the No Action

Alternative, the long-term utility consumption at the existing Otay Mesa LPOE would be higher than under the Preferred Alternative or Reduced Build Alternative. However, overall, the impacts would still be negligible because utility usage would be similar to current levels.

3.3 HAZARDOUS WASTE AND MATERIALS

Specific environmental statutes and regulations govern hazardous material and hazardous waste management activities at Federal operations and facilities. For this analysis, the terms hazardous waste, hazardous materials and toxic substances include those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Spill Prevention, Control, and Countermeasures (SPCC) Rule. In general, they include substances that, because of their quantity, concentration or physical, chemical or toxic characteristics, may present moderate danger to public health or welfare or the environment when released into the environment. The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other Federal laws applicable to hazardous waste and materials include:

- Community Environmental Response Facilitation Act (CERFA) of 1992;
- Clean Water Act (CWA);
- Clean Air Act (CAA);
- Safe Drinking Water Act (SDWA);
- Occupational Safety and Health Administration (OSHA);
- Atomic Energy Act (AEA);
- Toxic Substances Control Act (TSCA); and
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

In addition to the acts and laws mentioned above, Executive Order (EO) 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when Federal activities or Federal facilities are involved. Hazardous waste in California is regulated primarily under the authority of the Federal RCRA of 1976 and the California Health and Safety Code. Other California laws regarding hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during Project construction.

The Otay Mesa Port of Entry is one of the 10 busiest LPOEs in the U.S. and the busiest commercial port of entry on the California/Mexico border. Passenger vehicles also use the port. High traffic volume along with the number of vehicle inspections performed and the types of commercial truck payloads being transported could result in minor spills or leaks at the LPOE. When hazardous waste is transported to the U.S. from Mexico, the trucks often pass through the Otay Mesa LPOE because it is one of only two LPOEs in California that allow hazardous materials (SDCDEH, 2017). If Customs and Border Protection (CBP) agents deem it necessary and cargo is unloaded from trucks for inspection[4], accidents could happen that would result in a release of hazardous materials. Hazardous waste sampling of drums and other containers could also result in minor spills.

Activities at the LPOE and the 10-acre lot purchased by the GSA have been evaluated based upon two Phase I ESAs. Both ESAs were performed for planned construction at the 10-acre lot. The first ESA was performed in October 2017 by JMT (GSA, 2017a) and the second ESA was performed in December 2017

[4] CBP employs hazardous material specialists to inspect any hazardous material transported through the Otay Mesa LPOE.

by Solv (GSA, 2017b). The Phase I ESAs were used to establish the existing conditions at the Otay Mesa LPOE and to evaluate the consequences of the Preferred Alternative (Alternative 1), the Reduced Build (Alternative 2) and the No Action Alternative on hazardous waste and materials.

3.3.1 Affected Environment

The area of analysis for hazardous waste and materials is 51 acres which includes the Otay Mesa LPOE and the 10-acre lot. The area of analysis is bounded by the U.S./Mexico border (south), Via De La Amistad (north), Interstate 805 and the neighborhoods of Ocean View Hills and San Ysidro (west), and a vacant lot next to a commercial storage area (east). The topography of the area is relatively flat; however, the Otay Mesa LPOE has a slightly higher elevation than the 10-acre lot. Areas to the north and east of the area of analysis primarily consist of properties owned by commercial storage/transport companies. These neighboring properties typically contain a warehouse to store cargo and a paved or gravel parking area for trucks and cargo containers.

Prior to the construction of the Otay Mesa LPOE, the land on which the facility is located was in agricultural use or undeveloped. According to the December 2017 Phase I ESA (GSA, 2017b), the first signs of development at the Otay Mesa LPOE appeared between the years 1970 and 1979. The Otay Mesa LPOE opened in 1983. The 10-acre plot of land is located to the immediate east of the existing LPOE Commercial Import Building and is currently vacant. The 10 acres was historically agricultural land or vacant. GSA acquired the 10 acres (made up of three parcels) in August of 2009.

3.3.1.1 LPOE Operations and Findings

Day-to-day operations at the LPOE include, but are not limited to, activities at the Pedestrian Building, Commercial Import Building, Commercial Export Building, and at the 12-lane privately-owned vehicle (POV) inspection booths. The Pedestrian Building handles foot and bicycle traffic. The Commercial Import and Commercial Export Buildings inspect commercial vehicles traveling between Mexico and the U.S. There are 12 POV inspection booths and a secondary inspection lot where additional vehicle inspections are performed and vehicles can be impounded. The presence and inspection of commercial trucks carrying hazardous waste at the Hazardous Materials Dock offers the greatest potential for hazardous waste and material contamination at the LPOE. For most other sources, such as minor oil and gasoline leaks from POVs, standard Best Management Practices (BMPs) can reduce most exposures. As an example, accident response procedures are in place at the LPOE to contain and remove fluids such as lubricants and fuel. However, due to the longevity of site operations and the potential for small spills associated with routine vehicle inspections, it is still possible for contaminated soil to exist in association with the commercial import building, commercial inspection lot, commercial export building, and/or vehicle inspection booths.

Results of the October 2017 Phase I ESA report and environmental database search (as referenced in the November 2018 *Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California*) (GSA, 2018c) indicated that the Otay Mesa LPOE had several listings in the California Haznet database regarding small spills associated with vehicle inspections or container inspections and drug lab materials. An interview conducted for the December 2017 Phase I ESA (GSA, 2017b) indicated that a small fuel spill occurred in 2017, but it was cleaned up with absorbent and did not require reporting. No other concerns such as aboveground storage tanks (ASTs)/underground storage tanks (USTs), other evidence of environmental contamination, drums, pits/lagoons, solid waste or spills at the Otay Mesa LPOE were indicated by either Phase I ESA. As evidenced by the above results, Otay Mesa LPOE operations may involve occasional spills of hazardous materials but these are properly cleaned up by personnel and reported as required.

In April of 2010, Aurora Industrial Hygiene consultants conducted a building inspection to determine the existence of asbestos and lead paints at the Otay Mesa LPOE. The consultants determined that the Pedestrian Building and POV inspection booths contain both asbestos-containing materials (ACMs) and lead containing paints. The report states that the likelihood of disturbance was low for all ACMs (i.e., it was non-friable) and all but one of the four lead-containing paint samples were below the City of San Diego's Lead Safe Work Practices standard of 1000 parts per million (ppm); the sample was 1,200 ppm[5] (Aurora Industrial Hygiene, 2010).

10-Acre Plot of Land

During the construction of the San Ysidro LPOE from 2011 to 2012, the GSA used the 10 acres as a vehicle staging area and for temporary storage of fill material for 18 months. Soil testing indicated detectable concentrations of organochlorine and organophosphorus pesticides as well as elevated levels of lead and arsenic. However, the soil was not considered a hazardous waste for disposal. The soil was removed from the property and properly disposed. The lot has also been used to test border wall prototypes and has two to three lines of storm water drains that transport runoff from north to south eventually depositing it in a retention area (GSA, 2017b). The December 2017 ESA (GSA, 2017b) indicated no evidence of hazardous waste or materials on the 10 acres during the site reconnaissance. Small piles of asphalt, concrete and rocks, trash and gravel were noted within the 10-acre property but were not considered environmental contamination.

Nearby Facilities of Concern

Results of the October 2017 Phase I ESA report and environmental database search (as referenced in the November 2018 *Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California*) (GSA, 2018c) indicated multiple facilities listed within approximately one mile of the Project area. These records indicated facilities with registered or leaking USTs (LUSTs), small reportable quantities of hazardous waste associated RCRA programs, or historical auto service station presence. None of the reported sites were adjacent or directly upgradient of the 10-acre lot or LPOE and none had open or current investigations ongoing with a Federal, state or county agency at the time of the report. Therefore, these facilities are not considered a concern for the Project area.

Results of the December 2017 Phase I ESA (GSA, 2017b) indicated that the Air Liquide Industries/M.G. Industries facility at 9955 Via de la Amistad had 2 LUSTs removed from the ground. This facility is approximately 225 feet east of the eastern edge of 10-acre plot of land and down-gradient of the LPOE. The LUSTs and all contaminated soils were removed from the facility by the end of 2004 and the case was considered closed by the San Diego County Hazardous Materials Division. Therefore, this facility is not considered a concern for the Project area.

3.3.2 Environmental Consequences

Consequences from ongoing and future activities related to the Otay Mesa LPOE operations are currently well-managed. Consequences from construction practices, ground disturbance, and/or potential contact with hazardous waste and materials during implementation of the Preferred Alternative (Alternative 1) or

[5] California regulations (8 CCR 1532.1) define lead-related construction work as material that may result in significant exposure of individuals to lead. Therefore, the state of California does not distinguish between lead-based paint and paint that contains lead at a lower concentration. Materials determined to contain greater than 5,000 ppm are considered lead-based paint (Aurora Industrial Hygiene, 2010).

the Reduced Build (Alternative 2) would be largely mitigated and reduced by using BMPs. The following BMPs for hazardous waste and materials could be used to mitigate for any issues identified during Project activities:

- To prevent contamination to workers or release of hazardous waste and materials to the environment, field surveys, soil sampling or laboratory testing would be conducted in any questionable areas prior to renovations, construction or demolition. These efforts would evaluate the potential occurrence of contaminants where soil staining or staining on distressed pavement was observed, or where known spills had occurred, followed by proper handling and disposal as necessary. Also, health risk assessments would be conducted for facilities within the LPOE in which contamination has been documented to evaluate whether the levels of contaminants would pose a risk to human health during implementation of the Project.
- Potentially contaminated soil from vehicles or inspection areas could be encountered during excavation, renovation or demolition activities. Soil sampling would be conducted in areas where there is the potential for soil to be disturbed prior to soil export, reuse or disposal to characterize the soil for the presence of hazardous materials (e.g., metals, petroleum hydrocarbons, volatile organic compounds [VOCs], pesticides, etc.). If contaminated soil is present, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements to prevent, minimize and control hazardous materials, if necessary, during construction. Also, a Soil Management Plan (SMP) would be prepared to address the potential for encountering areas of potential environmental concern during associated grading, excavation or other subsurface disturbance. The Project SMP would identify specific measures to address hazardous waste and materials cleanup efforts including monitoring, handling, stockpiling, characterization, on-site reuse, export and disposal protocols for excavated soil.
- The disturbance of polychlorinated biphenyl (PCB)-containing equipment can potentially release hazardous substances to the environment. Where pad-mounted or pole-mounted transformers or utility vaults are present within the construction, renovation or demolition footprint and possibly disturbed or moved, they would be sampled for PCB content. If PCBs are present, appropriate abatement actions for their disposal should be implemented in accordance with regulatory requirements, and soil beneath transformers should be evaluated for evidence of releases. If present in underlying soils, appropriate abatement actions for removal and disposal should be implemented in accordance with applicable regulatory requirements.
- A 2010 report found that ACMs and lead-containing surfaces (LCSs) are present on painted surfaces in the Pedestrian Building and POV inspection booths. All locations containing LCSs would be evaluated before starting construction activities to determine if any abatement measures would be required. For all ACMs, a licensed abatement contractor would be retained to remove and properly dispose of ACMs prior to commencing construction operations.
- To minimize potential exposure or safety concerns to workers, municipal (household) trash, construction debris deposits, soil stockpiles and other waste materials would be removed from all proposed development areas on the 10-acre lot and disposed of in accordance with applicable regulations. In addition, potentially hazardous wastes generated during Project-related construction activities would be disposed of or recycled at appropriate facilities in conformance with associated regulatory requirements.
- Reasonable containment and control of solid waste generated from and hazardous substances used in renovation and construction activities would be employed. All spills or releases of

petroleum oil lubricating products, hazardous materials, pollutants or contaminants would be handled in accordance with measures outlined in a Spill Prevention and Response Plan.

3.3.2.1 Preferred Alternative (Alternative 1)

The Preferred Alternative would involve construction of a new 34,000-sf CAB on the 10-acre lot, a new USDA Plant Inspection Station, and four new commercial lanes and additional commercial inspection and exit booths. Other activities would include improvements, renovations, and demolition within the LPOE including the demolition of the existing Hazardous Materials Dock. Typical construction methods and the following of BMPs would mitigate the potential for most adverse impacts. In addition, a Hazardous Materials Dock demolition plan that includes historical review of hazardous material spills and cleanups at the dock facility would be prepared. Sampling and testing of material to characterize and manage any potential hazardous waste generated by demolition would be conducted.

The increased amounts of hazardous materials such as diesel fuel, gasoline, paint, adhesives and solvents being used onsite during construction could increase spill potential. However, hazardous materials associated with construction would be used in accordance with Federal, state and local regulations. Any spills from construction activities would be immediately contained and disposed of properly. In addition, any Project specific hazards affecting Project workers would be reduced based on strict adherence to OSHA standards and other relevant safety laws, rules and regulations. Therefore, there would be a low likelihood of hazardous material contamination as a result of construction activities. However, hazardous materials (e.g., ACMs, LCSs, and PCBs) would also be removed during construction which could result in worker or environmental contamination. The overall construction impacts under the Preferred Alternative would be short-term, medium, and adverse with a low likelihood and small extent and would end once construction activities are completed. It should be noted that, if workers encounter contaminated soil during construction activities, the soil would be removed in accordance with all applicable laws and regulations.

ACMs and LCSs are present at the Otay Mesa LPOE and would be removed during construction activities. Removal of these materials as a result of implementing the Preferred Alternative would have a high likelihood of long-term, moderate beneficial impacts with medium extent. Once the LPOE returns to normal operations, the risk of contamination due to the release of hazardous material would return to current levels (i.e., a low probability of occurrence) because the CBP would utilize the same inspection and safety procedures that are currently used and have resulted in no documented releases. In addition, because most of the site would remain covered by impermeable surfaces (e.g., concrete and asphalt), any spills that do occur could be easily cleaned up according to all applicable laws and regulations. However, over time, small spills of hazardous materials (e.g., oil, gasoline, or lubricant drips) could seep through cracks in the concrete or asphalt and contaminate the soil beneath. Therefore, the long-term impacts would be minor and adverse with limited extent and low likelihood.

Pad-mounted and pole-mounted transformers and utility vaults are located in various areas within the Project study area. Sampling and proper abatement where activities might be impacted by PCBs would be implemented. Continued use of PCBs as a result of implementing the Preferred Alternative would have a low likelihood of limited, long-term, minor adverse impacts. If PCBs are required to be removed from the LPOE to implement the Preferred Alternative, there would be a high likelihood of medium, long-term, moderate beneficial impacts.

3.3.2.2 Reduced Build (Alternative 2)

As described in Section 2.1.2, many of the construction and demolition activities that would occur under the Preferred Alternative would not occur under the Reduced Build Alternative. Although construction of the new CAB and hazardous materials import docks would not occur, the 10-acre lot would be paved and used to improve traffic flow in and around the commercial inspection lot and existing buildings would be renovated for code/safety reasons to include painting, new lighting and repaving parking areas. Therefore, impacts from the Reduced Build Alternative regarding construction would be less than the Preferred Alternative and there would be a low likelihood of limited, intermittent, negligible adverse impacts as a result of construction. Negative impacts due to ongoing operations would be the same as the Preferred Alternative - low likelihood of limited, long-term, minor adverse impacts. However, because there is less demolition, renovation, and construction under the Reduced Build Alternative, if contaminated soils and building materials are present but not removed there would not be any beneficial impacts.

3.3.2.3 No Action Alternative

The No Action Alternative assumes that no construction or renovations to the existing Otay Mesa LPOE would occur. Minor repairs would occur as needed, and maintenance and operation of the existing facilities would continue. Also, under the No Action Alternative, the existing USDA Plant Inspection Station would be moved to a new standalone building on the 10-acre, GSA-owned lot. No direct or indirect impacts regarding construction would be expected under the No Action Alternative. Because no new property would be acquired and no changes to current land use or zoning are anticipated, no impacts differing from baseline conditions would occur. Ongoing impacts would be similar to those resulting from current operations, consistent with the existing hazardous material use and disposal practices.

3.4 TRANSPORTATION AND TRAFFIC

This section discusses the affected environment and environmental consequences that would result under each alternative for transportation and traffic resources.

3.4.1 Affected Environment

This section describes the affected environment for transportation and traffic. For purposes of analysis, it is assumed that the area of analysis or the affected environment for transportation and circulation is the Otay Mesa LPOE and the United States roadways within one mile of the Otay Mesa LPOE. A radius of one mile was chosen because all highly trafficked areas that are likely to be impacted by Project activities are located within one mile of the Project site. The following sections detail the existing transportation infrastructure and related resources within the affected environment, including roads, transit facilities, and parking amenities.

3.4.1.1 Regulatory Setting

Federal

No Federal plans, policies, regulations, or laws related to transportation and circulation are applicable to any of the alternatives analyzed in this EIS. Transportation within the affected environment is regulated by state and local authorities.

State

The California State Transportation Agency (CalSTA) is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways which include interstate highways, US highways, and state highways. The road transportation network in the affected environment includes state highways.

Local

Localities within the affected environment include the cities of Otay Mesa, Chula Vista, and San Diego and the county of San Diego. These localities are responsible for planning, designing, constructing, operating, and maintaining locally-owned roadways within the affected environment.

3.4.1.2 Existing Conditions

This section describes the Otay Mesa LPOE, examines key roads, and identifies other transportation-related infrastructure that could be affected by each alternative.

Otay Mesa LPOE

As discussed in Section 1.1, the Otay Mesa LPOE is the only commercial port of entry in the San Diego area and currently processes an average of approximately 16,000 POVs, 2,000 commercial trucks, 100 buses, and 3,500 pedestrians per day (GSA, 2013). Over time, the number of commercial vehicles crossing through the Otay Mesa LPOE has increased and is now exceeding the designed capacity of the LPOE. Currently, the average wait time for commercial truck crossings is between 1.5 and two hours, with 10 percent waiting as long as four hours (Caltrans/SANDAG, 2017a).

Roads

Major roads in the affected environment are summarized in Table 3.4-1. Roads are classified as freeways, multilane highways, arterials, or collectors based on the following characteristics:

- Freeways are divided highways with two or more lanes in each direction and full control of access and egress. Freeways have no intersections; access and egress are provided by ramps at interchanges.
- Multilane highways usually have four or six lanes, often with physical medians or two-way left-turn lane medians, although they may also be undivided (have no median). Unlike freeways, multilane highways are interrupted by intersections or driveways.
- Arterials are multilane roads, divided or undivided, with some parking, a signalized intersection density of four to eight per mile, and moderate roadside development.
- Collectors are roadways designed to move traffic from local streets to arterial roads and provide access to residential areas.

Qualitative and quantitative data regarding the conditions of the local roadways were used to evaluate the impacts of transporting materials and supplies to and from the Otay Mesa LPOE. Average daily traffic levels (ADT) and level of service (LOS) are examined as measures of roadway demand.

LOS is a qualitative measurement of operational conditions related to traffic based on factors such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The Highway Capacity Manual, published by the Transportation Research Board (TRB), defines six categories of LOS that reflect the amount of traffic congestion (TRB, 2010). The six categories are given letter designations "A" to "F", with "A" representing the best operating conditions, and "F" representing the worst conditions. The Highway Capacity Manual describes specific procedures to determine the LOS based on type of facility, number of lanes and ADT levels. Table 3.4-1 further describes traffic operating conditions for the LOS categories.

Table 3.4-1. Level of Service Descriptions

LOS	Operating Conditions	Delay
A	Highest quality of service; free traffic flow, low volumes and densities; little or no restriction on maneuverability or speed.	None
B	Stable traffic flow; speed becoming slightly restricted; low restriction on maneuverability.	None
C	Stable traffic flow, but less freedom to select speed, change lanes, or pass; density increasing.	Minimal
D	Approaching unstable flow; speeds tolerable but subject to sudden and considerable variation; less maneuverability and driver comfort.	Minimal
E	Unstable traffic flow with rapidly fluctuating speeds and flow rates; short headways, low maneuverability, and lower driver comfort.	Significant
F	Forced traffic flow; speed and flow may drop to zero with high densities.	Considerable

Source: TRB, 2010.

The primary roadways in the affected environment include (San Diego County 2018):

- State Route (SR) – 905 – A six-lane freeway that provides an east-west connection from Interstate 805 to the Otay Mesa LPOE. The roadway was opened in July 2012 and has a posted speed limit of 55 miles per hour;
- Otay Mesa Road – An east-west roadway that varies between five and six lanes and arterial and collector classifications (see Table 3-2). The roadway contains intermittent bicycle lanes and parking; however, both are prohibited east of SR-125;
- Airway Road – A four-lane, east-west arterial roadway that parallels Otay Mesa Road to the south. Bike lanes and curbside parking are not available;
- Siempre Viva Road – A six-lane, east-west arterial roadway that parallels Airway Road to the south and intersects SR-905. Curbside parking is generally prohibited and bike lanes are provided east of La Media Road;
- Britannia Boulevard – A six-lane, north-south arterial roadway that intersects Airway Road and Otay Mesa Road west of La Media Road. Bike lanes and curbside parking are not available;
- La Media Road – A five-lane, north-south arterial roadway that intersects Airway Road and Otay Mesa Road east of Britannia Boulevard. Bike lanes and curbside parking are not available;
- Sanyo Avenue – A four-lane, north-south collector roadway that intersects Airway Road and Otay Mesa Road east of SR-905. Bike lanes and curbside parking are not available;
- Enrico Fermi Drive – A north-south roadway that varies between four and two lanes and arterial and collector classifications. The roadway intersects Otay Mesa Road, Airway Road, and Siempre Viva Road, east of Sanyo Avenue. Bike lanes are available; however, there is no curbside parking.

The current LOS operating conditions for the roadways discussed above are presented in Table 3.4-2. Note that only freeways, arterials, and collectors are present in the affected environment.

Table 3.4-2. Existing Conditions for Major Roads in the Affected Environment

Roadway	Segment	Classification	ADT (Vehicles/day)	Capacity	LOS
Freeways					
SR-905	Heritage Rd to Britannia Blvd	Six-lane	72,100	288,000	B
SR-905	Britannia Blvd to La Media Rd	Seven-lane	58,800	316,000	B
SR-905	La Media Rd to Siempre Viva Rd	Six-lane	60,600	288,000	B
Arterials					
Otay Mesa Rd	West of Heritage Rd	Six-lane	9,670	60,000	A
Otay Mesa Rd	Heritage Rd to Cactus Rd	Six-lane	8,260	60,000	A
Otay Mesa Rd	Cactus Rd to Britannia Blvd	Six-lane	8,710	60,000	A
Otay Mesa Rd	Britannia Blvd to La Media Rd	Six-lane	8,600	60,000	A
Otay Mesa Rd	La Media Rd to Piper Ranch Rd	Five-lane	15,560	45,000	A

Roadway	Segment	Classification	ADT (Vehicles/day)	Capacity	LOS
Otay Mesa Rd	Piper Ranch Rd to SR-125 ramps	Six-lane	13,110	57,000	A
Otay Mesa Rd	SR-125 ramps to Harvest Rd	Five-lane	10,510	47,000	A
Otay Mesa Rd	Harvest Rd to Sanyo Ave	Four-lane	10,410	37,000	A
Britannia Blvd	Otay Mesa Rd to SR-905 ramps	Six-lane	10,800	60,000	A
Enrico Fermi Dr	Airway Rd to Siempre Viva Rd	Four-lane	3,200	37,000	A
Airway Road	Sanyo Ave to Paseo del las Americas	Four-lane	2,810	40,000	A
La Media Rd	Otay Mesa Rd to SR-905 ramps	Five-lane	15,700	45,000	A
Siempre Viva Rd	SR-905 ramps to Paseo de las Americas	Six-lane	18,800	60,000	A
Siempre Viva Rd	Paseo de las Americas to Enrico Fermi Dr	Six-lane	11,400	60,000	A
Collectors					
Otay Mesa Rd	Sanyo Ave to Vann Centre Blvd	Local	10,410	16,200	D
Otay Mesa Rd	Vann Centre Blvd to Enrico Fermi Dr	Local	10,090	16,200	D
Sanyo Ave	Otay Mesa Rd to Airway Rd	Four-lane	5,600	30,000	A
Enrico Fermi Dr	Otay Mesa Rd to Airway Rd	Two-lane	4,180	9,700	A

Source: San Diego County, 2018. Note: ADT = average daily traffic; Ave = Avenue; Blvd = Boulevard; Dr = drive; LOS = level of service; Rd = Road; SR = State Route.

Transit Facilities

Transit services and facilities are provided in the vicinity of the Otay Mesa LPOE. The San Diego Metropolitan Transit System (SDMTS) operates a bus route that travels from the Otay Mesa LPOE to the Iris Avenue Transit Center located on SR-905. The bus route has multiple stops in and around Otay Mesa and utilizes Airway Road, Sanyo Avenue, Otay Mesa Road, and SR-905. A one-way trip between the Otay Mesa LPOE and the Iris Avenue Transit Center typically takes approximately 40 minutes (SDMTS, 2018).

Parking

Public parking is provided in the Project vicinity along select portions of local roadways. While there is limited on-street parking in the immediate vicinity of the Otay Mesa LPOE, there are several pay parking lots surrounding the LPOE that are available for public use.

3.4.2 Environmental Consequences

This section discusses the construction-related (short-term) and operation-related (long-term) effects on traffic and transportation that would result under each alternative. The discussion also includes a description of the methods and assumptions used to conduct the analysis and the criteria used to assess the potential impacts. This analysis assumes that the post-construction operation of the Otay Mesa LPOE, under any of the alternatives, would not induce any new vehicle trips because operation activities under the alternatives would be unchanged compared to existing conditions.

3.4.2.1 Traffic Analysis

The transportation impact analysis includes the potential effects on transportation and traffic resources in the Project area from the construction and operation of the Project. The analysis is based on the review of existing traffic in the Project area and Project access requirements during construction and operation. Construction activities represent the principal means by which a temporary impact on nearby roadways could occur. Impacts to roadways are determined relative to the affected environment described in Section 3.4.1.

When determining magnitude of the impact, both the context of the Project and the intensity of the impact are considered. The context considers the impact of the Project on traffic and transportation in and around the Project area. The intensity of a transportation impact would primarily consider any unique characteristics of the area (e.g., high use traffic areas), and the degree to which the Project may adversely affect such unique characteristics.

The following sections describe the potential impacts to roadways in and around the Otay Mesa LPOE under each alternative.

3.4.2.2 Preferred Alternative (Alternative 1)

Under the Preferred Alternative, the Otay Mesa LPOE would remain open and would operate at its current capacity for the entire duration of construction and demolition activities. However, construction and demolition activities would require additional truck trips to transport waste materials off site for disposal and to deliver construction materials to the site. For purposes of analysis, it was conservatively estimated that approximately 50 truck trips (i.e., 25 round trips) per day would be required. These truck trips would include shipments of waste off site and shipments of construction materials to the site. In addition to shipments of waste and construction materials, it was estimated that approximately 100 construction workers would be commuting to and from the site each day (i.e., 200 trips per day). Therefore, for purposes of analysis, it was assumed that, during construction and demolition activities, there would be 250 additional vehicles on all roadways around the Otay Mesa LPOE each day. Table 3.4-3 shows the percent increase in ADT and the LOS for each roadway segment that would be impacted by the Preferred Alternative.

As shown in Table 3.4-3, while the LOS ratings of the roadways would not change, the added vehicle traffic, in particular truck traffic, could cause an increase in vehicle platooning (i.e., vehicles traveling in groups behind slower moving vehicles), which would be more likely on collector roadways where there are fewer opportunities to safely pass. Therefore, motorists could experience a reduction in travel speed and an increase in the percentage of time spent following slower vehicles while construction trucks would be travelling to and from the Otay Mesa LPOE. The increase in the percentage of time spent following slower vehicles would result in a desire to make more passing maneuvers. When unable to pass, motorists could experience an increased level of frustration and perceive a decline in LOS compared to actual conditions.

In addition to a possible increase in the percentage of time spent following slower vehicles, the average traffic speed on the roadways could be reduced due to the increased daily number of trucks, which would be expected to be slow-moving when shipping materials and supplies to and from the Otay Mesa LPOE.

As described in Section 2.1.1, the increased traffic under this alternative would last for approximately three to four years and would return to historical levels (shown in Table 3.4-2) when the Project is completed. This increased traffic could be reduced by distributing truck and worker traffic among multiple routes between the Otay Mesa LPOE and major highways. Overall, construction and demolition activities that would occur under the Preferred Alternative are expected to have short-term minor adverse impacts with medium extent and high likelihood. The transit facilities and communal parking located near the Otay Mesa LPOE would not be impacted under the Preferred Alternative.

Table 3.4-3. Summary of Traffic Impacts under the Preferred Alternative

Roadway	Segment	Existing ADT (Vehicles/day)	Total ADT – Project (Vehicles/day)	Increase in ADT (%)	LOS - Current	LOS - Project
Freeways						
SR-905	Heritage Rd to Britannia Blvd	72,100	72,350	0.347	B	B
SR-905	Britannia Blvd to La Media Rd	58,800	59,050	0.425	B	B
SR-905	La Media Rd to Siempre Viva Rd	60,600	60,850	0.413	B	B
Arterials						
Otay Mesa Rd	West of Heritage Rd	9,670	9,920	2.59	A	A
Otay Mesa Rd	Heritage Rd to Cactus Rd	8,260	8,510	3.03	A	A
Otay Mesa Rd	Cactus Rd to Britannia Blvd	8,710	8,960	2.87	A	A
Otay Mesa Rd	Britannia Blvd to La Media Rd	8,600	8,850	2.91	A	A
Otay Mesa Rd	La Media Rd to Piper Ranch Rd	15,560	15,810	1.61	A	A
Otay Mesa Rd	Piper Ranch Rd to SR-125 ramps	13,110	13,360	1.91	A	A
Otay Mesa Rd	SR-125 ramps to Harvest Rd	10,510	10,760	2.38	A	A
Otay Mesa Rd	Harvest Rd to Sanyo Ave	10,410	10,660	2.40	A	A
Britannia Blvd	Otay Mesa Rd to SR-905 ramps	10,800	11,050	2.31	A	A

Roadway	Segment	Existing ADT (Vehicles/day)	Total ADT – Project (Vehicles/day)	Increase in ADT (%)	LOS - Current	LOS - Project
Enrico Fermi Dr	Airway Rd to Siempre Viva Rd	3,200	3,450	7.81	A	A
Airway Road	Sanyo Ave to Paseo del las Americas	2,810	3,060	8.90	A	A
La Media Rd	Otay Mesa Rd to SR-905 ramps	15,700	15,950	1.59	A	A
Siempre Viva Rd	SR-905 ramps to Paseo de las Americas	18,800	19,050	1.33	A	A
Siempre Viva Rd	Paseo de las Americas to Enrico Fermi Dr	11,400	11,650	2.19	A	A
Collectors						
Otay Mesa Rd	Sanyo Ave to Vann Centre Blvd	10,410	10,660	2.40	D	D
Otay Mesa Rd	Vann Centre Blvd to Enrico Fermi Dr	10,090	10,340	2.48	D	D
Sanyo Ave	Otay Mesa Rd to Airway Rd	5,600	5,850	4.46	A	A
Enrico Fermi Dr	Otay Mesa Rd to Airway Rd	4,180	4,430	5.98	A	A

Source: San Diego County, 2018.

Note: ADT = average daily traffic; Ave = Avenue; Blvd = Boulevard; Dr = drive; LOS = level of service; Rd = Road; SR = State Route.

Once construction and demolition activities are completed, it is anticipated that the commercial vehicle queue time at the LPOE would be reduced by approximately 50 percent and commercial vehicles would be able to pass through the Otay Mesa LPOE at a faster rate. Overall, operation of the Otay Mesa LPOE is expected to have a long-term beneficial major impact to traffic and transportation with medium extent and high likelihood.

It should be noted that, even though the Preferred Alternative would likely not result in an increase in commercial traffic passing through the Otay Mesa LPOE, as San Diego County continues to be developed, the number of vehicles on roadways will likely increase. Over time, the ADT experienced on nearby roadways will likely increase and the LOS ratings for some of these roadways could decrease if capacities are not expanded.

Mitigation

Any adverse short-term impacts that would occur during construction and demolition activities would be minimized by implementing mitigation measures. For example, trucks travelling to and from the Project

site would be scheduled to avoid times of heavy traffic (i.e., rush hour) and staging areas for trucks and construction equipment would be strategically located to minimize traffic impacts (e.g., utilizing the 10-acre lot to avoid using roadways).

Planning, development, and implementation of the routes and roadways used for the Project would be coordinated through California Department of Transportation planners and engineers as well as San Diego County authorities to minimize the magnitude of impacts to local residents.

3.4.2.3 Reduced Build Alternative (Alternative 2)

As described in Section 2.1.2, many of the construction and demolition activities that would occur under the Preferred Alternative would not occur under the Reduced Build Alternative. As a result, the number of additional vehicle trips associated with Alternative 2 would be less than the additional vehicle trips experienced under the Preferred Alternative (see Section 3.4.2.2). Therefore, the LOS ratings of nearby roadways are not expected to change as a result of Project activities. Overall, shipments of construction materials and waste to and from the construction site and construction worker commutes would cause short-term minor adverse impacts with medium extent and high likelihood. However, due to the reduced amount of construction and demolition required under this alternative, the impacts to local roadways would be lower than the impacts under the Preferred Alternative. These impacts would occur during the estimated three to four years of construction and would end upon completion.

Under the Reduced Build Alternative, improvements to the commercial inspection area (i.e., a reconfiguration of the commercial lanes) would reduce the wait times of commercial trucks. However, the reduction would be less than under the Preferred Alternative. Therefore, the overall impacts of operating the Otay Mesa LPOE under the Reduced Build Alternative would be beneficial and moderate with medium extent and high likelihood.

Mitigation

Similar to the Preferred Alternative, while there would be adverse short-term effects during renovation activities, by implementing recommended transportation mitigation measures (i.e., routing and scheduling construction vehicles to avoid conflicts with other traffic, and strategically locating staging areas to minimize traffic impacts), these impacts could be minimized.

Planning, development, and implementation of the roadways used for the Project would be coordinated through California Department of Transportation planners and engineers as well as San Diego County authorities to minimize the magnitude of impacts to local residents.

3.4.2.4 No Action Alternative

Under the No Action Alternative, the Otay Mesa LPOE improvements described in Section 2.1 would not occur, but the new USDA building would still be constructed. Because of the limited size of the new USDA building (discussed in Section 2.1.1), the increase in traffic from construction would likely not be perceptible to individuals utilizing the local roadways. Therefore, this action would result in short-term adverse negligible impacts to transportation and traffic with a small extent and high likelihood. Once construction is completed, traffic would return to its historical levels and there would be no long-term impacts associated with the new USDA building. In addition, the long-term beneficial impacts described under the Preferred and Reduced Build Alternatives would not occur under the No Action Alternative.

Due to overall expected population growth (and the corresponding increase in vehicles on roadways) in the region, there may be a slight decrease in LOS ratings over time. Overall, the impacts to transportation and traffic under the No Action Alternative would be long-term, minor, and adverse with a medium extent and high likelihood.

3.5 NOISE

This section presents an overview of noise and how it is measured and the existing acoustic environment in and around the area of analysis that would be affected by the alternatives evaluated in this EIS.

3.5.1 Affected Environment

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable to the receptor because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Noise is considered a disturbance while sound is defined as an auditory effect. Human and wildlife responses to noise vary according to the type of sound, characteristics of the sound source, distance between the source and receptor, receptor sensitivity and time of day. Noise is often generated by activities essential to a community's economy and quality of life, such as construction and vehicular traffic. An organism's response to a sound source determines whether the sound is judged as pleasing or annoying. Noise can also be detrimental if it disturbs an organism's normal behavior (EPA, 1981).

3.5.1.1 Noise Metrics and Regulations

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz (Hz) are used to quantify sound frequency. The A-weighted decibel (dBA) is used to characterize sound levels that can be sensed by the human ear. "A-weighted" denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 135 dBA (EPA, 1981). Table 3.5-1 presents sounds encountered in daily life, their dBA levels, and how they affect hearing. For example, a whisper is usually 30 dBA and is considered to be very quiet, an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA, and the sound of a refrigerator at 55 dBA is considered at the level of ambient sound levels. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud (EPA, 1981).

Table 3.5-1. Sound Levels and Human Response

Outdoor	Sound Level (dBA)	Indoor	Effect
Rustling leaves	30	Soft whisper (15 feet)	Very quiet
Quiet residential area	40	Library	Quiet
Rainfall or light auto traffic (100 feet)	55	Refrigerator	Ambient
Normal Conversation	60	Air conditioning unit (20 feet)	Intrusive
Freeway traffic	70	Noisy restaurant or TV audio	Telephone use difficult
Downtown (large city)	80	Alarm clock (2 feet) or ringing telephone	Annoying
Tractor, bulldozer, excavator	90	Garbage disposal	Very annoying; hearing damage (8 hours)

Outdoor	Sound Level (dBA)	Indoor	Effect
Garbage truck, motorcycle	100	Subway train	Very annoying
Pile drivers	110	Power saw at 3 feet	Strained vocal effort
Jet takeoff (200 feet) or auto horn (3 feet)	120	Rock concert	Maximum vocal effort
Carrier deck jet operation	140	--	Painfully loud

Source: EPA, 1981.

The dBA noise metric describes steady noise levels, although very few noises are in fact constant. Therefore, Day-night Sound Level (DNL) has been developed. DNL is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). It is a useful descriptor for noise because: 1) it averages ongoing yet intermittent noise; and 2) it measures total sound energy over a 24-hour period. In addition, Equivalent Sound Level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in dB.

Under the Noise Control Act of 1972, OSHA established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA; exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that reduces sound levels to acceptable limits (OSHA, 2018).

The Noise Control Act of 1972 (PL 92-574) directs Federal agencies to comply with applicable Federal, state, interstate, and local noise control regulations. In 1974, the EPA provided information suggesting that continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals. However, in 1982, the EPA transferred the primary responsibility of regulating noise to state and local governments.

3.5.1.2 Existing Noise

The Project site is located within an existing industrial area along the U.S./Mexico international border. The area of analysis for this resource includes the LPOE, the 10-acre GSA-owned site adjacent to the LPOE, and areas in the U.S. within a half-mile radius of the LPOE. Primary sources of noise in Otay Mesa include aircraft noise from the nearby Brown Field Municipal Airport, commercial and industrial activity and motor vehicle traffic noise (San Diego, 2014), including truck traffic related to the Otay Mesa LPOE. The Otay Mesa LPOE is located in the Otay Mesa community South Planning District (San Diego, 2014). The western portion of the South Planning District is designated for "heavy industrial uses, such as automobile recycling, truck depots that rely on outdoor storage and other uses which can tolerate the truck traffic and noise generated in this area" (San Diego, 2014). There are no sensitive receptors (e.g., daycares, hospitals, schools) in the immediate vicinity of the Project area.

Section 59.5.0101 et seq. of the City of San Diego's Municipal Code, the Noise Abatement and Control Ordinance, regulates the making and creating of disturbing, excessive, or offensive noises within the City limits (City of San Diego, 2010). The Noise Element of the General Plan provides the allowable noise levels by land use (City of San Diego, 2008). Community Noise Equivalent Level (CNEL) is the predominant noise

rating scale used in California for land use compatibility. The CNEL rating represents the average of equivalent noise levels at a location for a 24-hour period, based on an A-weighted decibel with upward adjustments added to account for increased noise sensitivity in the evening and night periods in order to account for the lower tolerance of individuals to noise during those periods. Land use noise compatibility guidelines for industrial areas is considered compatible from 55 to 65 Community Noise Equivalent Level (CNEL), conditionally compatible from 65 to 75 CNEL and incompatible above 75 CNEL. Sources of noise in industrial and manufacturing areas include heavy machinery and truck loading/unloading. Noises from these types of activities would be considered normal environmental noises that would be expected to occur within these types of land uses and are not typically considered significant sources of noise. The City's Municipal Code regulates excessive noises resulting from these types of activities (GSA, 2018c).

3.5.2 Environmental Consequences

This section discusses the noise impacts that would occur under each alternative. A significant impact to noise would occur if Project activities would create substantial areas of incompatible land use with respect to noise, or contribute to a violation of any Federal, state or local noise regulation.

3.5.2.1 Preferred Alternative (Alternative 1)

Implementation of the Preferred Alternative would have both short- and long-term adverse effects on the acoustic environment. Short-term increases in noise would result from the temporary use of heavy equipment during construction. Long-term noise impacts would likely result from the increased capacity of vehicles that would be processed by the upgraded LPOE. To ensure Project construction activities would not violate any Federal, state or local noise ordinance, BMPs, as discussed below, would be implemented to reduce potential noise impacts.

Noise during demolition of existing structures and construction of new facilities would primarily be caused by the use of cranes, concrete trucks, diesel generators, and heavy construction vehicles during construction activities. During demolition and construction activities, heavy equipment would be operated, and higher than ambient noise levels would be expected temporarily. Demolition and construction activities are proposed to occur Monday-Friday, during normal working hours (e.g., 7 a.m. – 5 p.m.). As shown in Table 3.5-2, individual construction activities typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction. The zone of relatively high construction noise levels typically extends to distances of 400 to 800 feet from the site of major equipment operations. Locations more than 800 feet from construction sites seldom experience appreciable levels of construction noise (EPA, 1974). During a normal daytime shift, the estimated maximum sound level at the Project site boundary would be well below the standard daytime maximum noise level limit of 60 dBA for industrial sources.

Table 3.5-2. Noise Levels Associated with Heavy Equipment

Equipment	dBA L_{eq} at 50 feet from Source
Bulldozer	80
Grader	90-93
Truck	83–94
Roller	73–75
Backhoe	72–93
Jackhammer	81–98
Concrete mixer	74–88
Welding generator	71–82
Paver	86–88

dBA = A-weighted decibel; Leq = equivalent sound level

Source: EPA, 1971.

The following BMPs would be implemented to reduce noise impacts and to insure compliance with the City of San Diego's noise ordinance:

- Construction would primarily occur during normal weekday business hours, and
- All construction equipment would comply with applicable Federal noise regulations and would include noise control devices such as mufflers in proper working condition, as originally provided with the equipment by its manufacturer.

The average sound level for construction would be no greater than 75 decibels from 7am to 7pm, as required by the City of San Diego Noise Abatement and Control Ordinance. If construction is required between the hours of 7 p.m. and 7 a.m., a permit would be obtained from the Noise Abatement Control Administrator.

Construction noise would dominate the soundscape for all on-site personnel. Excavation and demolition activities would be expected to generate the highest noise levels from the use of multiple trucks, jackhammers, backhoes and other equipment. Few of the noise levels expected (see Table 3.5-2) would exceed the thresholds for "very annoying" (i.e., potential damage threshold for noises listed in Table 3.5-1). Construction personnel, and particularly equipment operators, would wear adequate personal hearing protection to limit exposure and ensure compliance with Federal health and safety regulations.

The USDA Plant Inspection Station would be constructed under the Preferred Alternative. Potential noise impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Vehicular traffic would increase during operation of the upgraded LPOE due to an increase in the LPOE's capacity that would decrease wait times for vehicles crossing the border. Although initially there would likely not be in an overall increase in traffic passing through the LPOE, there would be more vehicles passing through per hour as processing time would decrease. This increase in vehicles passing through would likely generate more noise than current levels with many vehicles idling while waiting to be

processed. Over the long term, as San Diego County continues to be developed, the number of vehicles on roadways would likely increase; thus, overall traffic passing through the LPOE is also expected to increase, along with the increased noise that would come with increased traffic.

The offsite noise levels from activities at the LPOE would be minimal, short term during construction and long term during operation because of the industrial nature of the surrounding area. Although there are no sensitive receptors in the immediate vicinity of the Project site, two hotels are located within a half-mile area of the area of analysis; however, the noise impacts to these locations would be minimal due to their distance.

Overall, short- and long-term, minor, medium (localized) extent adverse impacts would be expected with a high likelihood of occurrence under the Preferred Alternative. Short-term effects would be mainly from heavy equipment noise during construction, while long-term effects would be due to increased noise from the increased vehicle capacity passing through the upgraded LPOE. The Preferred Alternative would not create noise that would be incompatible with surrounding land uses or contribute to a violation of any Federal, state or local noise regulation; therefore, impacts would not be significant.

3.5.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, no new construction would occur on the 10-acre GSA-owned land that would take place under the Preferred Alternative; instead, the 10-acre lot would be paved and two commercial exit booths would be relocated onto the newly paved area. Although there would be a different combination of heavy equipment used for construction activities, with differing levels and duration of noise, impacts would be similar to those described under the Preferred Alternative. Since many of the facilities proposed for construction under the Preferred Alternative would not be built, and since paving the 10-acre lot would likely take less time than the construction of facilities, the noise levels and duration under the Reduced Build Alternative would likely be lower than under the Preferred Alternative during construction. Likewise, as the capacity to process vehicles under the Reduced Build Alternative would not be as high as under the Preferred Alternative, noise levels during operation of the LPOE would most likely be lower, but not appreciably.

The USDA Plant Inspection Station would be constructed under the Reduced Build Alternative as under the Preferred Alternative. Potential noise impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Overall, short- and long-term, negligible to minor, medium (localized) extent adverse impacts would be expected with a high likelihood of occurrence under the Reduced Build Alternative. Short-term effects would be mainly from heavy equipment noise during construction, while long-term effects would be due to increased noise from increased vehicle capacity passing through the upgraded LPOE. The Reduced Build Alternative would not create noise that would be incompatible with surrounding land uses or contribute to a violation of any Federal, state or local noise regulation; therefore, impacts would not be significant.

3.5.2.3 No Action Alternative

Under the No Action Alternative, noise levels would remain similar to current conditions at the LPOE since construction and demolition proposed under the Preferred Alternative and the Reduced Build Alternative would not be conducted. The USDA Plant Inspection Station would be constructed as under

the other alternatives. Potential noise impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference. Overall, noise impacts under the No Action Alternative would not be significant.

3.6 SOCIOECONOMICS

The analysis of socioeconomic resources identifies those aspects of the social and economic environment that are sensitive to changes and that may be affected by actions associated with modernization and expansion activities at the Otay Mesa LPOE. While social impacts are discussed in this section, a discussion of those impacts that could disproportionately affect minority and low income and youth populations are discussed in Section 3.7 (Environmental Justice and Protection of Children). A detailed discussion of traffic and roads is included in Section 3.4 (Transportation and Traffic).

The data supporting this analysis were collected from standard sources, including Federal agencies such as the U.S. Census Bureau (USCB), Bureau of Labor Statistics (BLS), and Bureau of Economic Analysis (BEA); state agencies such as the California Department of Finance; and local agencies such as the City of San Diego's Planning, Neighborhoods and Economic Development Department. Demographic data are presented for San Diego County and compared to the State of California overall; and described for Otay Mesa as appropriate. Economic data presented in this section focus on San Diego County. The most recent and best available data are presented throughout the section.

3.6.1 Affected Environment

Social impacts would be felt most by individuals, residents, and workers in San Diego County; especially residents in areas adjacent to the Otay Mesa LPOE. Businesses, housing, community services, and economic systems in San Diego County could change in response to the implementation of the Preferred Alternative and the Reduced Build Alternative. Since potential impacts with the greatest intensity would likely occur in San Diego County, it is defined as the Region of Influence (ROI) or the area analyzed for direct socioeconomic impacts.

3.6.1.1 Population and Housing

Population

Table 3.6-1 shows past and current population data and future population estimates for San Diego County and California overall. All historical and current population estimates are from the USCB and population projections are from the Demographic Research Unit, California Department of Finance.

The populations of San Diego County and California all increased from 2000-2016. Both San Diego County and California increased at a similar average annual growth rate, with San Diego County increasing at about 15.5 percent per year and California increasing at about 14 percent per year (USCB, 2000; USCB, 2010; USCB, 2016a). From 2020 to 2040, the population in San Diego County is expected to grow at an average rate of 10 percent per year, while the state is expected to grow at a higher average annual growth rate, or about 15 percent per year (CADOF, 2018).

Table 3.6-1. Population Growth

Location	Historical and Current Population				Projected Population			
	2000	2010	2016	Average Annual Growth Rate (2000-2016)	2020	2030	2040	Average Annual Growth Rate (2020-2040)
San Diego County	2,813,833	3,095,313	3,253,356	15.6%	3,631,155	3,822,756	3,989,654	9.9%
California	33,871,648	37,253,956	38,654,206	14.1%	40,639,392	43,939,250	46,804,202	15.2%

Sources: USCB, 2000; USCB, 2010; USCB, 2016a; CADOF, 2018.

Housing

A housing unit refers to a house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Both occupied and vacant housing units are included in the total housing unit inventory. A housing unit is classified as occupied if it is the usual place of residence of a person or group of people; conversely, a housing unit is classified as vacant if it is not the usual place of residence of a person or group of people. The rental vacancy rate is the proportion of the rental inventory which is vacant for rent[6] (USCB, 2018).

Table 3.6-2 shows the total housing units, occupied housing units, and rental vacancy rates in San Diego County and California. In San Diego County, there are a total of 1,187,644 housing units, of which 92.8 percent are occupied. The vacancy rates in San Diego County and the state of California are both approximately 3.8 percent (USCB, 2016b).

Table 3.6-2. Housing Characteristics

Location	Total Housing Units	Occupied Housing Units	Rental Vacancy Rate (%)
San Diego County	1,187,644	1,103,128	3.8
California	13,911,737	12,807,387	3.8

Source: USCB, 2016b.

3.6.1.2 Labor

Direct, indirect and induced jobs could be created if the Preferred or Reduced Build Alternative is selected. Therefore, labor force and employment statistics are presented for San Diego County.

Labor Force

The size of a county's civilian labor force is measured as the sum of those currently employed and unemployed. People are classified as unemployed if they do not have a job, have actively looked for work in the prior four weeks, and are currently available for work (BLS, 2015). As shown in Table 3.6-3, from 2000 to 2016 San Diego County's labor force grew at about the same rate as the state overall. San Diego County added about 190,000 people to its labor force during this period, and the State of California added

[6] The rental vacancy rate is computed by dividing the number of vacant units for rent by the sum of the number of renter-occupied units, the number of vacant units for rent, and the number of rented not yet occupied units, and then multiplying by 100 (USCB, 2018).

more than 2.2 million to its labor force during this same period (BLS, 2000; BLS, 2005; BLS, 2010; BLS, 2016).

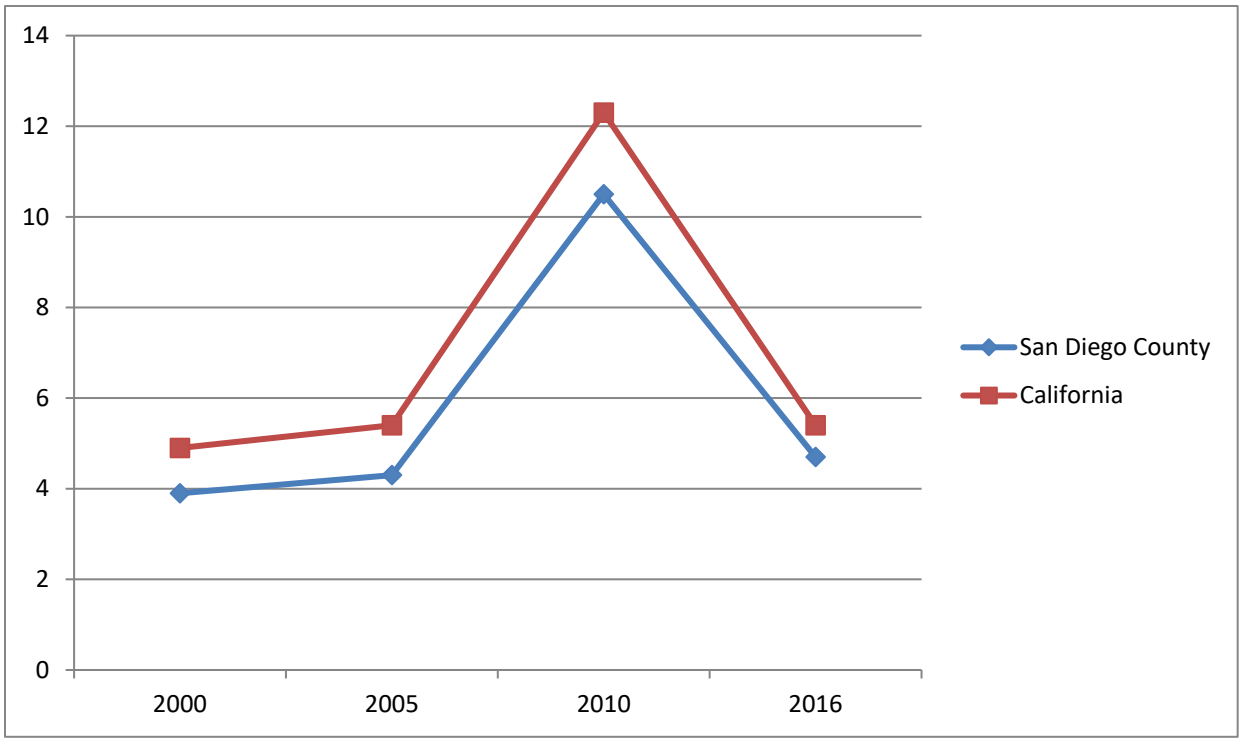
Table 3.6-3. Civilian Labor Force, 2000-2016

Location	2000	2005	2010	2016	Average Annual Growth Rate (2000-2016)
San Diego County	1,377,101	1,489,799	1,572,611	1,570,422	0.87
California	16,867,811	17,530,070	18,316,421	19,114,418	0.83

Sources: BLS, 2000; BLS, 2005; BLS, 2010; BLS, 2016.

Unemployment

The unemployment rate is calculated based on the number of unemployed persons divided by the labor force, where the labor force is the number of unemployed persons plus the number of employed persons. Unemployment rates in San Diego County were consistently lower than in the state of California in 2000, 2005, 2010, and 2016. From 2005 to 2010, unemployment in San Diego County and California increased substantially – by 6.9 and 6.2 percent, respectively. The sharp increase between 2005 and 2010 can be attributed to the 2008 economic crisis, which was part of the global financial downturn. Unemployment rates have decreased since 2010, and in 2016 unemployment rates were 4.7 and 5.4 in San Diego County and California, respectively. Figure 3.6-1 shows the annual unemployment levels in San Diego County and California in 2000, 2005, 2010, and 2016.



Sources: BLS, 2000; BLS, 2005; BLS, 2010; BLS, 2016.

Figure 3.6-1. Unemployment Rates in San Diego County and California, 2000-2016

Employment by Industry

Table 3.6-4 shows the employment by industry in San Diego County. The leading industries in the county are government, professional and business services; and trade, transportation and utilities. These three industries account for about half of total employment in San Diego County (CAEDD, 2016).

Table 3.6-4. Employment by Industry in San Diego County, 2016

Industry	Employment
Government	242,200
Professional and Business Services	231,200
Trade, Transportation, and Utilities	224,800
Educational and Health Services	198,700
Leisure and Hospitality	191,900
Manufacturing	108,000
Mining, Logging, and Construction	76,600
Financial Activities	72,700
Other Services	54,400
Information	24,100
Farming	8,900
Total	**1,433,500**

Source: State of California Employment Development Department, 2016.

Table 3.6-5 below shows the major employers in San Diego County. The 32nd Street Naval Station and MCCS Marine Corps Recruit Depot employ more than 10,000 persons each; as shown in the above Table 3.5-4, the government employs the most people in San Diego County (CAEDD, 2018; CAEDD, 2016).

Table 3.6-5. Major Employers in San Diego County

Rank	Employer Name	Description/Industry	Employer Size Class
1	32nd Street Naval Station	Federal Government-National Security	10,000+
2	Marine Corps Community Services Recruit Depot	Military Bases	
3	University of California San Diego - All Campus Department Listings	College & University Placement Service	
4	Scripps Clinic	Clinics	
5	Kaiser Permanente Vandever Medical	Physicians & Surgeons	5,000-9,999
6	Naval Medical Center San Diego	Hospitals	
7	University of California San Diego Health	Hospitals	
8	Barona Resort & Casino	Casinos	1,000-4,999
9	Ceasar Entertainment	Swimming Pool Dealers & Designers	
10	DJO Finance LLC	Surgical Appliances-Manufacturers	
11	Ferrellgas – San Diego	Gas-Propane-Refilling Stations	
12	Ferrellgas – Alpine		
13	Ferrellgas – San Marcos		

Rank	Employer Name	Description/Industry	Employer Size Class
14	Ferrellgas – Escondido		
15	General Dynamics NASSCO	Ship Builders & Repairers	
16	Kaiser Permanente Zion Medical Center	Clinics	
17	Merchants Building Maintenance	Janitor Service	
18	Palomar Pomerado Health Rehabilitation	Rehabilitation Services	
19	Rady Children's Hospital	Hospitals	
20	Respiratory Support Prod Inc.	Non-classified Establishments	
21	San Diego County Sheriff	Police Departments	
22	Scripps Mercy Hospital	Hospitals	
23	Seaworld San Diego	Aquariums-Public	
24	Sharp Memorial Hospital	Hospitals	
25	Valley Center Propane	Propane Gas	
Total			**17,697**

Source: State of California Employment Development Department, 2018.

3.6.1.3 Earnings

In this section, per capita personal income (PCPI) and compensation by industry are used to describe earnings.

Per Capita Personal Income

Personal income data are measured and reported for the county of residence. PCPI, then, is the personal income for county residents divided by the county's total population (BEA, 2016a). Table 3.6-6 contains 2000, 2005, 2010, and 2016 annual PCPI for San Diego County and the State of California. All dollar estimates are in current dollars (not adjusted for inflation).

Table 3.6-6. Annual Per Capita Personal Income in San Diego County and California (in dollars)

Location	Per Capita Personal Income				
	2000	2005	2010	2016	Percent Change 2000-2016
San Diego County	33,560	42,093	43,995	55,168	64.4
California	33,095	39,521	43,317	56,374	70.3

Note: All dollar estimates are in current dollars (not adjusted for inflation).

Source: BEA, 2016b.

In general, San Diego County and the states' PCPIs were similar in 2000, 2005, 2010, and 2016. The PCPI was slightly higher in San Diego County in 2000, 2005, and 2010; in 2016 the states' PCPI surpassed that of San Diego County's. The State of California's PCPI grew faster than San Diego County's from 2000 to 2016 (BEA, 2016b).

Industry Compensation

Compensation data are measured and reported for the county of work location and are typically reported on a per job basis. Compensation data indicate the wages and salaries for work done in a particular place (e.g., a county), but if the worker does not live in the county where the work occurred (e.g., a person from a neighboring county may cross county lines to go to work) then a sizeable portion will be spent elsewhere. These expenditures will not remain in or flow back into that county's economy. Total compensation includes wages and salaries as well as employer contribution for employee retirement funds, social security, health insurance, and life insurance. The term "Total Industry Compensation" is often used in economic data, but it is somewhat of a misnomer in that a portion of the "industry earnings" stems from government-related activity. Nevertheless, total industry compensation provides a good picture of the relative sizes of market-related economic activity, or business activity, performed in San Diego County.

In San Diego County, government and government enterprises account for 27.3 percent of total compensation of employees. Government and government enterprises often account for a large proportion of the compensation of employees in a county, and in the case of San Diego County this proportion is consistent with Table 3.6-4 and 3.6-5 – the government (includes Federal, state, and local) is the largest employer in San Diego County and the Navy and Marine Corps employ at least 20,000 employees (CAEDD, 2016; CAEDD, 2018).

As shown in Table 3.6-7, income is generated by economic activity in San Diego County through a variety of sectors, including various types of business as well as government. The government and government enterprises; professional, scientific, and technical services; manufacturing; and health care and social assistance accounted for approximately 50 percent of the approximately $120 billion compensated to employees working in San Diego County in 2016.

Table 3.6-7. Compensation of Employees by Industry in San Diego County, 2016

Industry Description	Compensation ($000)	Percent[a]
Government and Government Enterprises	32,641,832	27.3
Professional, Scientific, and Technical Services	16,311,152	13.7
Manufacturing	11,220,618	9.4
Health Care and Social Assistance	10,540,409	8.8
Retail Trade	6,052,549	5.1
Construction	5,941,409	5.0
Finance & Insurance	5,524,031	4.6
Accommodation and Food Services	5,148,456	4.3
Administrative and Support and Waste Management and Remediation Services	4,748,033	4.0
Wholesale Trade	4,557,273	3.8
Other Services Except Government and Government Enterprises	3,040,797	2.5
Management of Companies and Enterprises	2,870,755	2.4
Information	2,746,203	2.2
Real Estate and Rental and Leasing	1,962,702	1.6
Educational Services	1,905,181	1.6
Transportation and Warehousing	1,467,372	1.2

Industry Description	Compensation ($000)	Percent[a]
Arts, Entertainment, and Recreation	1,459,647	1.2
Utilities	973,401	0.8
Farm (Crops, livestock, and dairy)	247,249	0.2
Forestry, Fishing, Related Activities (Support activities for agriculture and forestry)	55,309	0.05
Mining, quarrying, and oil and gas extraction	29,820	0.03
Total Compensation of Employees	**119,444,198**	**99.8**

Source: BEA, 2016c.

[a]Note: Numbers may not add up to exactly 100 percent due to rounding.

Otay Mesa plays a vital role in the economic prosperity for the entire San Diego and U.S./Mexico border region due to activities generated at Otay Mesa LPOE and additional base-sector industries. Otay Mesa's base-sector industries, which include transportation logistics, warehousing, manufacturing and service firms, contribute to the regional economy and San Diego's existing industry clusters. Otay Mesa provides the capacity for these and new industry clusters to expand (San Diego, 2014).

Most of the industrial development in Otay Mesa has taken place since the early to mid-1990s. The largest industrial facilities in Otay Mesa are the U.S.-based "twin plants" in the "maquiladora" production sharing system. Under this system there is a Mexico-based factory where the more labor-intensive functions occur, and a U.S.-based factory that performs the final assembly, testing, packaging, re-packaging, labeling, and distribution of products that were produced in whole, or in part, by the Mexican-based twin (San Diego, 2014). Much of the increased growth across the California-Mexican border over the past 30 years can be attributed to the maquiladora program, which began in 1965 and was formalized in 1971 through the Border Industrialization Program. Implementation of the North America Free Trade Agreement (NAFTA) in 1994 has further relaxed trade barriers and is expected to continue the expansion of border economies and traffic/trade volumes well into the future (BOR, 2000).

Otay Mesa is also located in a Foreign Trade Zone and Regional Enterprise Zone – programs established to retain, strengthen, and expand the existing business base in the community. The Foreign Trade Zone offers opportunities for businesses conducting international trade and export services to realize reduced customs duties and gain efficiencies in trade. The Regional Enterprise Zone provides state and local incentives to stimulate business attraction, retention and industrial growth, primarily through hiring credits and significant tax savings. Together these programs, combined with the Business and Industry Incentive Program, offer specific programmatic objectives and initiatives to improve the economic prosperity of Otay Mesa and the broader San Diego Region (San Diego, 2014).

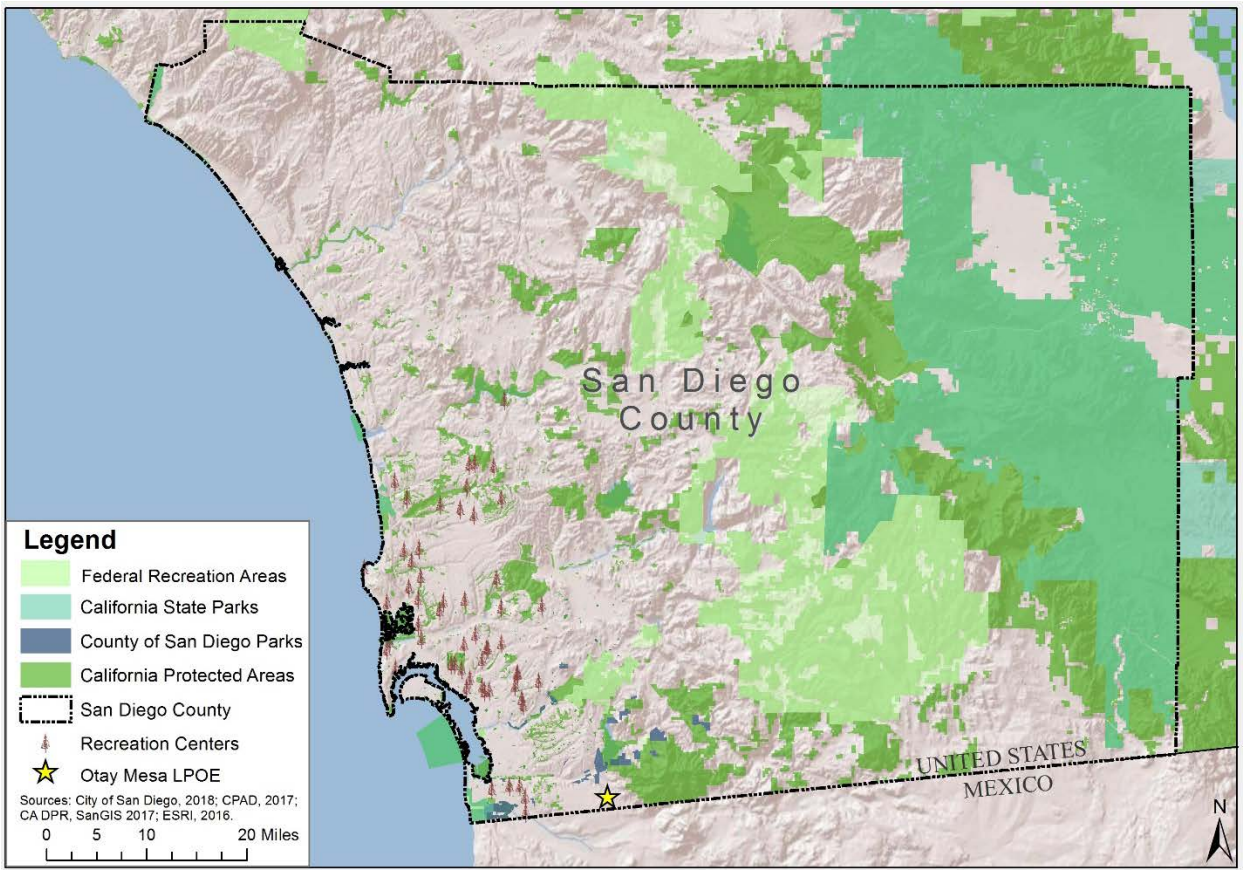
3.6.1.4 Quality of Life and Community Services

Quality of life can be characterized as a person's well-being and happiness. Quality of life is a subjective measure and cannot be solidly defined. For this analysis, quality of life considerations focus on those elements that the public generally associates with a high quality of life: education, safety, recreation opportunities, and a positive general living environment. Other factors, such as air quality and noise, could also contribute to a person's sense of quality of life.

Recreational Values

The recreational value of natural resources can link residents to an area or attract new residents to an area. San Diego County includes several environmental amenities – including the Cleveland National Forest, San Diego Bay National Wildlife Refuge (NWR), Torrey Pines State National Reserve, and Otay Valley Regional Park – that contribute to the region's identity, as well as area quality of life. (The Cleveland National Forest is located in San Diego, Riverside, and Orange counties.) The recreational area closest to the Otay Mesa LPOE is the 200-acre Otay Valley Regional Park, located 2.6 miles away. Playing fields; picnic areas; ponds; and hiking, biking, and horse trails provide local residents and visitors with a variety of recreational opportunities. There are plans to develop multi-use areas and an extensive trail system within the park's boundaries (SDPR, 2018).

Figure 3.6-2 shows the location of federal, state, and county-managed recreational areas in San Diego County. Recreation centers are shown with brown tree icons. State parks are shown in light blue; county parks are shown in dark blue; and Federal recreation areas are shown in light green. San Diego County is outlined with a black dotted line and the Otay Mesa LPOE is shown with a yellow star outlined in black.



Sources: City of San Diego, 2018b; CPAD, 2017; CA DPR, 2015; SanGIS, 2017a; ESRI, 2016.

Figure 3.6-2. Recreational Areas in San Diego County

Proximity to nature, in particular to public lands like the Cleveland National Forest, San Diego Bay National Wildlife Refuge (NWR), and Torrey Pines State National Reserve can influence where people choose to

live and how much people are willing to pay for housing (i.e., property values). Research indicates that people make regional housing and labor market decisions based in part on the availability of and proximity to public lands, such as state parks, national forests, and recreational lakes and rivers. Living near public lands provides amenities such as convenient access to recreation and wildlife viewing. Population movement and migration into environmentally desirable areas can also be explained by the presence and density of natural landscapes (e.g., rivers and mountains) and the associated environmental amenities like clean air (Garber-Yonts, 2004; Hand et al., 2008).

Landscape appearance and scenery can be important public land amenities, not just as recreational opportunity settings, but also as elements of the region's identity. Factors such as clean air and water, scenery and natural landscape, open space, and the number of recreational opportunities can be economic assets for local communities.

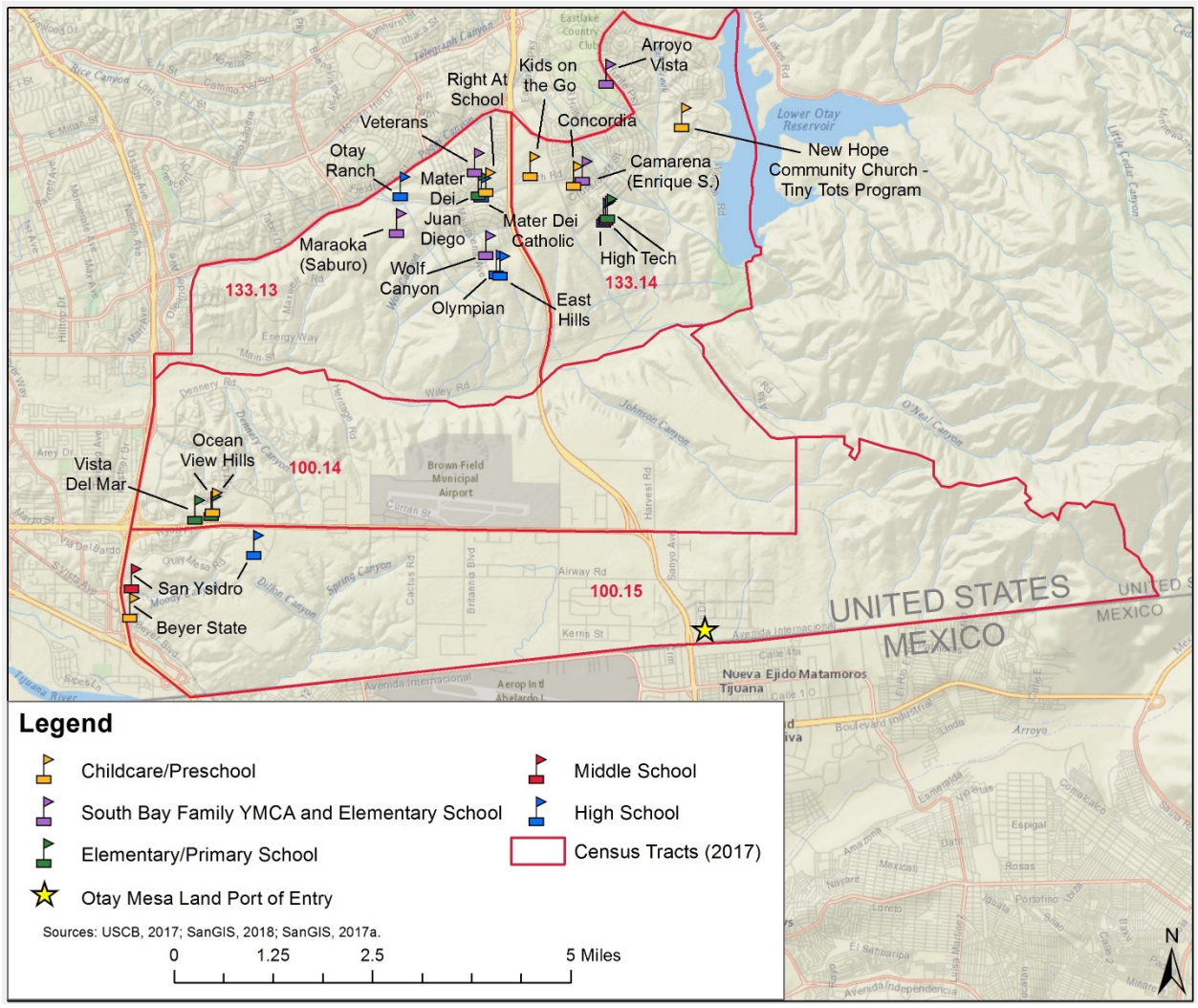
Police, Fire, and Healthcare Services

As of 2011, the San Diego Fire Department had one station located in Otay Mesa. The eastern portion of Otay Mesa is served by Fire Station #43, located on the eastern end of Brown Field at 1590 La Media Road. The western portion of the community north of I-905 is served by Fire Station #6, located in the adjacent Otay Mesa-Nestor. The remaining portion of Otay Mesa, south of I-905, is served by Fire Station #29, which is located in San Ysidro. Fire Station #49 is planned for the Ocean View Hills Community and will provide emergency response coverage for the west end of Otay Mesa. The community is served by the Southern Division of the San Diego Police Department, which is located in the adjacent Otay Mesa-Nestor (San Diego, 2014).

Kaiser Permanente operates a facility in Otay Mesa that provides a full range of medical and urgent care services to the community (San Diego, 2014). The facility is located at Palm Avenue and Dennery Ranch Road, east of I-805 and north of I-905, approximately seven miles from the Otay Mesa LPOE.

Schools

Figure 3.6-3 shows the location of the schools in Otay Mesa in relation to the Otay Mesa LPOE. The four census tracts (CTs) in Otay Mesa are outlined red. CTs are small, relatively permanent statistical subdivisions of a county or equivalent entity, generally with a population size between 1,200 and 8,000 people. A CT usually covers a contiguous area, and its boundaries usually follow visible and identifiable features (e.g., road, river). They were designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions (USCB, 2014). Childcare/pre-schools are shown in dark yellow; elementary schools are shown in purple and green; middle schools are shown in red; high schools are shown in blue; and the Otay Mesa LPOE is shown with a bright yellow star outlined in black. San Ysidro High School is the closest school to the Otay Mesa LPOE, located about six miles away.



Sources: SanGIS, 2018; SanGIS, 2017b; USCB, 2017.

Figure 3.6-3. Pre-Schools and Elementary, Middle, and High Schools in San Diego County

3.6.2 Environmental Consequences

The effects analysis considers aspects of the social and economic environment that are sensitive to changes and that may be adversely or beneficially affected by activities associated with the Preferred Alternative and the Reduced Build Alternative. Any short-term impacts would last 24 to 30 months, and up to 36 months during construction activities (GSA, 2018a). Long-term impacts would refer to impacts that would occur once construction activities are complete. As noted earlier, the ROI for the socioeconomic analysis is defined as San Diego County, but social impacts to population, housing, and quality of life and community services focus on Otay Mesa – or the area most likely to be affected by the Preferred Alternative and the Reduced Build Alternative.

3.6.2.1 Preferred Alternative (Alternative 1)

Population and Housing

GSA anticipates that the majority of construction workers would be local and commute daily to the Otay Mesa LPOE (GSA, 2018a). Construction workers are expected to commute from San Diego, an approximately 30-minute drive from the Otay Mesa LPOE, and would not need to relocate to Otay Mesa semi-permanently or rent an apartment in Otay Mesa. As such, the population is not expected to grow and the demand on local housing is not expected to increase during the construction phase. No short-term impacts are expected on population and housing in Otay Mesa or in the larger San Diego County.

In the long term, once the larger LPOE is completed, it is assumed for purposes of this analysis that CBP is expected to hire additional personnel to operate the Otay Mesa LPOE. It is unknown what proportion of new CBP personnel would be hired locally or how many would be hired from outside the region. While it is difficult to estimate the exact level of in-migration, it is assumed that LPOE workers relocating to the area would relocate to San Diego County or to Otay Mesa. As such, the population is expected to grow permanently in the long term. Despite the relatively low rental vacancy rate in San Diego County and the State of California (3.8 percent in both), those who relocate to the area would have ample housing options, and this in-migration would further decrease rental vacancy rate(s). In the long term, impacts on population and housing are expected to be negligible to minor.

No short-term adverse or beneficial impacts are expected on population and housing in Otay Mesa or in the larger San Diego County. It is assumed that construction workers would commute daily from the City of San Diego or from within San Diego County, therefore there is a high likelihood that no impacts are expected. If CBP hires additional personnel to operate the Otay Mesa LPOE in the long term, the population is expected to grow permanently and would therefore cause negligible to minor impacts on population and housing. Both short- and long-term impacts would be large in extent – affecting Otay Mesa or the larger San Diego County.

Labor and Earnings

The Preferred Alternative would create direct construction jobs in the short term. The majority of construction workers would be hired locally or from San Diego County for 24-30 months, and up to 36 months (GSA, 2018a).

As described in Section 3.6.1.3 (Earnings), compensation data are measured and reported for the county of work location and are typically reported on a per job basis. Compensation data indicate the wages and salaries for work done in a particular place (e.g., San Diego County), and if the worker lives in the county where the work occurred, then a sizeable portion will be spent in the county. Because workers would be hired locally – or from San Diego County – most of their expenditures (e.g., rent, property taxes) for the duration of their employment as it relates to the Preferred Alternative would remain in or flow back into San Diego County's economy. In general, approximately 80 percent is actually "take home" pay, and the other 20 percent goes toward workers' compensation, health insurance, unemployment, and Social Security. Thus, approximately 80 percent of the wages and salaries of local construction workers would be spent in San Diego County and flow back into San Diego County's economy.

The PCPI and compensation of employees in the construction sector in San Diego County would be expected to increase slightly during the 24 to 30-month (and up to 36-month) construction period. During this time, the unemployment rate in San Diego County would likely decrease slightly. Direct economic

benefits from these slight increases in PCPI and industry compensation and slight decrease in unemployment would be minor overall in both the short and long term.

The Preferred Alternative is also expected to create indirect and induced jobs that would likely be filled by the local workforce. Indirect or induced jobs could be created from project-related spending (i.e., purchase of materials from local vendors, discussed below) and workers spending wages on rent, food, entertainment, etc. in the area. In 2016, the unemployment rate in San Diego County was 4.7 percent, or 73,810 of the 1,570,422-person labor force. Said otherwise, there are 73,810 people in San Diego County that do not have a job, have actively looked for work in the prior four weeks, and are currently available for work. With the number of unemployed individuals in San Diego County, it is likely that any indirect or induced jobs created as a result of this alternative would be filled in San Diego County. Beneficial impacts on the labor force or employment would be most felt by those in search of a job in San Diego County. Unemployment rates would likely decrease slightly during the construction phase, and compensation of employees in retail trade; accommodation and food services; construction; and arts, entertainment, and recreation would likely increase – creating minor, beneficial indirect impacts. In the long term, unemployment rates are expected to return to existing levels as is the compensation of employees in the abovementioned industries.

Indirect socioeconomic impacts would result from directly impacted industries purchasing supplies and materials from other industries. The estimated project cost of the Preferred Alternative is $121.8 million, which includes labor, material, overhead, profit, and design fees. For other similar projects, labor costs are generally two thirds the sum of labor and materials, excluding overhead and profit (GSA, 2018a). For purposes of this analysis, it is assumed that at least a portion of materials and equipment would be purchased from local vendors. Indirect jobs would be created when the design and build firm would make purchases from local vendors and retail stores and at establishments where workers would shop. Induced impacts would occur when employees of the directly and indirectly affected industries spend the wages they receive. The types of indirect and induced jobs that would be created during the construction phase would likely be relatively low-wage jobs, such as restaurant workers or convenience store clerks. Potential economic and health benefits associated with the indirect or induced jobs could benefit San Diego County residents in search of a job. Jobs and income are strongly associated with a number of beneficial health outcomes, such as an increase in life expectancy, improved child health status, improved mental health, and reduced rates of chronic and acute disease morbidity and mortality (HDA 2004; Cox et al., 2004).

The Preferred Alternative would create direct, indirect, and induced jobs in the short term. Direct and indirect economic benefits from the slight increases in PCPI and industry compensation and the slight decrease in unemployment would be minor overall in both the short and long term. Jobs and income are strongly associated with a number of beneficial health outcomes, such as an increase in life expectancy, improved child health status, improved mental health, and reduced rates of chronic and acute disease morbidity and mortality (HDA, 2004; Cox et al., 2004). While the exact number of direct jobs that would be created as a result of the construction phase under the Preferred Alternative is not known, the likelihood of the minor and beneficial impacts occurring is nonetheless high (the magnitude of effects is conservative). In the long term, unemployment rates are expected to return to existing levels as is the compensation of employees in the retail trade; accommodation and food services; construction; and arts, entertainment, and recreation industries. Both short- and long-term impacts would be large in extent – affecting labor and earnings in San Diego County.

Trade

As discussed in Section 3.4 (Transportation and Traffic), the Otay Mesa LPOE would remain open and would operate at its current capacity for the entire duration of demolition and construction activities. These activities would require additional truck trips to transport waste materials off site for disposal and to deliver construction materials to the site, increasing congestion at and near the Project area. As a result, shipments or deliveries to factories that are part of the maquiladora program, for example, may also be delayed and adversely impact productivity and trade in the short term. Increased efficiency at the Otay Mesa LPOE is expected to have a long-term moderate to major, beneficial impact to trade and more specifically to businesses conducting international trade and export services located in the Foreign Trade Zone and Regional Enterprise Zone. Such impacts would affect not only affect these businesses in these zones but businesses in the entire county and indirectly in the state; therefore, the extent would be large. Although the Preferred Alternative would not directly cause an increase in trade between the U.S. and Mexico, increased efficiency would allow for additional capacity and trade volumes at the LPOE in the long term.

Quality of Life and Community Services

This section considers potential impacts to education and fire, police, and healthcare services in Otay Mesa and the recreational value in San Diego County from potential increases in noise and air emissions that may be caused by the Preferred Alternative.

Noise Disturbances

Short-term increases in noise would result from the temporary use of heavy equipment during construction and would result in adverse, minor impacts. Employees in buildings adjacent or close to the Otay Mesa LPOE would be most affected by increased levels of noise. To ensure Project construction activities would not violate any Federal, state or local noise ordinance, BMPs (described in Section 3.5), would be implemented to reduce potential noise impacts. Long-term noise increases would likely result from the additional capacity of vehicles that would be processed by the upgraded LPOE, and cause adverse, negligible to minor impacts. Because the Otay Mesa LPOE is located in the Otay Mesa community South Planning District, which is designed for "heavy industrial uses," there are no residential areas in close proximity to the Otay Mesa LPOE (San Diego, 2014). The likelihood of negligible, short- and long-term impacts is high given that the Otay Mesa LPOE is located in an industrial area; also, there are no sensitive receptors (e.g., hospitals, schools) in the immediate vicinity of the Project area. As such, increased noise levels during construction or operations would not be felt by and therefore not affect the quality of life of residents located several miles away. The extent of both short- and long-term impacts would be medium or localized as noise impacts from building construction can usually be heard from approximately 1,000 feet.

Air Quality

Emissions, airborne dust, and soil surface disturbance from the use of on-road and nonroad construction vehicles could degrade air quality in the area surrounding the Otay Mesa LPOE. The majority of the nitrogen oxides (NO_x), sulfur dioxide (SO_2), and carbon monoxide (CO) emissions would be associated with vehicle/equipment exhaust. Since these emissions would occur at ground level, they would likely cause short-term increases in air pollutant emissions in the immediate vicinity of the Project area. For purposes of this analysis, it was assumed that these emissions would not likely be transported more than one mile, except on windy days. For this same reason, the extent of both short- and long-term impacts would be medium or localized.

Given that the area directly surrounding the Otay Mesa LPOE is industrial (i.e., not residential) and that the closest recreational area (i.e., Otay Valley Regional Park) is 2.6 miles away, adverse impacts would be indirect and the likelihood of such impacts would be high. Short-term, minor and adverse indirect impacts would be expected to affect residents and recreationists (more than one mile from the Project area) due to increased air emissions from on-road and nonroad vehicles during construction activities. Once construction ceases, air emissions and ambient pollutant concentrations from on-road and nonroad vehicles and traffic would return to existing levels. In the long-term, after the completion of expansion and modernization activities at the Otay Mesa LPOE, adverse indirect air quality impacts would be negligible.

Recreational Values

As discussed in the affected environment (see Section 3.6.1.4), people generally value proximity to recreational areas such as the Cleveland National Forest, San Diego Bay NWR, Torrey Pines State National Reserve, and Otay Valley Regional Park. Given the distance from the Otay Mesa LPOE to the various recreational areas in San Diego County (most are several miles away), access to public lands would continue without undue restrictions and the recreational value and experience would not be affected by the Preferred Alternative. The likelihood that the recreational value would not be affected in either the short or long term is high. The extent would be large as recreational areas would continue to enhance the overall quality of life in the region. These natural amenities would continue to attract people to the area and the operation of the Otay Mesa LPOE would not be a deterrent in the long term.

Police, Fire, and Healthcare Services

As discussed in the affected environment (Section 3.6.1.4), there are three fire stations and there is one police department serving Otay Mesa. Workers commuting to Otay Mesa every weekday during the construction period are not expected to overwhelm police and fire services in the case of an emergency. Kaiser Permanente is the closest hospital to the Otay Mesa LPOE and the only healthcare facility in Otay Mesa offering emergency services. The location of the fire stations, the police department, and the hospital are such that any increased congestion at or near the Otay Mesa LPOE would not affect the routes of ambulances, fire trucks, and police cars in accessing Otay Mesa residences, which are located further north and west from the Otay Mesa LPOE. However, in the case of an emergency at or near the Otay Mesa LPOE, congestion from construction activities could have serious consequences, although the likelihood of this occurrence is low.

In the long term, additional personnel and their families re-locating to Otay Mesa that contribute to a permanent population increase would cause the ratio of residents to law enforcement officers and residents to firefighters to decrease slightly. However, this change would likely be negligible and would not affect the response time(s) of enforcement officers and firefighters. When Fire Station #49 is constructed (currently planned for the Ocean View Hills Community), it will provide emergency response coverage to the west end of Otay Mesa, presumably alleviating Fire Station #6 and increasing its response time. The extent of both short- and long-term impacts on fire, police, and healthcare services in Otay Mesa would be medium or localized.

Schools

Because construction workers (and their families) are not expected to re-locate to the area but rather commute daily from within San Diego County, enrollment at Otay Mesa schools is not expected to increase due to the Preferred Alternative. As shown in Figure 3.6-3, the closest school is about six miles away. Increased noise and air emissions during the construction phase are not expected to affect the quality or safety of education at Otay Mesa schools. In the long term, additional personnel (and their families) may relocate to the area to operate the Otay Mesa LPOE. Any additional personnel and their families that

contribute to a permanent population increase could contribute to unfavorable student to teacher ratios at schools, and have long-term, adverse and minor impacts on education. However, a change in student to teacher ratios is not expected therefore the likelihood of adverse impacts is medium. The extent of both short- and long-term impacts on Otay Mesa schools would be medium or localized.

3.6.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, no new construction would occur on the 10-acre GSA-owned land that would take place under the Preferred Alternative. Instead, the 10-acre lot would be paved and commercial exit booths would be relocated onto the newly paved area.

Population and Housing

As under the Preferred Alternative, the majority of construction workers would be local and would commute daily to the Otay Mesa LPOE under the Reduced Build Alternative. Given that many of the facilities proposed for construction under the Preferred Alternative would not be built and the capacity of the Otay Mesa LPOE would not increase, it is assumed that CBP would not need to hire additional personnel for operations under this alternative. As such, population and housing would not be impacted in either the short or long term. The extent of impacts would be large and have a high likelihood of occurring.

Labor and Earnings

Since many of the facilities proposed for construction under the Preferred Alternative would not be built, and since paving the 10-acre lot would likely take less time than the construction of facilities, the project cost and therefore the number of construction workers would be less than under the Preferred Alternative. Any increase in PCPI and industry compensation and decrease in unemployment would likely be negligible in the short term. Similar to the Preferred Alternative, while the exact number of direct jobs that would be created under the Reduced Build Alternative is unknown, the likelihood of impacts is nonetheless high (the magnitude of effects is conservative). As under the Preferred Alternative, unemployment rates are expected to return to existing levels in the long term, as is the compensation of employees in the affected industries. Both short- and long-term impacts would be large in extent – affecting labor and earnings in San Diego County.

Trade

Because many of the construction activities under the Preferred Alternative would not occur under the Reduced Build Alternative, the number of additional vehicle trips associated with this alternative would be less than under the Preferred Alternative (see Section 3.4.2.2). However, shipments or deliveries to factories that are part of the maquiladora program, for example, may still be delayed and adversely impact productivity and trade in the short term. In the long term, while the relocation of commercial booths to the 10-acre parcel would increase efficiency slightly at the Otay Mesa LPOE, the potentially major beneficial impacts on trade described under the Preferred Alternative would be negligible under the Reduced Build Alternative. The likelihood of such impacts would be high and the extent would be large.

Quality of Life and Community Services

Similar to the Preferred Alternative, the quality of life of Otay Mesa residents would not be affected due to increases in noise and air emissions from construction activities at the Otay Mesa LPOE. And similar to the Preferred Alternative, the recreational value of the area would not change under the Reduced Build Alternative.

Similar to the Preferred Alternative, the quality of education would not be impacted in the short term. And because it is assumed that CBP would not need to hire additional personnel for operations under this alternative, the population would not increase in the long term; and the student to teacher ratio would not be affected. There is a high likelihood that no effects would occur in either the short or long term, and the extent of impacts on Otay Mesa schools would be medium or localized.

3.6.2.3 No Action Alternative

Under the No Action Alternative, socioeconomic conditions would remain the same as no construction, renovation, or demolition activities would occur. Potential social and economic benefits from direct, indirect, and induced jobs described under the Preferred Alternative and the Reduced Build Alternative would not occur in the short or long term. Long-term, minor, adverse effects on trade, businesses in the Foreign Trade Zone and Regional Enterprise Zone, and factories in the maquiladora system are expected as San Diego County would continue to grow but the capacity and efficiency at the Otay Mesa LPOE would not increase. These adverse impacts would affect not only businesses in the economic zones but also businesses in the entire county and indirectly in the state; therefore, the extent would be large. The likelihood of both short- and long-term impacts would be high.

3.7 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", requires that Federal agencies consider as a part of their action any disproportionately high and adverse human health or environmental effects to minority and low-income populations. Agencies are required to ensure that these potential effects are identified and addressed.

EO 13045 "Protection of Children from Environmental Health Risks and Safety Risks" places a high priority on the identification and assessment of environmental health and safety risks that may disproportionately affect children. The EO requires that each agency "shall ensure that its policies, programs, activities, and standards address disproportionate risks to children." It considers that physiological and social development of children makes them more sensitive than adults to adverse health and safety risks and recognizes that children in minority and low-income populations are more likely to be exposed to and have increased health and safety risks from environmental contamination than the general population.

3.7.1 Affected Environment

3.7.1.1 Environmental Justice

The Environmental Protection Agency (EPA) defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The goal of "fair treatment" is not to shift risks among populations, but to identify potential disproportionately high adverse impacts on minority and low-income communities and identify alternatives to mitigate any adverse impacts.

For purposes of assessing environmental justice under NEPA, the Council on Environmental Quality (CEQ) defines a minority population as one in which the percentage of minorities exceeds 50 percent or is substantially higher than the percentage of minorities in the general population or other appropriate unit of geographic analysis (CEQ, 1997). Since potential impacts with the greatest intensity and longest duration would occur in Otay Mesa, San Diego County, San Diego County is defined as the region of influence (ROI) for any direct and indirect impacts that may be associated with the implementation of the Preferred Alternative and the Reduced Build Alternative. For purposes of comparison, the State of California is defined as the region of comparison (ROC), or the "general population" as it corresponds to the CEQ definition.

In this section, race and income data for San Diego County (the ROI) are compared to race and income data for the State of California (the ROC). Due to the site-specific nature of the Preferred Alternative and Reduced Build Alternative, census tract (CT) data are then used to identify high concentration "pockets" of environmental justice populations near the Otay Mesa LPOE. Figure 3.7-1 and Figure 3.7-2 help describe the distribution of minorities and low-income populations in the vicinity of the Otay Mesa LPOE, respectively. All figures and calculations are based on the 2012-2016 United States Census Bureau (USCB) American Community Survey datasets.

Minority Populations

The CEQ defines "minority" as including the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic Origin; or Hispanic (CEQ, 1997). The CEQ defines a minority population in the following ways:

- "…If the percentage of minorities exceeds 50 percent...(CEQ, 1997)." As this definition applies to the Preferred Alternative and Reduced Build Alternative, if more than 50 percent of the San Diego County population consists of minorities, this would qualify the county as constituting an environmental justice population.
- "… [If the percentage of minorities] is substantially higher than the percentage of minorities in the general population or other appropriate unit of geographic analysis (CEQ, 1997)." For purposes of this analysis, a discrepancy of 10 percent or more between minorities (the sum of all minority groups) in San Diego County and the State of California would be considered "substantially" higher, and would categorize San Diego County as constituting an environmental justice population.

Table 3.7-1. Summary of Minorities in the ROI and ROC[a]

Location	Total Population	Minority	American Indian and Alaska Native	Black or African American	Asian	Native Hawaiian and Other Pacific Islander	Hispanic or Latino
San Diego County[b]	3,253,356	50.9	0.7	5.0	11.6	0.5	33.1
California[c]	38,654,206	59.5	0.7	5.9	13.9	0.4	38.6

Source: USCB, 2016a.

Notes: [a]Percent minorities; [b]ROI; [c]ROC; ROI = Region of Influence; ROC = Region of Comparison.

As Table 3.7-1 indicates, San Diego County meets the regulatory definition of a minority population or minority group(s) because minorities represent more than 50 percent of San Diego County's total population (USCB, 2016a). By this CEQ definition of a minority population, the ROI constitutes an environmental justice population.

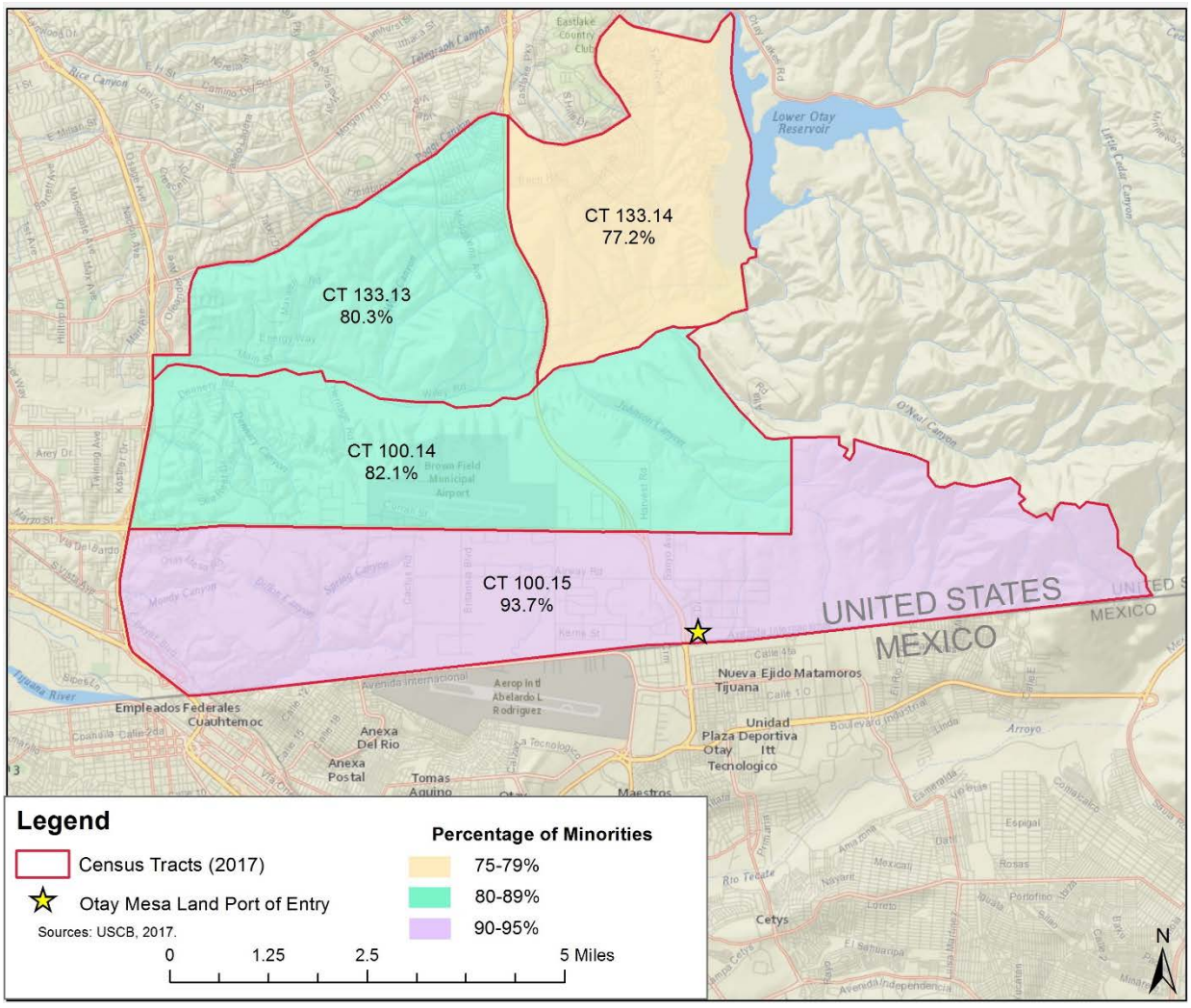
Minority Populations by Census Tracts

Due to the site-specific nature of the Preferred Alternative and Reduced Build Alternative, in addition to describing minority populations on the county level, CT data are used to identify any high concentration "pockets" of minority populations and describe the distribution of minorities in the vicinity of the Otay Mesa LPOE (CEQ, 1998). CTs are small, relatively permanent statistical subdivisions of a county or equivalent entity, generally with a population size between 1,200 and 8,000 people. A CT usually covers a contiguous area, and its boundaries usually follow visible and identifiable features (e.g., road, river). They were designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions (USCB, 2014). It should be noted that although Figure 3.7-1 and Table 3.7-2 present census data for a geographic area within the ROI, the ROI does not change and is still defined as San Diego County.

Potential impacts from noise disturbances, air emissions, and traffic delays would be felt most by populations in CTs located near the Otay Mesa LPOE. The Preferred Alternative and the Reduced Build Alternative would be located in CT 100.15; CTs 100.14, 133.13, and 133.14 are north of CT 100.15 and are within five miles of the Otay Mesa LPOE. The percentage of minorities in these four CTs are compared to the percentage(s) of minorities in the larger San Diego County to determine whether these four CTs constitute an environmental justice population. Applying the CEQ definition(s) from above, the four CTs would be identified as an environmental justice population if:

- More than 50 percent of the four CTs consist of minorities; or
- The percentage of minorities in the four CTs is substantially higher than the percentage of minorities in San Diego County. For purposes of this analysis, a discrepancy of 10 percent or more between minorities (the sum of all minority groups) in the four CTs and San Diego County would be considered "substantially" higher, and would categorize these four CTs as an environmental justice population.

Figure 3.7-1 shows the distribution of minorities in these CTs, color-coding the proportion of minorities using ranges. These ranges were developed based on commonalities or themes revealed by the CT data. For example, CTs shown in light green indicate that between 80 and 89 percent of the population is represented by minorities. Each CT is outlined red and labeled (per USCB numbering); and the Otay Mesa LPOE is shown with a yellow star outlined in black.



Sources: USCB, 2016c; USCB, 2017.

Figure 3.7-1. Minorities in Census Tracts near the Otay Mesa LPOE

To determine the percentage of minorities in the four CTs, the aggregate estimate of minorities in the four CTs is divided by the total population for the four CTs. As shown in Table 3.7-2, the percentage of

minorities in CT 100.15, 100.14, 133.13, and 133.14 exceeds 50 percent of the population. Furthermore, the percentage of minorities in the four CTs is more than 10 percent higher than the percentage of minorities in San Diego County (USCB, 2016a; USCB, 2016c). By both CEQ definitions of a minority population, the four CTs constitute an environmental justice population.

Table 3.7-2. Minorities in Census Tracts near the Otay Mesa LPOE[a]

Location	Total Population	Minorities	American Indian and Alaska Native	Black or African American	Asian	Native Hawaiian and Other Pacific Islander	Hispanic or Latino
100.15[b]	2,872	93.7	0.0	5.6	3.1	0.0	85.0
100.14	20,851	82.1	0.7	10.4	20.2	0.1	50.7
133.13	14,371	80.3	0.1	8.1	34.7	0.3	37.1
133.14	19,151	77.2	0.9	6.8	20.0	0.0	49.5
Aggregate of CTs	57,425	80.6	6.0	8.3	22.9	1.0	48.6
San Diego County	3,253,356	50.9	0.7	5.0	11.6	0.5	33.1

Source: USCB, 2016a; USCB, 2016c.

Notes: [a]Percent Minorities; [b]Preferred Alternative and Reduced Build Alternative are located in CT 100.15; CT=Census Tract.

In summary, San Diego County consists of a minority population because more than 50 percent of the population are minorities. The four CTs closest to the Otay Mesa LPOE also consist of a minority population by both CEQ definitions.

Low-Income Populations

Low-income populations are defined as households with incomes below the Federal poverty level. There are two slightly different versions of the Federal poverty measure: poverty thresholds defined by the USCB and poverty guidelines defined by the Department of Health and Human Services (DHHS).

The poverty thresholds are the original version of the Federal poverty measure and are updated each year by the USCB. The USCB uses a set of income thresholds that vary by family size and composition (number of children and elderly) to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The same applies for a single individual. The official poverty thresholds do not vary geographically but are updated for inflation. The official poverty definition considers pre-tax income and does not include capital gains or non-cash benefits such as public housing, Medicaid, and food stamps (CEQ, 1998). Poverty thresholds are primarily used for statistical purposes, such as calculating poverty population figures or estimating the number of Americans in poverty each year. Poverty threshold figures are reported in the annual poverty report and provide a yardstick for progress or regress in antipoverty efforts. *Environmental Justice Guidance Under NEPA* recommends that USCB poverty thresholds be used to identify low-income populations (CEQ, 1997). As such, this section uses USCB poverty thresholds to identify low-income populations.

Because CEQ guidance does not specify a threshold for identifying low-income populations, the same approach used to identify environmental justice minority populations is applied to low-income

populations. San Diego County would be defined as a low-income population or environmental justice population if:

- More than 50 percent of San Diego County consists of families or persons below the poverty threshold; or
- The percentage of low-income families or persons in San Diego County is substantially higher than the percentage in California. A discrepancy of 10 percent or more between San Diego County and the State of California would be considered "substantially" higher and would categorize San Diego County as constituting a low-income population.

Table 3.7-3 provides statistics relevant to assessing the presence of low-income populations in the areas that would be affected by the Preferred Alternative and Reduced Build Alternative. The percentage of all people and all families below the poverty threshold in San Diego County is 1.8 and 1.6 percent lower than in California, respectively. Neither the percentage of all people nor of all families living below the poverty threshold in San Diego County exceeds 50 percent of the total county population. Therefore, San Diego County does not qualify as having a low-income population by either CEQ definition.

Table 3.7-3. Summary of Income and Poverty Statistics in the ROI and ROC

Location	People Below the Poverty Threshold (%)	Families Below the Poverty Threshold (%)
San Diego County[a]	14.0	10.2
California[b]	15.8	11.8

Sources: USCB, 2016d; USCB, 2016e.

Notes: [a]ROI; [b]ROC, [c]In 2016 inflation-adjusted dollars; ROI = Region of Influence; ROC = Region of Comparison.

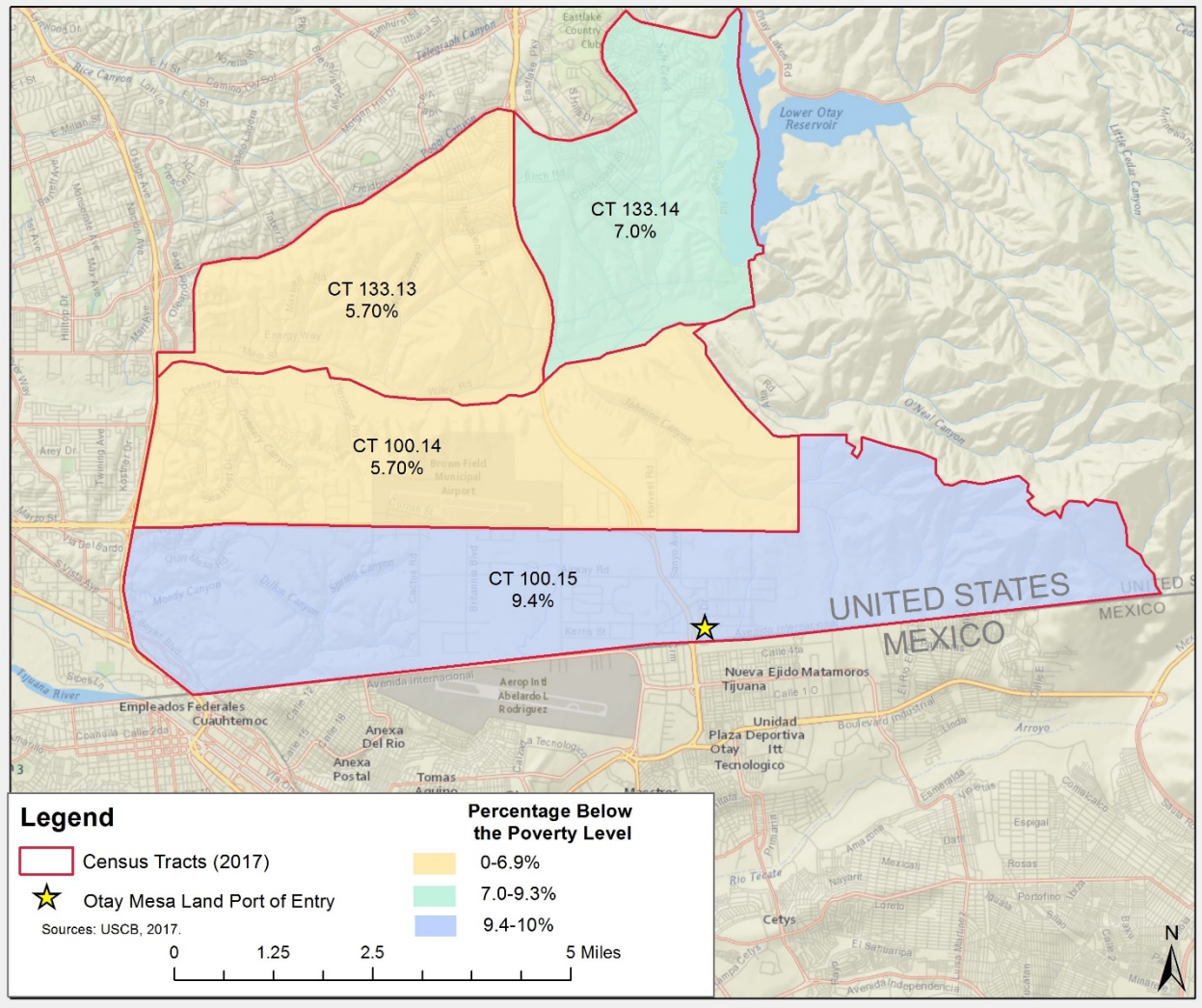
Low-Income Populations by Census Tracts

As with minority populations, due to the site-specific nature of the Preferred Alternative and Reduced Build Alternative, CT data are used to identify high concentration "pockets" of low-income populations and describe the distribution of low-income populations in the vicinity of the Otay Mesa LPOE (CEQ, 1998). Although Table 3.7-4 and Figure 3.7-2 present census data for a geographic area within the ROI, the ROI does not change and is still defined as San Diego County. The potential to experience delays from traffic, suffer a loss of (or gain from) employment or income, or experience adverse effects to general mental and physical health and well-being would be felt most by low-income populations close to the Otay Mesa LPOE. Poverty statistics in CTs 100.15, 100.14, 133.13, and 133.14 are compared to the poverty statistics in the larger San Diego County to determine whether these four CTs constitute an environmental justice population.

Applying the CEQ definition(s) from above, the four CTs would be identified as having a low-income population if:

- More than 50 percent of the population in the four CTs consists of families or persons below the poverty threshold; or
- The percentage of low-income families or persons in the four CTs is substantially higher than the percentage in San Diego County. For purposes of this analysis, a discrepancy of ten percent or more between low-income populations in the four CTs and San Diego County would be considered "substantially" higher and would categorize these CTs as constituting a low-income population.

The distribution of low-income populations by CT is shown below in Figure 3.7-2, color-coding the proportion of low-income populations using ranges. These ranges were developed based on commonalities or themes revealed by the CT data. For example, CTs shown in light green indicates that between seven and 9.3 percent of the population is living below the poverty threshold. Each CT is outlined red and labeled with a number (per USCB numbering); and the Otay Mesa LPOE is shown with a yellow star outlined black.



Sources: USCB, 2016d; USCB, 2017.

Figure 3.7-2. Low-Income Populations in Census Tracts near the Otay Mesa LPOE

To determine the percentage of low-income populations in the four CTs, the aggregate estimate of all persons or families living below the poverty threshold is divided by the total population for the four CTs. As shown in Table 3.7-4, 6.3 percent of people and 5.4 percent of families are living below the poverty threshold in the four CTs, respectively. The percentage of low-income populations (people or families) in the four CTs does not exceed 50 percent of the population; therefore, the four CTs do not constitute an environmental justice population by this CEQ definition. Also, the percent of people and families living below the poverty threshold in the four CTs is lower than in San Diego County; the discrepancy between the percentage of people or families living below poverty in the four CTs and San Diego County is less than

10 percent. Therefore, the four CTs do not constitute an environmental justice population by this CEQ definition, either.

Table 3.7-4. Summary of Poverty Statistics in Census Tracts near the Otay Mesa LPOE

Location	Percent of All People Below the Poverty Threshold	Percent of Families Below the Poverty Threshold
100.15[a]	9.4	7.9
100.14	5.7	3.7
133.13	5.7	5.5
133.14	7.0	6.8
Aggregate of CTs	6.3	5.4
San Diego County	14.0	10.2

Sources: USCB, 2016d and USCB, 2016e.

Note: [a]Preferred Alternative and Reduced Build Alternative are located in CT 100.15; CTs=Census Tracts.

In summary, San Diego County does not consist of low-income populations by either CEQ definition. CT data did not identify high concentration "pockets" of low-income populations near the Otay Mesa LPOE.

3.7.2.2 Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* was prompted by the recognition that children are more sensitive than adults to adverse environmental health and safety risks because they are still undergoing physiological growth and development. EO 13045 defines "environmental health risks and safety risks [to] mean risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)." Children may have a higher exposure level to contaminants because they generally have higher inhalation rates relative to their size. Children also exhibit behaviors such as spending extensive amounts of time in contact with the ground and frequently putting their hands and objects in their mouths that can lead to much higher exposure levels to environmental contaminants. It is well documented that children are more susceptible to exposure to mobile source air pollution, such as particulate matter from construction or diesel emissions (EPA, 2012).

The *Memorandum Addressing Children's Health through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the* Clean Air Act recommends that a DEIS "describe the relevant demographics of affected neighborhoods, populations, and/or communities and focus exposure assessments on children who are likely to be present at schools, recreation areas, childcare centers, parks, and residential areas in close proximity to the proposed Project area, and other areas of apparent frequent and/or prolonged exposure" (EPA, 2012).

The analysis for EO 13045 requires the assessment of readily available demographic data and information on local, regional, and national populations. The number and distribution of children less than 19 years old in the ROI and ROC are evaluated to determine whether they would be exposed to environmental health and safety risks from the Preferred Alternative and the Reduced Build Alternative.

As shown in Table 3.7-5, in general, the state population is slightly younger than that of San Diego County. Approximately 6.5 percent of both San Diego County's and California's population are children under the

age of five. Approximately 12.2 percent and 13.2 percent are between the ages of five and 19 in San Diego County and California, respectively. The representation of children in the State of California between the ages of five and 19 is about one percent higher than in San Diego County (USCB, 2016a).

Table 3.7-5. Youth Populations in the ROI and ROC

Location	Total Population	Percent of Children Under 5 years	Percent of Children 5 to 19 years
San Diego County[a]	3,253,356	6.5	12.2
California[b]	38,654,206	6.5	13.2

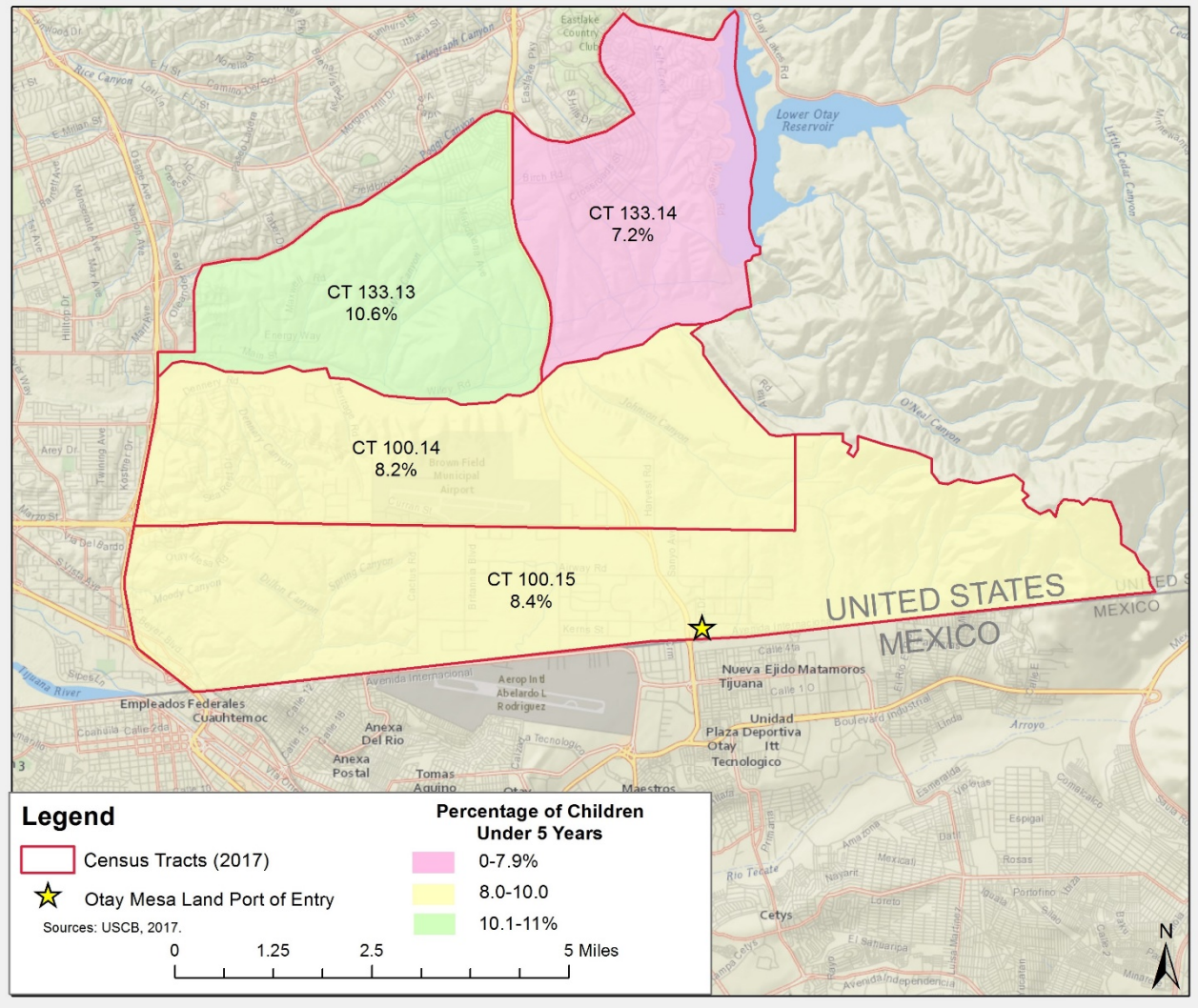
Source: USCB, 2016a.

Notes: [a]ROI; [b]ROC; ROI = Region of Influence; ROC = Region of Comparison.

Youth Populations by Census Tracts

As with minority and low-income populations, because of the site-specific nature of the Preferred Alternative and Reduced Build Alternative, data are used to identify high concentration "pockets" of youth populations and describe the distribution of children across San Diego County.

Pursuant the EPA's 2012 *Memorandum Addressing Children's Health through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act*, CTs were examined to identify the age distribution in San Diego County, specifically children under the age of five in the vicinity of the Otay Mesa LPOE. As shown in yellow in Figure 3.7-3, the Preferred Alternative and Reduced Build Alternative are located in an area where children under 5 years represent eight to 10 percent of the total CT population. The Otay Mesa LPOE is shown with a yellow star outlined black.



Sources: USCB, 2016c; USCB, 2017.

Figure 3.7-3. Children under 5 years in Census Tracts near the Otay Mesa LPOE

As shown in Table 3.7-6, in general, the four-CT population is younger than that of San Diego County. Approximately 8.5 percent of the population in the four CTs are children under the age of five and approximately 15.6 percent are between the ages of five and 19. The representation of children under the age of five is about two percent higher in the four CTs than in San Diego County, and the representation of children between the ages of five and 19 in the four CTs is about 3.4 percent higher than in San Diego County (USCB, 2016a; USCB, 2016c).

Table 3.7-6. Youth Populations in Census Tracts near the Otay Mesa LPOE

Location	Total Population	Percent of Children Under 5 years	Percent of Children 5 to 19 years
100.15[a]	2,872	8.4	13.2
100.14	20,851	8.2	13.8
133.13	14,371	10.6	15.5
133.14	19,151	7.2	18.2

Location	Total Population	Percent of Children Under 5 years	Percent of Children 5 to 19 years
Aggregate of CTs	57,425	8.5	15.6
San Diego County	3,253,356	6.5	12.2

Sources: USCB, 2016a and USCB, 2016c.

Note: [a]Preferred Alternative and Reduced Build Alternative are located in CT 100.15; CTs=Census Tracts.

These CT data are compared with previously defined "pockets" of minority or low-income populations; as EO 13045 recognizes that children of environmental justice populations are more likely to be exposed to, and have increased health and safety risks from, environmental contamination than the general population. Under the Preferred Alternative and the Reduced Build Alternative, children in areas defined as minority environmental justice populations (i.e., the four CTs) will be evaluated for disproportionate impacts as it relates to a child's health and safety.

3.7.2 Environmental Consequences

Consideration of the potential consequences for environmental justice requires three main components:

1. A demographic assessment of the affected community to identify the presence of minority or low-income and youth populations that may be potentially affected.
2. An assessment of all potential impacts identified to determine if any result in significant adverse impact to the affected environment.
3. An integrated assessment to determine whether any disproportionately high and adverse impacts exist for minority or low-income groups and youth populations present in or near the Project area.

As described in the affected environment, San Diego County represents the primary focus and ROI for any direct and indirect impacts to environmental justice populations that may be associated with the implementation of the Preferred Alternative and the Reduced Build Alternative. For purposes of comparison, the state of California was defined as the geographic unit of comparison and the "general" population (the ROC). San Diego County does not constitute a low-income population because low-income populations do not exceed 50 percent and are not substantially higher (i.e., more than 10 percent higher) than the percentage of low-income populations in the State. Disproportionate impacts to low-income populations in San Diego County would therefore not occur and are not discussed further. However, San Diego County consists of a minority population by both CEQ definitions. The four CTs within five miles of the Otay Mesa LPOE also consist of a minority population because more than 50 percent of the population are minorities. The potential for these populations to be displaced, suffer a loss of employment or income, or otherwise experience adverse effects to general mental and physical health and well-being is assessed in the pursuant sections to determine whether any disproportionately high and adverse impacts would occur as a result of the Preferred Alternative or the Reduced Build Alternative.

In compliance with EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, this analysis examines local and regional demographic data; evaluates the number and distribution of children in or near the Project area; and discerns whether these children could be exposed to environmental health and safety risks from the Preferred Alternative and the Reduced Build Alternative. The analysis considers that physiological and social development of children makes them more sensitive to health and safety risks than adults. It also recognizes that children in minority and low-income populations are more likely to be exposed to, and have increased health and safety risks from, environmental contamination than the general population. Activities that result in air emissions, water

discharges, and noise emissions are considered to have severe environmental health and safety risks if they were to generate disproportionately high environmental effects on youth populations within the ROI. Potential effects include health and safety concerns such as respiratory issues, hearing loss, and interruption of communication or attention in nearby residences and schools with children present.

Overall, San Diego County meets the regulatory definition of a minority population, or an environmental justice population. Places where children "learn, live, and play" in CTs 100.15, 100.14, 133.13, and 133.14 are the focus of this analysis for impacts as it relates to their health and safety.

3.7.2.1 Preferred Alternative (Alternative 1)

Minority Populations

Any short-term impacts would last 24 to 30 months, and up to 36 months during construction activities (GSA, 2018a). Long-term impacts refer to impacts that would occur once construction activities are complete. The types of short- and long-term impacts that are evaluated include:

- **Noise Disturbances** – Disturbances could occur from an increased level of noise created by construction equipment and vehicles associated with demolition and redevelopment activities.
- **Air Quality Impacts** – Health impacts could occur from an increase or decrease in fugitive dust and exhaust emissions and an increase or decrease in particulate matter (PM) from operation of construction equipment and earth-moving activities.
- **Congestion** – An increase or decrease in congestion/traffic and travel time could affect residents in CTs 100.15, 100.14, 133.13, and 133.14 accessing health care or parks.
- **Job Opportunities** – Social and economic benefits could occur due to the construction jobs created in the short-term.

Noise Disturbances

Short-term increases in noise would result from the temporary use of heavy equipment during construction and would result in adverse, minor impacts. Employees in buildings adjacent or close to the Otay Mesa LPOE would be most affected by increased levels of noise. To ensure Project construction activities would not violate any Federal, state or local noise ordinance, BMPs (described in Section 3.5), would be implemented to reduce potential noise impacts. Long-term noise increases would likely result from the additional capacity of vehicles that would be processed by the upgraded LPOE, and cause adverse impacts. However, the Otay Mesa LPOE is located in the Otay Mesa community South Planning District, which is designed for "heavy industrial uses," so there are no residential areas in close proximity to the Otay Mesa LPOE (San Diego, 2014). As such, increased noise levels during construction or operations would not be felt by and therefore not affect minority populations located several miles away. The extent of both short- and long-term impacts would be medium or localized as noise impacts from building construction can usually be heard from approximately 1,000 feet. Short- and long-term impacts to environmental justice communities would be negligible. The likelihood of short- and long-term adverse impacts is high given that the Otay Mesa LPOE is located in an industrial area and because there are no sensitive receptors (e.g., hospitals, schools) in the immediate vicinity of the Project area.

Air Quality Impacts

Emissions, airborne dust, and soil surface disturbance from the use of on-road and nonroad construction vehicles could degrade air quality in the area surrounding the Otay Mesa LPOE. The majority of the nitrogen oxides (NOx), sulfur dioxide (SO_2), and carbon monoxide (CO) emissions would be associated with the vehicle/equipment exhaust. Since these emissions would occur at ground level, they would likely

cause short-term increases in air pollutant emissions in the immediate vicinity of the Project area. Children would be especially vulnerable due to higher relative doses of air pollution, smaller diameter airways, and more active time spent outdoors and closer to ground-level sources of vehicle exhaust (EPA, 2012). Potential impacts to children are discussed in further detail below under Protection of Children.

For purposes of this analysis, it was assumed that these emissions would not likely be transported more than one mile, except on windy days. Short-term air quality impacts would be felt most by residents and recreationists in CT 100.15, or residents within one mile of the Project area. Indirect air quality impacts could also be felt by residents and recreationists in CTs 100.14, 133.13, and 133.14. Since the parks located closest to the Otay Mesa LPOE – Pacific Gateway Park and Otay Lakes County Park – are 4.3 and 4.4 miles away (respectively); all potential air quality impacts would be indirect. Parks near the Otay Mesa LPOE are summarized below in Table 3.7-7.

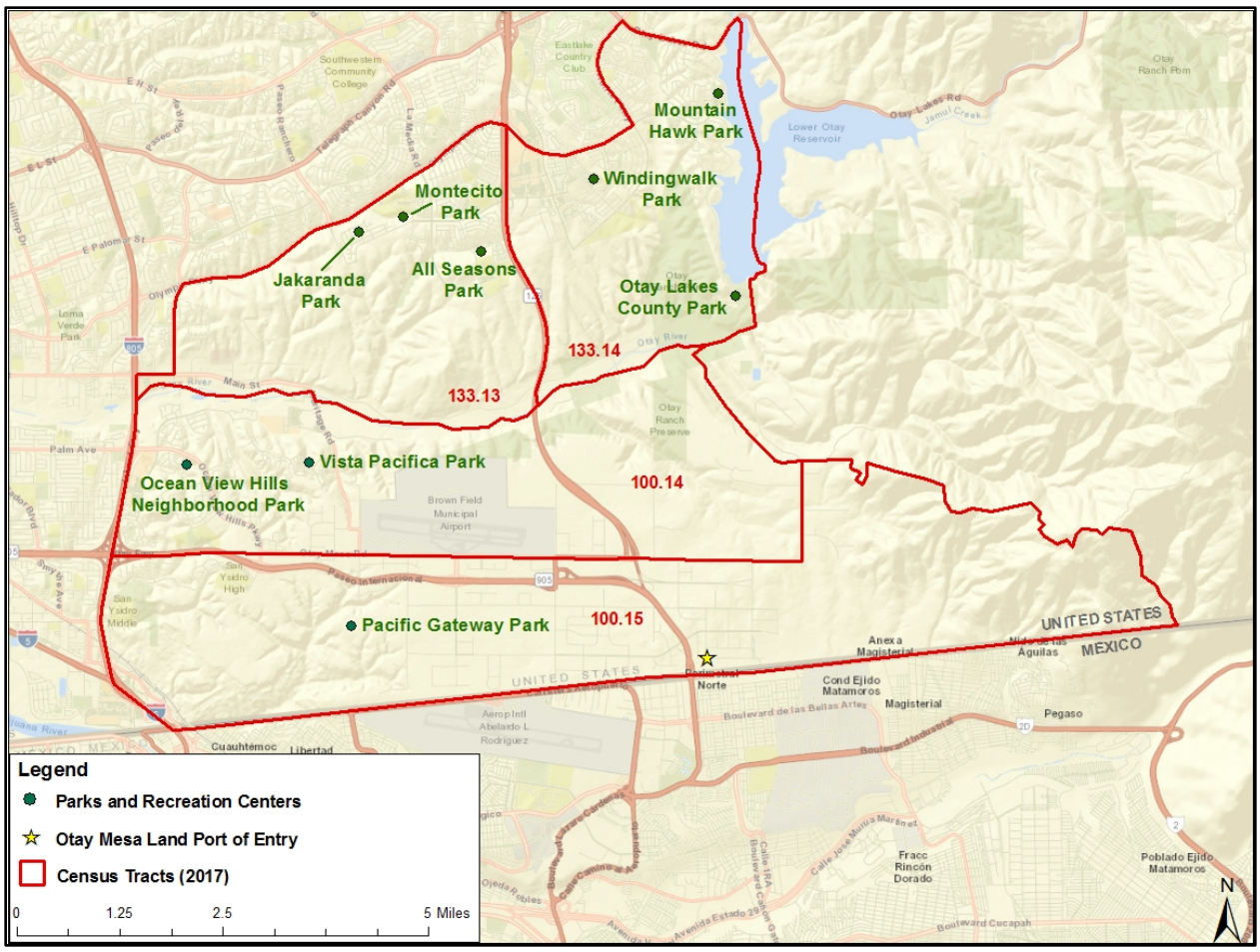
Table 3.7-7. Parks near the Otay Mesa LPOE

Census Tract	Name of Park	Distance from Otay Mesa LPOE (miles)
100.15[a]	Pacific Gateway Park	4.3
100.14	Vista Pacifica Park	5.4
	Ocean View Hills Neighborhood Park	6.7
133.13	All Seasons Park	5.6
	Montecito Park	6.5
	Jakaranda Park	6.7
133.14	Otay Lakes County Park	4.4
	Windingwalk Park	6.0
	Mountain Hawk Park	6.9

Sources: San Diego, 2014; San Diego, 2018.

Note: [a]Preferred Alternative and Reduced Build Alternative are located in CT 100.15.

Short-term, minor, adverse indirect impacts are expected to disproportionately affect resident minority populations. Impacts would be felt most by recreationists at Pacific Gateway Park and Otay Lakes County Park, located 4.3 and 4.4 miles from the Otay Mesa LPOE, respectively. The remaining seven parks listed in Table 3.7-7 above are located between five and seven miles from the Otay Mesa LPOE. Therefore, indirect adverse short-term air quality impacts would be less intense than the impacts felt at Pacific Gateway Park and Otay Lakes County Park; impacts would likely be negligible. The extent of both short- and long-term indirect impacts would be large because air emissions would need to be transported more than one mile for recreationists to feel its effect. The likelihood of short-term, minor and adverse impacts is high, because air emissions would only be transported more than one mile on windy days. Once construction activities cease, long-term impacts on minority populations living or recreating in CTs 100.15, 100.14, 133.13, or 133.14 would be negligible. Figure 3.7-4 shows the location of the parks relative to the Otay Mesa LPOE.



Sources: USCB, 2017; San Diego, 2014; San Diego, 2018.

Figure 3.7-4. Parks near the Otay Mesa LPOE

Congestion

As discussed in Section 3.4 (Transportation and Traffic), the Otay Mesa LPOE would remain open and would operate at its current capacity for the entire duration of demolition and construction activities. These activities would require additional truck trips to transport waste materials off site for disposal and to deliver construction materials to the site, increasing congestion at and near the Project area. As a result, employees working near the Otay Mesa LPOE could be delayed in accessing their jobsite, and these delays could disproportionately impact minority populations in CTs 100.15, 100.14, 133.13, and 133.14 as well as in the larger San Diego County.

As discussed in Section 3.6 (Socioeconomics), Kaiser Permanente is the closest hospital to the Otay Mesa LPOE and the only healthcare facility in Otay Mesa offering emergency services. The location of the hospital is such that any increased congestion at or near the Otay Mesa LPOE would not affect the ambulances' routes in accessing Otay Mesa residences, which are located further north and west from the Otay Mesa LPOE. However, in the case of an emergency at or near the Otay Mesa LPOE, congestion from construction activities could have serious consequences, although the likelihood of this occurrence is low. Short-term, minor, and adverse impacts would be expected to disproportionately affect resident minority populations due to increased congestion and therefore delays accessing emergency and urgent care facilities. The extent of impacts would be large as all minority populations in CTs 100.15, 100.14,

133.13, and 133.14 that might need to access the hospital or that work near the Otay Mesa LPOE would be adversely impacted by increased congestion in the short term. In the long term, adverse impacts would be negligible once construction activities cease.

Job Opportunities

As discussed in Section 3.6 (Socioeconomics), the Preferred Alternative would create direct construction jobs in the short term. The majority of construction workers would be hired locally or from San Diego County for 24-30 months, and up to 36 months (GSA, 2018a). The PCPI and compensation of employees in the construction sector in San Diego County would be expected to increase slightly during the construction period; and the unemployment rate in San Diego County would likely decrease slightly. Indirect jobs could be created when the design/build firm makes purchases at local vendors and when workers shop at local retail stores and establishments. Induced impacts would occur when employees of the directly and indirectly affected industries spend the wages they receive. The indirect and induced jobs created would likely include relatively low-wage jobs such as restaurant workers or convenience store clerks. Potential economic and health benefits associated with jobs could disproportionately benefit minorities in the area that are in search of a job. Jobs and income are strongly associated with a number of beneficial health outcomes such as an increase in life expectancy, improved child health status, improved mental health, and reduced rates of chronic and acute disease morbidity and mortality (HDA, 2004; Cox et al., 2004).

Economic and health impacts could disproportionately benefit minority populations in search of a job. Direct and indirect, beneficial impacts due to the creation of jobs associated with the Preferred Alternative would be minor. The likelihood of these beneficial impacts is high because the link between jobs and income and beneficial health outcomes mentioned above is well-established. The extent of impacts would be large because all minority populations in search of a job in San Diego County could benefit. The social and economic benefits of indirect and induced job creation would not be permanent and would largely be reversed in the long-term, after construction is complete.

Protection of Children

As with potential impacts to minority populations, any short-term impacts would last 24 to 30 months, and up to 36 months during construction activities; and any long-term impacts would occur once construction activities are complete. This analysis considers the following types of short- and long-term impacts on children:

- **Noise Disturbances** – Increased level of noise created by construction equipment and vehicles could affect children's learning, especially near homes, schools, and recreational areas.
- **Mobile Source Air Pollutant Emissions** – Children living or playing near the Otay Mesa LPOE could be impacted by an increase or decrease in emissions. Children are especially vulnerable due to higher relative doses of air pollution, smaller diameter airways, and more active time spent outdoors and closer to ground-level sources of vehicle exhaust.
- **Congestion and Obesity Factors** – An increase or decrease in congestion in the immediate area could affect opportunities for children to exercise outdoors and the accessibility of neighborhood parks, green spaces, and recreation areas. Children living or playing in CT 100.15 could be particularly affected.

Possible impacts under the Preferred Alternative to youth community and recreational facilities such as childcare centers, schools, parks, and social welfare facilities geared towards families (i.e., Head Start programs) located near the Otay Mesa LPOE would determine the characterization of impacts as posing

a concern to the protection of children. Potential impacts to children at relevant youth community and recreational facilities near the Otay Mesa LPOE are discussed below and are included based on their location and proximity relative to the Project area.

Noise Disturbances

As discussed above, increased noise levels would occur from the use of on-road and nonroad vehicles during demolition and rebuilding activities. Locations more than 1,000 feet from project areas seldom experience appreciable levels of construction noise. As shown in Table 3.7-8, all daycare centers, pre-schools, elementary schools, middle schools, and high schools are located more than five miles from the Otay Mesa LPOE – or more than 1,000 feet. As such, noise disturbance would not affect learning at any of the schools in Otay Mesa.

Table 3.7-8. Schools or Educational Centers near the Otay Mesa LPOE

Census Tract	Name of School	Distance from Otay Mesa LPOE (miles)
100.15[a]	San Ysidro Middle School	7.1
	San Ysidro High School	5.6
	Beyer State Preschool	7.1
100.14	Vista Del Mar Elementary School	6.4
	Ocean View Hills Elementary School	6.2
	Ocean View Hills Preschool	6.2
133.13	Mater Dei Juan Diego Elementary School	6.1
	East Hills High School	5.0
	Olympian High School	5.1
	Mater Dei Catholic High School	6.0
	Otay Ranch High School	6.5
	Right At School	6.0
	South Bay YMCA – Veterans Elementary	6.3
	South Bay YMCA – Maraoka (Saburo)	6.2
	South Bay YMCA – Wolf Canyon	5.3
133.14	South Bay YMCA - Arroyo Vista	6.9
	New Hope Community Church – Tiny Tots Program	6.2
	Kids on the Go	5.9
	Concordia Child Care	5.7
	South Bay YMCA – Camarena (Enrique S.)	5.7
	High Tech Elementary School	5.2
	High Tech Middle School	5.2
	High Tech High School	5.2

Sources: USCB, 2017; SanGIS, 2017b; SanGIS, 2018.

Note: [a]The Preferred Alternative and Reduced Build Alternative are located in CT 100.15.

Mobile Source Air Pollutant Emissions

Emissions, airborne dust, and soil surface disturbance from the use of on-road and nonroad construction vehicles could degrade the air quality. As discussed above under Minority Populations, since the NOx, SO_2, and CO emissions associated with the vehicle/equipment exhaust would occur at ground level, they would likely cause short-term increases in air pollutant emissions in the immediate vicinity of the Project area.

However, it is assumed that these emissions would not be transported more than a one mile, except on windy days.

As shown in the above Table 3.7-7 and Table 3.7-8, none of the parks and daycare centers, pre-schools, and elementary schools in Otay Mesa are located within one mile of the Otay Mesa LPOE. Young children playing outside (e.g., during recess) at daycare, pre-school, and elementary schools shown in Figure 3.7-5 below and at parks in Figure 3.7-4 above could, however, experience indirect, adverse effects in the short term. In particular, children at High Tech Elementary School and at South Bay YMCA (Wolf Canyon), located 5.2 and 5.3 miles from the Otay Mesa LPOE (respectively), could experience respiratory issues due to the increases in mobile source air pollutant emissions. Similarly, children playing at the Pacific Gateway Park and Otay Lakes County Park, located 4.3 and 4.4 miles away (respectively) could experience adverse impacts.

Short-term, minor and indirect adverse impacts on children living, learning, and playing at parks and schools near the Otay Mesa LPOE are expected due to nonroad vehicles used during demolition and redevelopment activities. In the long-term or once construction ceases, the associated emissions would no longer occur. As for air quality impacts on minority populations discussed above, the extent of both short- and long-term indirect impacts would be large because air emissions would need to be transported more than one mile for children to feel its effect. The likelihood of short-term, minor and indirect adverse impacts is high, because air emissions would only be transported more than one mile on windy days.

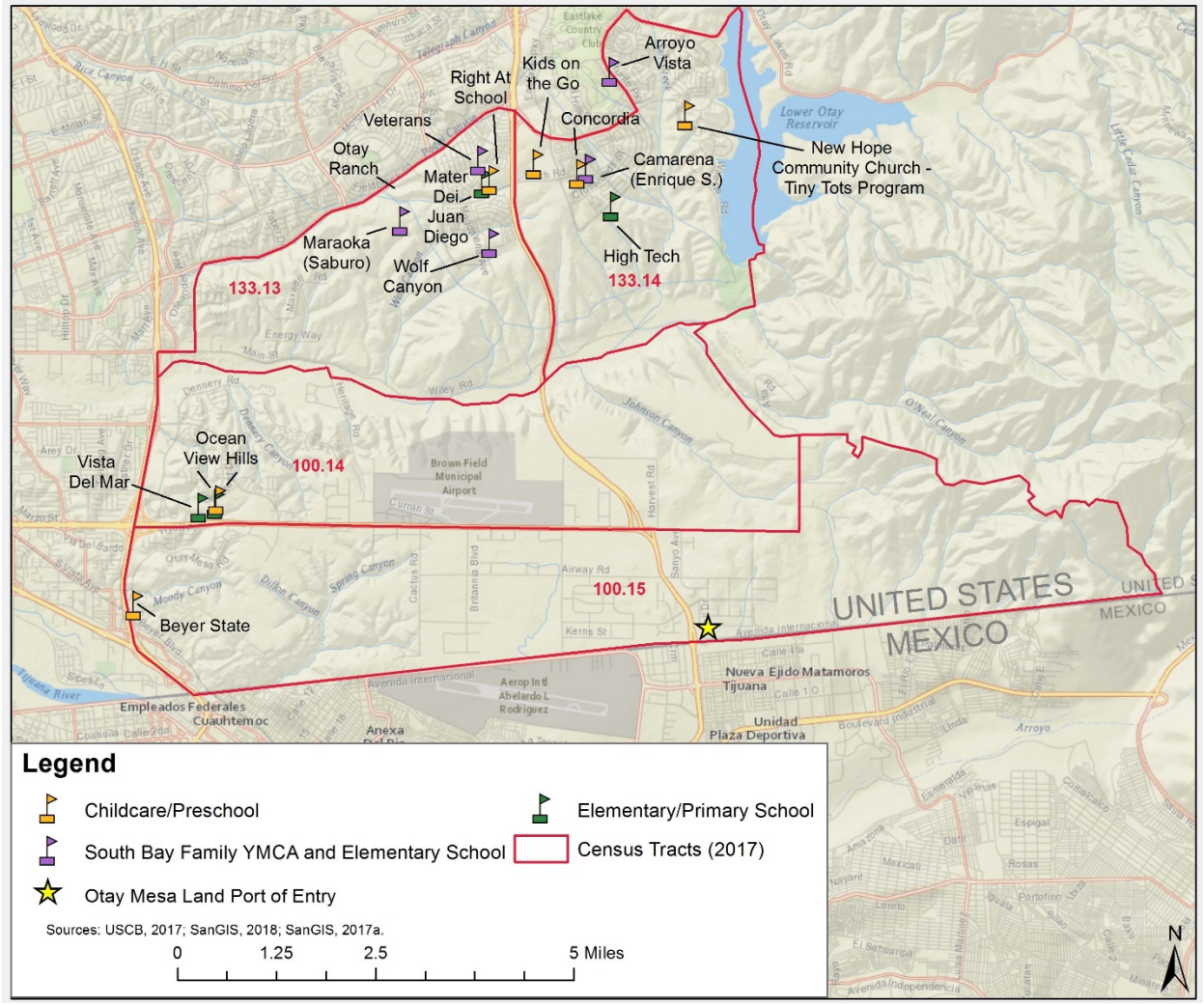


Figure 3.7-5. Daycare Centers, Pre-Schools, and Elementary Schools near the Otay Mesa LPOE

Congestion and Obesity Factors

As discussed above, congestion is expected to increase around the Otay Mesa LPOE in the short term due to additional truck trips to transport waste materials off site for disposal and to deliver construction materials to the site. However, given the relatively few number of parks near the Otay Mesa LPOE (see Table 3.7-7 and Figure 3.7-4), congestion is not expected to reduce opportunities for children to exercise outdoors in the short or long term. Further, construction would primarily occur during normal weekday business hours and therefore would be less likely to affect a child's ability to access parks – assuming parks are more popular during weekends. The extent of impacts would be medium and the likelihood of impacts would be high.

3.7.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, no new construction would occur on the 10-acre GSA-owned land that would take place under the Preferred Alternative. Instead, the 10-acre lot would be paved and commercial exit booths would be relocated onto the newly paved area.

It is assumed that the use of heavy equipment under the Reduced Build Alternative would be less than under the Preferred Alternative. Therefore, noise disturbances, increased air emissions, and congestion described under the Preferred Alternative are expected to be less intense compared to the Reduced Build Alternative. Short-term, adverse impacts on minority populations and children in CTs 100.15, 100.14, 133.13, and 133.14 are expected to be negligible. Many of the facilities proposed for construction under the Preferred Alternative would not be built and the capacity of the Otay Mesa LPOE would not increase; but San Diego County would continue to grow. While the relocation of commercial booths to the 10-acre parcel would increase efficiency slightly at the Otay Mesa LPOE in the long term, emissions from idling vehicles at the Otay Mesa LPOE would disproportionately affect minority populations and children due to worsening air quality. The likelihood of impacts is high and the extent is medium or localized.

As under the Preferred Alternative, economic and health impacts could disproportionately benefit minority populations in search of a job. Compared to the Preferred Alternative, fewer construction jobs would be created under the Reduced Build Alternative. As such, beneficial impacts due to the creation of construction jobs would also occur under the Reduced Build Alternative, but the intensity of the impacts are expected to be negligible to minor. The social and economic benefits of job creation would not be permanent and would largely be reversed in the long-term, after construction is completed. As under the Preferred Alternative, the likelihood of impacts is high and the extent is large.

3.7.2.3 No Action Alternative

Under the No Action Alternative, conditions at the Otay Mesa LPOE would remain as they currently exist and no demolition, construction, or renovation activities would occur. Disproportionately high and adverse effects to minority or youth populations are not anticipated in the short term. Potential short-impacts under the Preferred Alternative and the Reduced Build Alternative due to noise disturbances, increased air emissions, and social and economic benefits from jobs would not occur under the No Action Alternative. Similarly, potential short-term impacts under the Preferred Alternative and Reduced Build Alternative due to noise disturbances and mobile source air pollutant emissions associated with construction activities would not affect where children live, work, and play under the No Action Alternative.

Long-term, minor, adverse effects on minority populations and children near the Otay Mesa LPOE are expected as San Diego County would continue to grow but the capacity and efficiency at the Otay Mesa LPOE would not increase. As under the Reduced Build Alternative, emissions from idling vehicles at the Otay Mesa LPOE would disproportionately affect minority populations and children due to worsening air quality. The likelihood of minor, adverse, long-term effects would be high, and the extent would be medium or localized.

3.8 VISUAL RESOURCES AND AESTHETICS

The Federal Highway Administration (FHWA) characterizes visual resources in terms of two components: visual character and visual quality. Visual character is descriptive and non-evaluative, which means it is based on visual attributes such as color and texture and pattern character such as scale and contrast. Visual quality is evaluated by identifying the vividness, intactness and unity present in the viewshed. These terms are briefly defined below:

- Vividness is the visual power or memorability of landscape components, as they combine in distinctive visual patterns.
- Intactness is the visual integrity of the natural and constructed landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

3.8.1 Affected Environment

There are no designated scenic view corridors, vistas, viewing areas or other scenic resources within the vicinity of the area of analysis for visual resources for this Project. The area of analysis is defined in Chapter 1 as approximately 13.5 acres, which represents the anticipated maximum extent of disturbance on the existing LPOE site and the 10-acre, GSA-owned lot, including improvements, staging areas and temporary impacts resulting from Project construction (GSA, 2017b). The Project is not in an area subject to any local, state or Federal agency visual quality objectives (GSA, 2018c). The area of analysis and immediate surroundings are highly developed. Public views looking into Otay Mesa are limited due to visual barriers, such as intervening topography, existing buildings and differences in elevation. There are multiple, large-scale industrial buildings located in the vicinity of the Project. The area is zoned for industrial use only and is highly disturbed.

As described in greater detail in Section 1.2.3, Existing Facilities, the Otay Mesa LPOE currently consists of the Pedestrian, Commercial Import and Export buildings and 12 POV inspection booths. Figure 3.8-1 shows one view of the Commercial Import Building. The entirety of the existing LPOE site is paved and the majority of the site is further developed with existing structures.

Figure 3.8-1. View of Existing Otay Mesa LPOE Commercial Import Building

The GSA-owned lot proposed for development (Figure 3.8-2) is previously disturbed and covered with grass, trees and a gravel driveway. The lot is currently undeveloped and the visual landscape is relatively open in this area.

Figure 3.8-2. GSA-Owned Lot Proposed for Development

3.8.2 Environmental Consequences

The assessment of impacts on visual resources and aesthetics considers the overall visual and aesthetic quality of an area, the visual and aesthetic experience and expectation of viewers and the scale and contrast between existing and proposed elements of the Proposed Action.

For this Project, impacts on visual resources and aesthetics would be considered major if there were a significant change to any of the following factors:

- The overall visual and aesthetic quality of the Otay Mesa viewshed;
- The visual and aesthetic experience and expectation of viewers observing the Otay Mesa LPOE; or
- The scale and contrast between existing and proposed elements in the Project area.

An impact would be considered major if a currently visually appealing element within the Otay Mesa viewshed were altered or removed or a currently unappealing element of the Otay Mesa viewshed were significantly improved.

3.8.2.1 Preferred Alternative (Alternative 1)

The Preferred Alternative would include improvements, renovation, demolition, and new construction within the LPOE and adjacent 10-acre lot as well as the demolition of the existing hazardous materials dock and relocation to the new 34,000-sf CAB. Also, the existing USDA Plant Inspection Station would be moved to a new standalone building in the 10-acre plot of land. Other activities would include the construction of four new commercial lanes and additional commercial inspection and exit booths.

In the short term, the visual quality and character of the area of analysis would be impacted by the presence of construction materials, temporary holding cells, heavy equipment and construction vehicles. There is high likelihood that the short-term impacts due to construction activity would be moderate and localized, as the change would be noticeable and would affect the entire Project area and immediate surroundings. Short-term visual impacts would be adverse as a result of the unappealing aesthetic nature of these elements.

Under the Preferred Alternative, there is a high likelihood of long-term, localized and moderate impacts to visual resources and aesthetics based on the level and type of change that would occur under this alternative. Impacts to visual character may be considered beneficial or adverse, depending on the perception of the viewer.

The conversion of the 10-acre lot to a large industrial building would alter the visual experience of those observing the site. This change would be long-term and localized. However, an objective viewer could perceive this change as either beneficial or adverse, depending on the individual's preferences. If the viewer prefers undeveloped land to developed land, then the change in visual character would be adverse. If the viewer prefers the view of a new industrial building instead of undeveloped land, the change in visual character would be beneficial. Construction of the new facility would create greater cohesion or unity in the already-developed landscape. Additional changes due to the refurbishment of the pedestrian lanes, construction of new lanes, refurbishment of the interior and exterior of buildings and pedestrian path improvements are highly likely to result in localized, moderate and beneficial impacts as a result of improvement to the visual quality and character of the facilities and infrastructure.

3.8.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, the new CAB would not be constructed, and the existing import docks would not be demolished and relocated. Although several renovations and the other new construction activities would not occur within the LPOE, existing buildings would be renovated for code/safety reasons to include painting, new lighting, and repaving parking areas. The 10-acre lot would be paved and used for traffic flow. The USDA Plant Inspection Station would be constructed on this lot regardless of the alternative chosen.

Under the Reduced Build Alternative, there is a high likelihood of adverse, negligible, localized short-term impacts to the visual quality and character of the Project area as a result of construction activities for the same reasons as under the Preferred Alternative. Short-term impacts under the Reduced Build Alternative would be approximately the same as under the Preferred Alternative, though impacts may be slightly reduced in magnitude since the CAB would not be constructed.

The Reduced Build Alternative is highly likely to result in long-term, beneficial, moderate and localized impacts on visual resources as a result of the aesthetic improvement of the facilities and infrastructure. Pavement of the 10-acre plot of GSA-owned land and construction of the USDA Plant Inspection Station would be highly likely to create long-term, moderate, and localized impacts to visual resources and aesthetics for the same reasons as these impacts would occur under the Preferred Alternative. Impacts to the visual quality of the site would be either adverse or beneficial, depending on the subjective perspective of the observer.

3.8.2.3 No Action Alternative

Under the No Action Alternative, no construction or renovations to the existing Otay Mesa LPOE would occur. As under the other alternatives, the existing USDA Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre, GSA-owned site previously described. As under the Reduced Build Alternative, pavement of the 10-acre plot of GSA-owned land and construction of the USDA Plant Inspection Station would be highly likely to create long-term, moderate, and localized impacts to visual resources and aesthetics for the same reasons as these impacts would occur under the Preferred Alternative. Impacts to the visual quality of the site would be either adverse or beneficial, depending on the subjective perspective of the observer. Under the No Action Alternative, the beneficial impact that would occur following renovations at the existing LPOE site under the Preferred and Reduced Build Alternatives would not occur.

3.9 CULTURAL RESOURCES

This section describes the current setting for cultural resources and evaluates the potential environmental effects to cultural resources as a result of the proposed Project and alternatives. Cultural resources are historic properties as defined by the National Historic Preservation Act of 1966 (NHPA), cultural items as defined by the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), archaeological resources as defined by the Archaeological Resources Protection Act of 1979 (ARPA), sacred sites as defined by EO 13007, and collections and associated records as defined by 36 CFR 79. Cultural resources are associated with human use of an area. They may include archaeological sites, historic properties, or ethnographic locations associated with past and present use of an area. A cultural resource can be physical remains, intangible traditional use areas, or an entire landscape, encompassing past cultures or present, modern-day cultures. Physical remains of cultural resources are usually referred to as archaeological sites or historic properties.

Regulatory Setting

The following acts and regulations comprise the regulatory setting for cultural resources. The principal Federal statutes governing the management of cultural resources or historic properties on Federal and tribal lands include the NHPA; NEPA; Archaeological and Historic Preservation Act of 1974; Antiquities Act of 1906 and ARPA; NAGPRA; EO 11593; Historic Sites Act of 1935; and the American Indian Religious Freedom Act of 1978. State and local regulations also apply.

National Historic Preservation Act of 1966

The NHPA, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Section 106 of the NHPA requires Federal agencies to consider the effects of their activities on such properties. Implementing regulations for Section 106 are at 36 CFR 800 (Protection of Historic Properties), which requires the responsible Federal agency, in consultation with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), to determine the level of effort to identify historically significant cultural resources in the area of potential effect (APE) of the undertaking. This usually requires a review of existing records to determine the presence of properties that are listed on the NRHP within the APE and an archaeological survey of the APE to identify potential historic properties that have not been previously identified and evaluate their potential for inclusion on the NRHP. The responsible Federal agency must then give consideration to the effects of the undertaking upon properties listed on the NRHP or potentially eligible for listing on the register, in consultation with the appropriate SHPO and/or THPO. The process established in these implementing regulations help ensure that the presence of historic properties, and possible effects to these properties, are considered as early as possible in the Federal project planning process.

National Environmental Policy Act of 1969

In accordance with 36 CFR Part 800, Federal agencies are encouraged to coordinate studies and documents prepared under Section 106 with those done under NEPA. Section 800.8(a) of the regulations provides guidance on how NEPA and Section 106 processes can be coordinated. The GSA will conform to the consultation, identification and documentation standards set forth in 36 CFR Part 800.8(c), and will notify in advance, the SHPO and Advisory Council on Historic Preservation (ACHP), where it intends to use the NEPA process to comply with Section 106.

Archaeological and Historic Preservation Act of 1974

The purpose of the Federal Archaeological and Historic Preservation Act (54 U.S.C 312501-312508) is to preserve significant historical and archeological data which might otherwise be irreparably lost or destroyed as a result of a number of incidents or developments, including Federal construction projects. These data may include sites, buildings, objects, and antiquities of national significance. Protection of these resources may include surveys and recovery efforts when deemed appropriate.

Antiquities Act of 1906 and Archeological Resources Protection Act of 1979

The Antiquities Act of 1906 (54 U.S.C 320301-320303) and the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) prohibit the unauthorized excavation, removal, damage, alteration, defacement, or the attempt of such acts on Federal lands. ARPA provides legal penalties and establishes a permitting system to authorize excavation or removal of archaeological resources by qualified applicants.

Native American Graves Protection and Repatriation Act of 1990

The Federal Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.) provides for ownership and control of Native American cultural items which are excavated or discovered on Federal or tribal lands after November 16, 1990. The Act prioritizes recipients of such items and defines conditions under which such items may be discovered, studied, or removed.

Executive Order 11593

EO 11593, Protection and Enhancement of the Cultural Environment, was signed in 1971 to commit the Federal government to "preserving, restoring and maintaining the historic and cultural environment of the Nation." It directs Federal agencies to preserve and protect cultural resources as trustees and in such a way as to benefit current and future populations, to contribute to the preservation and protection of non-federally owned cultural resources and to nominate all eligible government properties to the NRHP.

California Register of Historical Resources

Historical resources in California are also considered under the California Public Resources Code Section 5024.1, which established the California Register of Historical Resources (CRHR). The CRHR includes resources listed in, or formally determined eligible for listing in, the NRHP, as well as some California State Landmarks and Points of Historical Interest.

City of San Diego Historical Resources Register

Because the proposed Project is located in Otay Mesa, which is within the City of San Diego, historical resources should be evaluated for eligibility for the City of San Diego Historical Resources Register (City Register). Any improvement, building, sign, interior element and fixture, feature, site, place, district, area, or object may be designated as historic by the City of San Diego Historical Resources Board (HRB) if it meets eligibility criteria established by the Historic Resources Guidelines of the City of San Diego's Land Development Manual. The resource must meet one of the following criteria (HRB, 2011).

- Exemplifies or reflects special elements of the City's, a community's, or a neighborhood's, historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping, or architectural development;
- Is identified with persons or events significant in local, state or national history;
- Embodies distinctive characteristics of a style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- Is representative of the notable work of a master builder, designer, architect, engineer, landscape architect, interior designer, artist, or craftsman;

- Is listed or has been determined eligible by the National Park Service for listing on the NRHP or is listed or has been determined eligible by the SHPO for listing on the State Register of Historical Resources; or
- Is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City.

Community Plan Implementation Overlay Zone

Future development in areas designated for commercial and industrial uses on properties that have not been previously graded (as with the proposed Project), or have been graded but have not been developed, would be subject to review in accordance with the Community Plan Implementation Overlay Zone (CPIOZ) regulations (San Diego, 2000). The intent of these regulations is to ensure that development proposals are reviewed for consistency with the use and development criteria that have been adopted for specific sites as part of the community plan update process. Projects that are consistent with CPIOZ regulations and that can demonstrate that there are no archaeological resources present on the Project site; the site would not be subject to further environmental review.

3.9.1 Affected Environment

The APE for archaeological resources includes the property associated with the existing Otay Mesa LPOE and 10 acres of undeveloped land owned by GSA directly east of the LPOE. The total maximum area of disturbance is approximately 13.5 acres. This area is defined as parcels 28, 30, and 35, San Diego Assessor's Map 16523. Originally constructed in 1984, the LPOE consists of several functional areas and structures. In 1994, the commercial import facilities were added to the western portion of the LPOE, including roadways for commercial trucks. The undeveloped 10-acre lot was previously used for agricultural purposes (Parsons, 2009).

As in the 2018 EA for the USDA's proposed Animal and Plant Health Inspection Service (APHIS) Plant Inspection Station at the Otay Mesa LPOE, a 1/2-mile APE radius for historic architectural resources was determined to be appropriate due to the highly developed nature of the surrounding area and since the proposed CAB and Plant Inspection Station would both be less than 30 feet in height. The proposed structures would not be visible from most areas of the APE for historic architectural resources.

A historic survey of Otay Mesa was completed in December 2008 by the City of San Diego's City Planning and Community Investment as part of preparation of the 2014 Otay Mesa Community Plan (San Diego, 2008). This investigation, which included archival research and a reconnaissance survey, applied to the area bounded by the limits of the Otay Mesa Community Planning Area, which is bounded by the Otay River Valley and the City of Chula Vista to the north, the international border to the south, I-805 to the west, and the County of San Diego to the east (San Diego, 2008). The aim of the survey was to determine areas on Otay Mesa in which aboveground historical resources may be present.

A Cultural Resource Evaluation on the renovation and reconfiguration of the Otay Mesa LPOE was conducted by Parsons in November 2009 for the GSA. Parsons archaeologist Diane Rhodes conducted a pedestrian survey of the 10-acre undeveloped lot and determined that no significant resources would be affected by the Project (Parsons, 2009). No paleontological resources were observed in the Project area. The existing LPOE was not surveyed because it is comprised of modern buildings, structures, landscaping and paved areas. The entire area surrounding the LPOE consists of modern industrial and commercial

facilities; there are no historic structures or cultural landscapes within the LPOE or its immediate surroundings (Parsons, 2009).

No historic sites within Otay Mesa are currently listed on the NRHP. However, seven sites were identified by the 2008 survey that are considered locally important, historical resources. These sites are all located within the Auxiliary Naval Air Station Brown Field Historic District, approximately 2.25 miles northwest of the Project area, outside of the area of analysis. These sites reflect the area's history of aviation use and the early development of the area as an agricultural community (San Diego, 2008).

A records search was conducted in January 2018 by the South Coastal Information Center at San Diego State University to inform the 2018 USDA APHIS Otay Mesa LPOE EA. This records search included a review of all cultural resource records and reports within a 1-mile radius of the 10-acre lot adjacent to the existing LPOE facility. The proposed APHIS Plant Inspection Station project is considered a connected action to the GSA-proposed Otay Mesa LPOE renovation and expansion discussed in this EIS.

Additional studies that have been conducted on parts of the Project's APE include a 1994 City of San Diego/California Department of Transportation (CALTRANS) survey, and Archaeological Testing and National Register Eligibility for JTF-6 Border Lighting Project, Otay Mesa Border Lighting Project. Both projects investigated a linear corridor at the southern extent of the Project APE (GSA, 2018c). No archaeological resources, historic resources, or existing Native American religious or sacred places were identified in the Project APE during these or other studies. However, one archaeological site, SDI-010081, was previously documented approximately 750 feet to the east of the Project APE. Four additional archaeological sites were identified within 0.5 miles of the Project APE (GSA, 2018c) and are described in Table 3.9-1.

Table 3.9-1. Archaeological Sites within 0.5 Miles of APE

Resource Number	Resource Description	NRHP Recommendation/Status
CA-SDI-008081	Prehistoric resource extraction and processing/ temporary habitation site	Recommended eligible
CA-SDI-009099	Prehistoric lithic scatter with habitat debris and milling surfaces	Not determined
CA-SDI-012256	Prehistoric resource extraction and processing/temporary habitation site	Not eligible
CA-SDI-012887	Prehistoric sparse lithic scatter	Unknown

Source: GSA, 2018c.

3.9.2 Environmental Consequences

The analysis and conclusions presented in this subsection are based on the December 2008 historic survey of Otay Mesa and the January 2018 records search, both described in Section 3.9.1.

3.9.2.1 Preferred Alternative (Alternative 1)

This section evaluates potential impacts to both archaeological resources and historic resources from implementation of the Preferred Alternative. The Preferred Alternative would include improvements, renovation, demolition, and new construction within the LPOE and 10-acre lot as well as the demolition of the existing hazardous materials dock and relocation to the new 34,000-sf CAB. Also, the existing USDA Plant Inspection Station would be moved to a new standalone building in the 10-acre plot of land. Other

activities would include the construction of four new commercial lanes and additional commercial inspection and exit booths.

Archaeological Resources

Excavation would occur to establish the foundations for both the CAB and the USDA Plant Inspection Station. Since no prehistoric cultural resources were identified within the APE during the previous and recent records search and field surveys, impacts to archaeological resources are not anticipated to occur as a result of the Preferred Alternative. However, if cultural materials are discovered during site grading or paving, or following demolition of the hazardous materials dock, all earth-moving activity within and around the immediate discovery area would be avoided until a qualified archaeologist can assess the nature and significance of the find.

If archaeological resources are discovered (the likelihood is anticipated to be low), impacts would be direct, minor in magnitude, permanent, small or limited in extent, and could be considered either adverse or beneficial. Impacts would be the same in both the short-term and the long-term. The impact could be beneficial if the resource discovered was perceived as having value to the public, who would have the opportunity to view the resource in a museum or related facility. The impact would be adverse if the resource were destroyed in the process of conducting site work; however, measures would be taken to protect the resource in the event of discovery.

Historic Resources

The Preferred Alternative would comply with Section 106 of the NHPA. There are no known historic properties or resources within the APE; no historic/cultural resources were identified on the 10-acre parcel of GSA-owned land in the various surveys and records searches described previously. The Otay Mesa LPOE was constructed in 1987 (non-commercial and export facilities) and 1994 (commercial inspection building and associated improvements) (GSA, 2017b) and does not meet the 50-year age threshold for eligibility to the NRHP or City Register. The Auxiliary Naval Air Station Brown Field Historic District, which is on the NRHP, is approximately 2.25 miles from the Project area. The proposed Project would have no effect on the Historic District. There are no known Native American tribal lands, reservations, or trust lands located within Otay Mesa; therefore, no impacts to Native American cultural resources are anticipated as a result of implementation of the proposed action. Thus, there is a high likelihood of no impacts to historic resources.

The GSA sent the SHPO a formal consultation letter on August 18, 2010. This letter is included in Appendix D. Coordination with the SHPO has been completed under Section 106 of the NHPA.

3.9.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, the new CAB would not be constructed, and the existing import docks would not be demolished and relocated. Although several renovations and the other new construction activities would not occur within the LPOE, existing buildings would be renovated for code/safety reasons to include painting, new lighting, and repaving parking areas. The 10-acre lot would be paved and used for traffic flow. The USDA Plant Inspection Station would be constructed on this lot regardless of the alternative chosen. Impacts to cultural resources under the Reduced Build Alternative would be the same as those described for the Preferred Alternative; there is a high likelihood that there would be no impacts to either archaeological or historic resources over both the short-term and the long-term.

3.9.2.3 No Action Alternative

Under the No Action Alternative, no construction or renovations to the existing Otay Mesa LPOE would occur. As under the Preferred and Reduced Build Alternatives, the existing USDA Plant Inspection Station would be moved to a new standalone building in the northwest corner of the 10-acre, GSA-owned site previously described. Impacts to cultural resources resulting from the No Action Alternative would be the same as described above for the Preferred and Reduced Build Alternatives; there is a high likelihood that there would be no impacts to either archaeological or historic resources over both the short-term and the long-term.

3.10 GEOLOGY, SEISMICITY AND SOILS

Geological resources consist of the Earth's surface and subsurface materials. These resources are typically described in terms of geology, topography, soils and geologic hazards. Geology is the study of the Earth's physical structure and composition, as well as the configuration of the surface and subsurface features. Topography describes the general shape and arrangement of the natural and artificial physical features of a land surface. Soils are the unconsolidated material overlying bedrock. Soils are typically described in terms of type, slope[7] and physical characteristics (e.g., structure, permeability, strength and erosion potential). Geologic hazards are natural geologic events that can endanger human lives and threaten property. Examples of geologic hazards include earthquakes and landslides.

3.10.1 Affected Environment

The area of analysis for geological resources includes the Otay Mesa LPOE and 10-acre GSA-owned lot. The Otay Mesa LPOE has been previously disturbed and developed and contains mostly paved surfaces with few landscaped areas. The 10-acre lot is undeveloped but previously disturbed and covered with non-native plant species and a gravel driveway. It was recently used for storage of backfill soil during a construction project (GSA, 2018b).

3.10.1.1 Geology

The geology of the region consists of rugged mountains, with the area of analysis residing within the Peninsular Ranges Geomorphic Province, which is characterized by a series of mountain ranges separated by long valleys trending northwest. The underlying layers are granite[8] rocks intruding older metamorphic[9] rocks (CGS, 2015). The Province extends approximately 920 miles from the Los Angeles Basin to the southern tip of Baja California and varies in width from approximately 30 to 100 miles. More specifically, the area of analysis is within the coastal portion of the Province in San Diego County which includes a sequence of upper Cretaceous, Tertiary (approximately 2 to 65 million years old) and Quaternary (less than approximately two million years old) marine and non-marine sedimentary strata[10] forming a dissected coastal plain (GSA, 2009).

3.10.1.2 Topography

The area of analysis is approximately 520 feet above mean sea level. The topography of the overall area of analysis is relatively flat; however, the Otay Mesa LPOE is slightly higher than the elevation of the 10-acre GSA-owned land to the east. There is very little elevation change across the area of analysis (GSA, 2018b).

[7] Slope gradient is the difference in elevation between two points, expressed as a percentage of the distance between those points. Low and high values indicate the range of this attribute for the soil component (NRCS, 2017a).
[8] Granite is an igneous rock formed when hot, molten rock crystalizes and solidifies. The name comes from the Latin word "granum," meaning "grain," which refers to the grains of quartz and feldspar that define granite (USGS, No Date A).
[9] Metamorphic rocks are formed when rocks are subjected to high heat, high pressure, hot mineral-rich fluids or a combination of these factors. The process of metamorphism transforms the rocks into denser, more compact rocks. New minerals are created either by rearrangement of mineral components or by reactions with fluids that enter the rocks (USGS, No Date B).
[10] Sedimentary strata are layers of sedimentary rocks formed from the deposition of sediments (NPS, 2018).

3.10.1.3 Soils

Soil is a collective term for the inorganic and organic substrate covering bedrock in which vegetation grows and a multitude of organisms reside. Soils are surveyed nationwide by county. Soil resources provide a foundation for both plant and animal communities by establishing a substrate for plant growth and vegetative cover for animal habitat and feeding.

Soil properties at any given site are determined by five factors: 1) physical and mineralogical composition of the parent material; 2) climate under which the soil material accumulated and has existed since accumulation; 3) plant and animal life atop and within the soil; 4) topography, or the "lay of the land"; and 5) length of time that these forces of soil formation have acted on the parent material.

Based on a Natural Resource Conservation Service (NRCS) soil survey, three soil associations are present within the area of analysis: Stockpen gravelly clay loam, 0 to 2 percent slopes; Salinas clay, 0 to 2 percent slopes; and Diablo clay, 2 to 9 percent slopes (NRCS, 2017a). The slope range for each soil type is expressed as a percentage of the distance between two points. A higher slope range can increase erosion potential in a particular area. A 0 to 2 percent slope gradient is considered nearly level and 2 to 9 percent is considered nearly level to moderately sloping. The soils found in the area of analysis are described below.

- **Stockpen gravelly clay loam, 0 to 2 percent slopes:** Stockpen soils are moderately, well-drained soils formed in alluvium. Stockpen soils are found on marine terraces and have medium runoff and very slow permeability[11] (NRCS, 2009).
- **Salinas clay, 0 to 2 percent slopes:** Salinas clay soils are well-drained soils with slow to medium runoff and moderately slow permeability (NRCS, 2003). Salinas soils were formed in alluvium weathered from sandstone and shale and found on alluvial plains, fans and terraces (NRCS, 2003; NRCS, 2017b). Salinas soils are classified as non-hydric and rated as prime farmland if irrigated.
- **Diablo clay soils, 2 to 9 percent slopes:** Diablo clay soils are well-drained soils with a slow runoff when soil is dry and medium to rapid runoff when soils are moist. These soils have slow permeability. They formed from long periods of weathering of shale, sandstone and other consolidated sediments (NRCS, 2017b).

The majority of the area of analysis (over 70%) consists of Stockpen soils; however, most of this area comprises the paved or other impermeable surfaces at the LPOE. Salinas soils (94.9%) make up the majority of exposed soils in the area of analysis, primarily on the 10-acre GSA-owned lot, with smaller areas of Stockpen soils (3.7%) and Diablo soils (1.3%) (GSA, 2018b).

3.10.1.4 Geologic Hazards

Southern California is a seismically active area with many active faults. An active fault is one in which there has been movement in the last 11,000 years (CGS, 2017a). There are no known active faults within or adjacent to the area of analysis. The closest active fault is a segment of the La Nacion Fault Zone, located approximately four miles west of the area of analysis (CGS, 2010).

The United States Geological Survey (USGS) produces seismic hazard maps based on the rate at which earthquakes occur in a given area and the distance the strong shaking extends from the source. A hazard map shows the level of horizontal shaking that has a two percent chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of the force of gravity (percent g). A rating of 10 to 20 percent

[11] Permeability is the ease at which a saturated soil will transmit water (NRCS, 2017a).

g is considered to cause moderate damage, and major damage could occur at values greater than 20 percent g. The 2014 Seismic Hazards Map shows that the area of analysis has a seismic hazard rating of 30 to 40 percent g, which could be subject to major damage (USGS, 2014).

The California Department of Conservation created the California Earthquake Hazards Zone Application to determine where earthquake hazard zones are located. Earthquake hazard zones define areas subject to three distinct types of geologic ground failures: fault rupture (where the surface of the earth breaks along a fault); liquefaction (when the soil temporarily turns to quicksand and cannot support structures) and earthquake-induced landslides. According to the California Earthquake Hazards Zone Application, the area of analysis is not within an earthquake fault zone. Therefore, the area was not evaluated for potential landslide or liquefaction hazards (CGS, 2017b).

3.10.2 Environmental Consequences

Impacts on geological resources would be considered significant if they alter the geological structures that control groundwater quality; if soil erosion produces substantial gullying, extensive damage to vegetation, or a sustained increase in sedimentation in streams; if there is a substantial loss of soil, and/or a substantial decrease in soil stability and permeability; and if soils are substantially disrupted, displaced, compacted or covered over. Except when installing impermeable surfaces, generally adverse impacts on geological resources can be avoided or minimized if proper construction techniques and erosion-control measures are incorporated into project development.

3.10.2.1 Preferred Alternative (Alternative 1)

No impacts on geology or geologic hazards in the area of analysis would be expected as a result of implementing the Preferred Alternative because no geologic features or geologic hazards would be disturbed.

Grading would occur in the Project area, mainly in the 10-acres GSA-owned lot, during construction of new facilities. Given that the existing topography in the area of analysis is relatively flat, impacts from compacting and grading of soils would not be very noticeable, and topography would not change substantially from current conditions. The Preferred Alternative would have negligible, small (limited) extent, long-term, adverse impacts on topography with a high likelihood of occurrence in the area of analysis.

A total of approximately 13.5 acres of soils would be impacted in the area of analysis during construction. The use of heavy equipment during demolition of facilities that would no longer be needed and for site preparation for construction of buildings, roads/walkways, parking areas and other infrastructure under the Preferred Alternative would require grading, excavation and filling; however, these actions would occur in areas where soils have been predominantly previously disturbed. If any natural soil horizons exist, they would likely be lost during the earthwork. Heavy equipment may compact or loosen and destroy the structure and function of organic and mineral soils over the long term, reducing soil moisture and most likely resulting in increased runoff and erosion. Soil erosion from use of heavy equipment could occur as a result of ground disturbance leading to detachment of soils and transport of freshly disturbed surfaces in wind and storm water runoff. Soil productivity, which is the capacity of the soil to produce vegetative biomass, would decrease given the footprint of building structures, roadways, parking areas and other paved surfaces that would be constructed. Severe soil compaction could inhibit revegetation in denuded areas that are not covered by man-made materials.

Permanent adverse impacts would be associated with loss of soil structure and function as a result of covering soils with concrete, asphalt, and other impermeable surfaces. After construction of the LPOE is completed, there would be many more impervious surfaces (e.g., buildings, parking lots, roads), increasing the potential for water runoff and soil erosion. Soil erosion that would occur as a result of increased runoff associated with the additional impervious surfaces would be a long-term adverse impact of the LPOE.

Activities that do not involve heavy equipment could expose and compact soils to varying degrees in the short-term during construction. Similar to use of heavy equipment, any new areas that would be repeatedly compacted by vehicles would have adverse impacts on soils. Vehicular traffic can decrease soil porosity, decreasing the transfer of air and water through the soil and causing decreased vegetative productivity due to root restriction. Exposed soils would be subject to erosion until stabilized or revegetated. Soil compaction could also result from foot traffic during construction activities; however, these impacts would likely be minimal and limited to the area immediately surrounding the construction sites. Permanent loss of soil structure due to compaction from foot and vehicle traffic could result in localized changes in drainage patterns in the long term.

BMPs would be implemented during earthwork activities to prevent or reduce soil erosion and other long-term adverse impacts on soils. While clearing vegetation would increase the potential for erosion and sedimentation in the short term, soil erosion would be minimized by implementing BMPs during construction activities. BMPs could include installing silt fencing and sediment traps; applying water to soil to reduce dust; and reestablishing vegetation to minimize erosion and sedimentation. Areas around the buildings, parking lots, and other infrastructure where soils remain exposed after construction is completed would be revegetated with regionally appropriate native plant species. In the long term, the plants' roots would minimize erosion and sedimentation by re-stabilizing the topsoil.

The USDA Plant Inspection Station would be constructed under the Preferred Alternative. Potential impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Overall, impacts on soils from construction activities under the Preferred Alternative would be adverse, long-term to permanent, minor to moderate, of medium extent (localized), with a high likelihood of occurrence where soils are substantially altered or covered by impervious surfaces. Since the soils in the area of analysis area already disturbed, such impacts would not be considered significant. There would also be short-term, negligible to minor, limited adverse impacts with a high likelihood of occurrence where soils are disturbed by vehicle or foot traffic. Beneficial, long-term, minor, limited, impacts with a high likelihood of occurrence would take place on soils that are revegetated and re-stabilized and soil erosion is reduced. There would not be any additional impacts on soils during operation of the LPOE.

3.10.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, 13.5 acres of ground disturbance would occur during construction, the same as under the Preferred Alternative. No new construction would occur on the 10-acre GSA-owned land that would take place under the Preferred Alternative; instead, the 10-acre lot would be paved, thus covering all soils with an impervious surface. Impacts on soils and topography would be similar to those described under the Preferred Alternative. Likewise, there would be no impacts on geology or geologic hazards under the Reduced Build Alternative.

The USDA Plant Inspection Station would be constructed under the Reduced Build Alternative as under the Preferred Alternative. Potential impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Overall, impacts on soils from construction activities under the Reduced Build Alternative would be adverse, long-term to permanent, minor to moderate, of medium extent (localized), with a high likelihood of occurrence where soils are substantially altered or covered by impervious surfaces. Since the soils in the area of analysis are already disturbed, impacts on soils would not be considered significant. There would also be short-term, negligible to minor, limited adverse impacts with a high likelihood of occurrence where soils are disturbed by vehicle or foot traffic. Beneficial, long-term, minor, limited, impacts with a high likelihood of occurrence would take place on soils that are revegetated and re-stabilized and soil erosion is reduced. There would not be any additional impacts on soils during operation of the LPOE.

3.10.2.3 No Action Alternative

No impacts on geology, topography, soils, or geologic hazards in the area of analysis would occur under the No Action Alternative as there would not be any ground disturbing activities. The USDA Plant Inspection Station would be constructed under the No Action Alterative as under the Preferred Alternative and the Reduced Build Alternative. Potential impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference. Overall, impacts of the No Action Alternative on soils would not be significant.

3.11 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Air quality is the measure of the atmospheric concentration of defined pollutants in a specific area. Air quality is affected by pollutant emission sources, as well as the movement of pollutants in the air via wind and other weather patterns. An air pollutant is any substance in the air that can cause harm to humans or the environment. Pollutants may be natural or human-made and may take the form of solid particles, liquid droplets, or gases. Natural sources of air pollution include smoke from wildfires, dust, and wind erosion. Human-made sources of air pollution include emissions from vehicles; dust from unpaved roads, agriculture, or construction sites; and smoke from human-caused fires.

Average global temperature increases may be associated with human-induced increases in greenhouse gas (GHG) emissions released into the atmosphere as a result of combustion. GHGs, which include carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (NO_x), water vapor, and several trace gases, trap radiant heat reflected from the Earth, causing the average temperature to rise. The predominant GHGs emitted in the U.S. are CO_2, CH_4, nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. In the U.S., anthropogenic GHG emissions come primarily from burning fossil fuels. Although GHG levels have varied for millennia (along with corresponding variations in climate conditions), recent and more dramatic increases have contributed to overall climate change.

3.11.1 Affected Environment

This section discusses the air regulations that could apply to the Project and the relevant greenhouse gas emissions.

3.11.1.1 Air Quality

Because air quality is measured and regulated on a regional level, the air quality analysis in this EIS utilizes air quality data from the San Diego Intrastate Air Quality Control Region (AQCR) (40 CFR 81.164). The San Diego Intrastate AQCR encompasses one county in California (San Diego County) and includes the area where the Preferred Alternative (Alternative 1) and the Reduced Build Alternative (Alternative 2) would occur.

The Environmental Protection Agency (EPA) Region 9 and the California Air Resources Board (CARB) regulate air quality in California. The CAA (42 United States Code [USC] 7401-7671q), as amended, gives the EPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) that set acceptable concentration levels for six criteria pollutants, compounds that cause or contribute to air pollution and which could endanger public health and the environment. The six criteria pollutants are: particulate matter (both fine particulate matter [PM_{10}] and very fine particulate matter [$PM_{2.5}$]), sulfur dioxide (SO_2), carbon monoxide (CO), NO_x, ozone (O_3) and lead (Pb)[12]. O_3 is a strong photochemical oxidant that is formed when nitrogen dioxide (NO_2) reacts with VOCs (also referred to as hydrocarbons), and oxygen in the presence of sunlight. O_3 is considered a secondary pollutant because it is not directly emitted from pollution sources but is formed in the ambient air.

Short-term standards (1-, 8-, and 24-hour periods) have been established for criteria pollutants that contribute to acute health effects, while long-term standards (annual averages) have been established for pollutants that contribute to chronic health effects. Each state has the authority to adopt standards

[12] Lead is not considered further in this analysis because none of the project activities have the potential to generate lead emissions.

stricter than those established under the Federal program; California has adopted stricter standards for some criteria pollutants (see Table 3.11-1). AQCRs that exceed the NAAQS are designated as nonattainment areas, and those in accordance with the standards are designated as *attainment* areas; AQCRs that have been redesignated from *nonattainment* to *attainment* are called maintenance areas. EPA has designated San Diego County (part of the San Diego Intrastate AQCR) as a *nonattainment* area for O_3 and a maintenance area for CO (EPA, 2018a; EPA, 2018b). Because the Project is located in a *nonattainment* area, the General Conformity Rule[13] requirements apply. The General Conformity Rule states that, if a project would result in a total net increase in direct and indirect emissions of nonattainment or maintenance pollutants that are less than the applicable *de minimis* (i.e., negligible) thresholds established in 40 CFR 93.153(b), detailed conformity analyses are not required pursuant to 40 CFR 93.153(c).

The EPA monitors levels of criteria pollutants at representative sites in each region throughout the U.S. For purposes of analysis, air monitoring data for San Diego County were used to define the existing air quality at and around the Otay Mesa LPOE. Table 3.11-1 shows the monitored concentrations, the NAAQS, the California Ambient Air Quality Standards (CAAQS), and the air monitor location for each criteria pollutant; air monitoring data for Pb were unavailable. As shown in Table 3.11-1, San Diego County did not meet the 1-hour or 8-hour O_3 NAAQS and CAAQS. These data are consistent with EPA's list of counties currently designated as nonattainment areas which shows San Diego County as a *nonattainment* area for O_3 (EPA, 2018a).

Table 3.11-1. EPA and California Ambient Air Quality Standards and 2017 Measured Criteria Pollutant Concentrations

Averaging Time	NAAQS	CAAQS	Monitored Data	Monitor Location[a]
CO				
1-hour[b] (ppm)	35	20	2	San Diego, CA
8-hour[b] (ppm)	9	9	1.5	San Diego, CA
NO_2				
1-hour (ppb)	100	180[f]	74	Otay Mesa, CA
Annual arithmetic mean (ppb)	53	30	7.97	Otay Mesa, CA
O_3				
1-hour (ppm)	-	0.09	0.097	Otay Mesa, CA
8-hour (ppm)[c]	0.070	0.070	0.082	Otay Mesa, CA
SO_2				
1-hour[b] (ppb)	75	250	1.1	El Cajon, CA
24-hour[b] (ppb)	140	40	0.4	El Cajon, CA
$PM_{2.5}$				
24-hour[d] ($\mu g/m^3$)	35	-	27.5	San Diego, CA
Annual arithmetic mean[e] ($\mu g/m^3$)	12	12	8	San Diego, CA
PM_{10}				

[13] Established under the CAA, the General Conformity Rule ensures that the actions taken by Federal agencies do not interfere with a state's plans to attain and maintain the NAAQS. According to the rule, if a project takes place in an area that is in *attainment*, then the general conformity requirements do not apply to the project.

Averaging Time	NAAQS	CAAQS	Monitored Data	Monitor Location[a]
24-hour[b] (µg/m^3)	150	50	41	Campo, CA
Annual arithmetic mean (µg/m^3)	-	20	na	na
Lead				
3-month average (µg/m^3)	0.15	-	0.02	Carlsbad, CA
30-day average (µg/m^3)	-	1.5	na	na

Source: 40 CFR 50.1-50.12; EPA, 2017a; CARB, 2016a, 2016b, 2017a, 2018

Note: - = no equivalent standard; ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter; CA = California; CAAQS = California Ambient Air Quality Standards; CO = carbon monoxide; na = data not available; NAAQS = National Ambient Air Quality Standards; NO_2 = nitrogen dioxide; O_3 = ozone; Pb = lead; $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter; PM_{10} = particulate matter less than 10 microns in diameter; SO_2 = sulfur dioxide.

[a]Because there are no air monitoring stations at the Otay Mesa LPOE, data from air monitoring stations located around San Diego County were used.

[b]Not to be exceeded more than once per year.

[c]The 3-year average of the fourth highest daily maximum 8-hour average O_3 concentrations.

[d]The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor must not exceed 35 µg/m3.

[e]The 3-year average of the weighted annual mean $PM_{2.5}$ concentrations must not exceed 12.0 µg/m^3.

[f]California lowered the 1-hour NO_2 standard to 0.18 ppm in 2007 and the EPA lowered the 1-hour standard to 0.100 ppm in 2010.

The Otay Mesa LPOE is located in downtown Otay Mesa, in a developed and urban/suburban portion of San Diego County with residences located nearby. Sensitive receptors (e.g., daycares, hospitals, schools) and their distance from the Otay Mesa LPOE are listed in Table 3.11-2.

Table 3.11-2. Sensitive Receptors and Distances from the Otay Mesa LPOE

Name	Distance from Otay Mesa LPOE (miles)
Schools/Daycares	
San Ysidro Middle School	7.1
San Ysidro High School	5.6
Beyer State Preschool	7.1
Vista Del Mar Elementary School	6.4
Ocean View Hills Elementary School	6.2
Ocean View Hills Preschool	6.2
Mater Dei Juan Diego Elementary School	6.1
East Hills High School	5.0
Olympian High School	5.1
Mater Dei Catholic High School	6.0
Otay Ranch High School	6.5
Right At School	6.0
South Bay YMCA – Veterans Elementary	6.3

Name	Distance from Otay Mesa LPOE (miles)
South Bay YMCA – Maraoka (Saburo)	6.2
South Bay YMCA – Wolf Canyon	5.3
South Bay YMCA - Arroyo Vista	6.9
New Hope Community Church – Tiny Tots Program	6.2
Kids on the Go	5.9
Concordia Child Care	5.7
South Bay YMCA – Camarena (Enrique S.)	5.7
High Tech Elementary School	5.2
High Tech Middle School	5.2
High Tech High School	5.2
Hospitals	
Alivizatos	0.5
Kaiser Urgent Care	7.2
Blanca Fresno MD, FAAP	5.8
Mexico Surgery Center Hospital	6.8

Sources: SanGIS, 2017b; SanGIS, 2018.

3.11.1.2 Greenhouse Gas Emissions

It is well documented that the Earth's climate has fluctuated throughout its history from entirely natural causes. However, recent scientific evidence indicates a correlation between increasing global temperatures over the past century and the worldwide increase in anthropogenic (human) GHG emissions (IPCC, 2013). Climate change associated with global warming is predicted to produce negative environmental, economic, and social consequences across the globe in the coming years. More specifically, GHG emissions from the Preferred Alternative (Alternative 1) and the Reduced Build Alternative (Alternative 2) would directly contribute to an increase in global GHG atmospheric concentrations and average global temperatures, which indirectly causes numerous environmental and social effects. These global impacts would be manifested as impacts on resources and ecosystems in California. For purposes of analysis, the incremental changes in GHG emissions discussed in this EIS imply potential impacts on global climate change.

GHG Emissions and Effects

GHGs are gases that trap heat in the atmosphere by absorbing outgoing infrared radiation. GHG emissions occur from both natural processes and human activities. Water vapor is the most important and abundant GHG in the atmosphere. However, human activities produce only a small amount of the total atmospheric water vapor. The most common GHGs emitted from natural processes and human activities include CO_2, CH_4, and N_2O. The main source of GHGs from human activities is the combustion of fossil fuels, such as oil, coal, and natural gas. Other examples of GHGs created and emitted primarily through human activities include fluorinated gases (e.g., perfluorocarbons) and sulfur hexafluoride. The main sources of these man-made GHGs are refrigerants and electrical transformers.

Numerous studies document the recent trend of rising atmospheric concentrations of CO_2. The longest continuous record of carbon dioxide monitoring extends back to 1958 (Keeling, 1960; Scripps, 2017). These data show that atmospheric CO_2 levels have risen an average of 1.5 parts per million per year over the last 56 years (NOAA, 2017). As of 2014, CO_2 levels are about 30 percent higher than the highest levels estimated for the 800,000 years preceding the industrial revolution, as determined from CO_2

concentrations analyzed from air bubbles in Antarctic ice core samples (USGCRP, 2014). Recent observed changes due to climate change include rising temperatures, shrinking glaciers and sea ice, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges. International and national organizations independently confirm these findings (IPCC, 2013; USGCRP, 2014).

Each GHG is assigned a global warming potential (GWP) by the EPA (EPA, 2018c). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which is given a value of one. For example, CH_4 has a GWP of 28, which means that it has a global warming effect 28 times greater than CO_2 on an equal-mass basis (IPCC, 2013). To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent, which is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such large quantities that it is the predominant contributor to global CO_2 equivalent emissions from both natural processes and human activities.

3.11.2 Environmental Consequences

This section discusses the air regulations that could apply to the Project and the air quality impacts and greenhouse gas emissions that would occur under each alternative. For each alternative, the short- and long-term air quality impacts are discussed separately to provide a more detailed analysis.

Regulatory Review

The CAA, as amended in 1990, mandates that states develop a State Implementation Plan (SIP) that explains how the state will comply with the CAA and achieve and maintain *attainment* of the NAAQS. The California SIP[14] applies to industrial sources, commercial facilities, and residential development activities. Regulation occurs primarily through a process of reviewing engineering documents and other technical information, applying emission standards and regulations in the issuance of permits, performing field inspections, and assisting industries in determining their compliance status.

CARB has the authority to issue permits for the construction and operation of new or modified stationary source air emissions in California. CARB air permits are required for any facility that will emit or currently emits regulated pollutants and must comply with the following regulations of the CAA: New Source Review, Prevention of Significant Deterioration (PSD), Title V Permitting, National Emission Standards for Hazardous Air Pollutants (NESHAP) (HAPs), and New Source Performance Standards (NSPS). An overview of the applicability of the CAA air regulations to the Project is shown in Table 3.11-3.

Table 3.11-3. CAA Regulatory Review for the Preferred and Reduced Build Alternatives

CAA Regulation	Description of the Regulation	Applicability to the Preferred and Reduced Build Alternatives
New Source Review	New Source Review permitting protects air quality when factories, industrial boilers, and power plants are built or modified.	If new emergency generators are installed under the Preferred Alternative and Reduced Build Alternative, they would need to

[14] The California SIP is revised as needed to comply with new Federal or state requirements when new data improves modeling techniques, when a specific area's *attainment* status changes, or when an area fails to reach *attainment*.

CAA Regulation	Description of the Regulation	Applicability to the Preferred and Reduced Build Alternatives
		undergo the New Source Review permitting process.
PSD	PSD applies to new major sources or modifications at existing sources of air pollutants where the area the source is located is in *attainment* or unclassifiable.	PSD review would be required if new emergency generators are installed under the Preferred and Reduced Build Alternatives.
Title V permitting requirements	A Title V Permit requires sources of air pollutants to obtain and operate in compliance with an operating permit. A Permit is required if a source has actual or potential emissions greater than or equal to 100 tons per year.	A Title V Permit would not be required because any new emergency generators installed under the Preferred and Reduced Build Alternatives would be below the 100 tons per year threshold.
NESHAP	NESHAP are stationary source standards for HAPs. HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects.	The use of Maximum Available Control Technology would not be required because the potential HAP emissions would not exceed NESHAP thresholds under any of the alternatives.
NSPS	NSPS are technology-based emission standards which apply to new, modified, and reconstructed facilities in specific source categories such as manufacturers of glass, cement, rubber tires, and wool fiberglass.	The Project would be exempt from NSPS permitting requirements because none of the alternatives would involve construction or operation of any of these types of facilities.

Source: EPA, 2017b.

In addition to the CAA regulations listed in Table 3.11-3, there are more specific California state regulations that apply to activities that are likely to occur during construction. These regulations are outlined in California Code of Regulations Title 17, Chapter 1. They include the following:

- Mandatory Greenhouse Gas Emissions Reporting (Title 17.3.1.10); and
- Ambient Air Quality Standards (Title 17.3.1.1.5).

Fugitive Dust Control

Construction activities at the Otay Mesa LPOE would generate fugitive dust (non-toxic particulate matter) emissions. Emissions from open areas (e.g., a construction site) require reasonable precautions to prevent PM from becoming airborne. Such precautions can include:

- Using water for dust control when grading roads or clearing land;
- Applying water on dirt roads, materials stockpiles, and other surfaces that could create airborne dust;
- Paving roadways and maintaining them in a clean condition;
- Covering open equipment when conveying or transporting material likely to create objectionable air pollution when airborne; and

- Promptly removing spilled or tracked dirt or other materials from paved streets.

Open Burning

If Project activities include the burning of construction or demolition material, an open burning permit may be required. Before burning, the appropriate state and local agencies would be contacted to acquire the necessary open burning permits. However, it is possible that open burning of material would not be possible due to local agencies suspending all open burning activities because of concerns over wildfires.

3.11.2.1 Preferred Alternative (Alternative 1)

As explained in Section 3.11, EPA's General Conformity Rule under the CAA ensures that the actions taken by Federal agencies do not interfere with a state's plans to attain and maintain the NAAQS (40 CFR 93.153(b)). Because the San Diego Intrastate AQCR is a nonattainment area for O_3 and a maintenance area for CO, the General Conformity Rule requirements apply. Therefore, the Preferred Alternative is subject to review under the General Conformity Rule for O_3 and CO and a general conformity analysis is required (see Appendix C). However, for completeness, all direct and indirect emissions of NO_2, SO_2, PM_{10}, and $PM_{2.5}$ were also estimated for the construction phase of the proposed Project and compared to the General Conformity Rule *de minimis* threshold rates to determine whether implementation of the Preferred Alternative would impact air quality in the region. Emissions of lead were not analyzed because no Project activity would result in the generation of lead emissions.

Construction and demolition emissions were estimated for on-road and nonroad vehicles. The emissions from on-road vehicles such as POVs were estimated using industry standard emission rates (Argonne, 2013; EPA, 2009). Emission rates for nonroad vehicles such as excavators, cranes, graders, backhoes, and bulldozers were estimated using EPA's MOVES 2014a model (EPA, 2015). For purposes of analysis and to provide a conservative estimate of potential air emissions, it was assumed that, during the construction phases, all nonroad equipment would be operated full-time (i.e., eight hours per day and five days per week) and all on-road vehicles would be traveling 50 miles per day. Full documentation of the methodology used to estimate the air emissions is presented in Appendix C (General Conformity Analysis Appendix). The results of the conformity analysis are presented in **T**able 3.11-4. As shown in Table 3.11-4, the total annual direct and indirect emissions associated with the construction/demolition phase of the Preferred Alternative would not exceed the *de minimis* threshold rate for any of the criteria pollutants analyzed. Therefore, further analysis under the General Conformity Rule is not required. Overall, the construction/demolition activities would cause short-term, minor adverse impacts with a medium extent and high likelihood on air quality and could affect individuals in close proximity to the Otay Mesa LPOE. These impacts would occur during the estimated three to four years of construction and demolition and would end once these activities are completed.

Table 3.11-4. Preferred Alternative Construction Annual Emissions Compared to General Conformity Rule Thresholds

Equipment	Tons of CO	Tons of NO_2	Tons of SO_2	Tons of PM_{10}[a]	Tons of $PM_{2.5}$[a]
Nonroad Vehicles					
Excavator (diesel)	0.183	0.343	5.80×10^{-4}	0.0264	0.0256
Crane (diesel)	0.0458	0.0857	1.45×10^{-4}	6.60×10^{-3}	6.40×10^{-3}
Bulldozer (diesel)	0.0917	0.171	2.90×10^{-4}	0.0132	0.0128

Equipment	Tons of CO	Tons of NO_2	Tons of SO_2	Tons of PM_{10}[a]	Tons of $PM_{2.5}$[a]
Dump truck/Concrete truck (diesel)	0.229	0.428	7.25×10^{-4}	0.0330	0.0320
Grader (diesel)	0.0917	0.171	2.90×10^{-4}	0.0132	0.0128
Rollers, compactor(diesel)	0.138	0.257	4.35×10^{-4}	0.0198	0.0192
Paving equipment (diesel)	0.0458	0.0857	1.45×10^{-4}	6.60×10^{-3}	6.40×10^{-3}
Generator (gasoline)	0.682	6.38×10^{-3}	1.66×10^{-5}	5.33×10^{-3}	4.90×10^{-3}
Air compressor (gasoline)	0.455	4.25×10^{-3}	1.11×10^{-5}	3.55×10^{-3}	3.27×10^{-3}
On-Road Vehicles					
Personal vehicles	4.09	0.172	6.02×10^{-3}	0.0109	0.0109
Total (tons per year)	**6.05**	**1.72**	**8.70×10^{-3}**	**0.139**	**0.134**
De minimis **threshold (tons per year)**	**100**	**100**	**100**	**100**	**100**

Source: EPA, 2017c.

Note: CO = carbon dioxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers; SO_2 = sulfur dioxide.

[a] Although particulate matter (both PM_{10} and $PM_{2.5}$) would be generated by construction vehicles moving around the Project area, most of the Project area is already paved and the 10-acre vacant lot would be paved at the beginning of the Project, before construction of the Commercial Annex Building (CAB). Therefore, the potential for noticeable emissions of particulate matter would be low and any emissions generated would not exceed the 100 tons per year *de minimis* thresholds.

Operation of the Otay Mesa LPOE would result in long-term, moderate, beneficial impacts on air quality with a medium extent and high likelihood. Because the Preferred Alternative would expand the LPOE, increased demand for electric services would be expected. However, the Preferred Alternative proposes to achieve Leadership in Energy and Environmental Design (LEED) Gold certification, which aims to reduce the use of electricity. Although there would be emissions generated by emergency generator testing/usage and an overall increase in power consumption (which could result in higher indirect emissions depending on the power source), the improvements made to the Otay Mesa LPOE are expected to reduce the overall air emissions generated at the site. Under the Preferred Alternative, commercial vehicle queue time (i.e., vehicle idle time) is expected to decrease by approximately 50 percent from approximately 40 minutes to approximately 20 minutes. The emissions reduction from the reduced vehicle idle time, presented in Table 3.11-5, would far outweigh the additional emissions generated to demolish/redevelop and operate the Otay Mesa LPOE and would result in an overall improvement to air quality in the area.

Table 3.11-5. Estimated Reduction in Annual Air Emissions from Commercial Vehicle Idling

Queue Time	Tons of CO	Tons of NO_2	Tons of SO_2	Tons of PM_{10}	Tons of $PM_{2.5}$
Current Conditions – 40 minutes	2,530	3,720	[a]	39.7	35.7
Preferred Alternative Conditions –20 minutes	1,270	1,860	[a]	19.8	17.9
Reduction	1,270	1,860	[a]	19.8	17.9

Note: CO = carbon dioxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers; SO_2 = sulfur dioxide.

[a] EPA does not have a SO_2 emission factor for vehicle idling.

Mitigation of Air Quality Impacts from Construction

In the event that the Project is implemented, GSA, its contractors, and all responsible parties should develop mitigation measures to control PM_{10} emissions and fugitive dust during construction. These mitigation measures would be included in a detailed Construction Emissions Mitigation Plan that would identify BMPs for the construction effort. The BMPs would be designed to reduce air quality impacts associated with emissions of criteria pollutants (NOx, CO, CO_2, PM, and SO_2) and specifically to minimize potential exposure of individuals near the Project site to PM_{10} and $PM_{2.5}$ from fugitive dust and heavy equipment tailpipe emissions.

GHG Emissions

The Preferred Alternative would generate GHG emissions during construction and demolition activities, and in the short term it would represent an incremental, but overall negligible, contribution to climate change. Short-term GHG emissions associated with the Preferred Alternative would primarily result from construction and demolition of facilities and power use. In accordance with the 2016 Council on Environmental Quality (CEQ) guidance on GHG analysis, the GHGs emissions for the Preferred Alternative were estimated using EPA emission factors (CEQ, 2016; EPA, 2014). Using the GWP rating system described in Section 3.11.1.2, the GHG emissions generated during the construction and demolition phase of the Project were calculated (see Table 3.11-6). As shown in Table 3.11-6, the annual GHG emissions under the Preferred Alternative would represent approximately 0.00110 percent of California's annual GHG emissions in 2015 (440.4 million metric tons of CO_2 equivalent). Even when the total amount of GHG emissions that would occur over the entire four-year construction and demolition phase are compared to California's 2015 emissions, they account for approximately 0.00439 percent (CARB, 2017b).

Table 3.11-6. Carbon Dioxide Equivalent Emissions During Construction and Demolition Activities

Comparison of GHG Emissions	Tons of CO_{2e}
Annual GHGs – construction and demolition	4,830
Total GHGs – construction and demolition[a]	19,300
California's 2015 GHG emissions	440,400,000
Preferred Alternative's Percentage of California's 2015 emissions – Annual	0.00110
Preferred Alternative's Percentage of California's 2015 emissions – Total (4 years)	0.00439

Source: CARB, 2017b.

Note: CO_{2e} = carbon dioxide equivalent.

[a] For purpose of analysis, it was assumed that construction and demolition activities would occur over four years.

Long-term, minor, beneficial effects with a medium extent and high likelihood from implementing the Preferred Alternative would be expected. Although GHGs would be generated by emergency generator testing/usage and an overall increase in power consumption, the improvements made to the Otay Mesa LPOE are expected to reduce the overall GHGs generated at the site. As discussed previously, under the Preferred Alternative, the commercial queue time (i.e., vehicle idle time) is expected to decrease by approximately 50 percent. The reduction in GHG emissions from vehicles in queue at the Otay Mesa LPOE is expected to outweigh the additional GHGs emitted from operations.

3.11.2.2 Reduced Build Alternative (Alternative 2)

As described in Section 2.1.2, many of the construction and demolition activities that would occur under the Preferred Alternative would not occur under the Reduced Build Alternative. As a result, the total direct and indirect emissions associated with the Reduced Build Alternative would be less than the total emissions under the Preferred Alternative (shown in Table 3.11-4) and would not exceed the *de minimis* threshold rates. The use of heavy construction equipment[15], deliveries to the construction site, and fugitive dust would cause short-term, minor, adverse impacts with a medium extent and high likelihood on air quality and could affect individuals in close proximity to the Otay Mesa LPOE during demolition/redevelopment activities. Due to the reduced amount of construction required under this alternative, annual emissions of criteria pollutants would be lower than the emissions estimated for the Preferred Alternative. These emissions would occur during the estimated three to four years of construction and would end upon completion.

Long-term, minor, adverse impacts on air quality with medium extent and high likelihood would occur during operation of the Otay Mesa LPOE. The adverse impacts would occur because the improvements to the commercial inspection lanes would not occur and the queue time (i.e., vehicle idle time) would continue to increase. The increase in vehicle idle time would result in an overall increase in air emissions.

Mitigation of Air Quality Impacts from Construction

In the event that the Project is implemented, GSA, its contractors, and all responsible parties should develop mitigation measures to control PM_{10} emissions and fugitive dust during construction. These

[15] The usage of heavy equipment under Alternative 2 would be less than under the Preferred Alternative. For purposes of analysis, it was assumed that the USDA building would be constructed and construction equipment related to GSA actions would be limited to cranes to lift supplies to the roofs of buildings and paving equipment to repave the parking areas.

mitigation measures would be included in a detailed Construction Emissions Mitigation Plan that would identify BMPs for the construction effort. The BMPs would be designed to reduce air quality impacts associated with emissions of relevant criteria pollutants (NOx, CO, CO_2, PM, and SO_2) and specifically to minimize potential exposure of individuals near the Project site to PM_{10} from fugitive dust and heavy equipment tailpipe emissions.

GHG Emissions

The Reduced Build Alternative would generate GHG emissions during construction activities, and in the short term it would represent an incremental, but overall negligible, contribution to climate change. Short-term GHG emissions associated with the Reduced Build Alternative would primarily result from the renovation of facilities and power use. The total amount of GHG emissions that would occur under the Reduced Build Alternative would be less than the GHG emissions that would occur under the Preferred Alternative (shown in Table 3.11-6).

Long-term, minor, adverse effects with medium extent and high likelihood from implementing the Reduced Build Alternative would be expected. Unlike the Preferred Alternative, the Reduced Build Alternative would not include improvements to the commercial inspection lanes and; therefore, would result in increased queue times. As a result, the reduction in GHG emissions discussed under Section 3.11.2.2 would not occur and there would be an overall increase in GHG emissions under the Reduced Build Alternative.

3.11.2.3 No Action Alternative

Under the No Action Alternative, the Otay Mesa LPOE improvements described in Section 2.1 would not occur; however, the USDA building would still be constructed. Therefore, emissions from construction activities would still occur, but they would be less than the Preferred Alternative and Reduced Build Alternative. In addition, because improvements to the Otay Mesa LPOE would not be implemented, the average queue times for commercial vehicles would be expected to increase over time, resulting in increased criteria pollutant and GHG emissions. In addition, due to overall expected population growth (and the corresponding increase in emissions from vehicles and power generation for new homes) in the region, there may be a slight decrease in air quality in the region. Overall, the impacts to air quality and climate change under the No Action Alternative would be long-term, minor, and adverse with a medium extent and high likelihood.

3.12 BIOLOGICAL RESOURCES

The biological resources that have been identified for consideration in this EIS are vegetation, wildlife, migratory birds, special status species (including Federal endangered, threatened and candidate species and State of California protected species) and designated or proposed critical habitat. This section describes the biological resources occurring in the Project area and the potential environmental effects of the alternatives on these resources.

3.12.1 Affected Environment

The Project site is located in the Diegan Coastal Hills and Valleys bordering on the Diegan Western Granitic Foothills (Griffith et al., 2016). The City of San Diego General Plan categorizes the site as "Urban/Developed" (City of San Diego, 2007). The area of analysis for biological resources comprises the Otay Mesa LPOE and the adjacent 10-acre GSA-owned lot.

3.12.1.1 Vegetation

Otay Mesa is located in an arid environment with sparse vegetation. The existing LPOE is intensely developed, and there is little to no remaining natural habitat within the port or adjacent parcels. The 10-acre GSA-owned plot of land is undeveloped, has been graded and the existing vegetation routinely mowed (GSA, 2018c). The county of San Diego characterizes the site vegetation as "Disturbed Land", lands that *"*have been physically disturbed (by previous human activity) and are no longer recognizable as a native or naturalized vegetation association but continue to retain a soil substrate" (San Diego County, 2018).

Typical vegetation, where present, is nearly exclusively composed of non-native, ruderal (the first to colonize disturbed sites) plant species such as ornamentals or exotic grass species that take advantage of disturbance, or show signs of past or present animal usage, which removes any capability of providing viable natural habitat for uses other than dispersal. The vegetation community can best be described as non-native grassland with mixed forbs. Project site vegetation mainly consists of invasive species including Russian thistle (*Salsola tragus*), brome grass (*Bromus sp*.), desert broom (*Baccharis sarothroides*), prickly lettuce (*Lactuca serriola*), and Australian saltbush (*Atriplex semibaccata*) (CBP, 2016; CBP, 2017). Figure 3.12-1 depicts typical ruderal vegetation that dominates the Project site and the ongoing vegetation control conducted through mowing.

(December 2017)

(June 2017)

Figure 3.12-1. Project Site Dominated by Invasive, Ruderal Vegetation in 2017

3.12.1.2 Wildlife

No regulated waters of the U.S., surface waters, traditionally navigable waters or wetlands are known to exist in the area of analysis (USFWS, 2018b). Therefore, there are no aquatic wildlife resources present, and no discussion of aquatic wildlife is included in this EIS. Terrestrial wildlife includes native and non-native or naturalized terrestrial animals and the habitats in which they exist. Species addressed in this section include those not listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or protected by the State of California.

The Project site is completely developed or disturbed, and no natural faunal assemblages are present. A November 2016 survey conducted for CBP (CBP, 2016) noted "Animal species present during the survey were sparse…," a finding confirmed in a December 2017 site visit by a wildlife biologist (GSA, 2018b). A couple of birds, (mentioned below in the Migratory Birds section) and coyote (*Canis latrans*) sign (scat) were noted in the 2016 survey (CBP, 2016). No mammals or reptiles were observed during a June 2017 site visit, although evidence of ground squirrels was observed (GSA, 2018c). Mammals and reptiles that may be present include, but are not limited to, pocket mice (*Chaetodipus* spp.), ground squirrels (Sciuridae family), woodrats (*Neotoma* spp.), coyotes (*Canis latrans*), whiptail lizards (*Aspidoscelis uniparens*), skinks (Scincidae family), and spiny lizards (*Sceloporus* spp.). Birds commonly seen in the area include jays (Corvidae family), ravens (*Corvus corax*), acorn woodpeckers (*Melanerpes formicivorus*), western bluebirds (*Sialia Mexicana*), sparrows (Passeridae family), Hutton's vireos (*Vireo huttoni*), red-tailed hawks (*Buteo jamaicensis*), and turkey vultures (*Cathartes aura*) (GSA, 2018c).

3.12.1.3 Migratory Birds

In the U.S., the Migratory Bird Treaty Act (MBTA) protects birds that migrate across its national borders. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, or sell birds (including any parts, dead or alive, feathers, eggs and nests) that are listed in the statute. Currently there are over 800 species on the list nationally.

Several bird species protected by the MBTA could occur within the Project site at various times of the year. Table 3.12-1 lists the species with the potential to occur at the Project site (USFWS, 2008; USFWS, 2018a). No bird nests or sign of nesting activity were observed within the Project site during a December 2017 site visit (GSA, 2018b) or CBP surveys (CBP, 2016; CBP 2017). The area has been surveyed twice recently for burrowing owl (*Athene cunicularia*) burrows, sign or presence of birds. No active burrows, scat or burrowing owls were observed in a November 2016 Survey (CBP, 2016) or a September 2017 survey (CBP, 2017). A western kingbird (*Tyrannus verticalis*) and house sparrow (*Passer domesticus*) were observed during a site survey conducted in November 2016 (CBP, 2016).

Table 3.12-1. Migratory Bird Species Potentially Occurring in the Project Area

Common Name	Scientific Name	Probability of Presence	Breeding Season
Allen's Hummingbird	*Selasphorus sasin*	Jan to Dec	Feb 1 to Jul 15
Arctic Tern	*Sterna paradisaea*	Jul, Sep, Oct	May 20 to Aug 15
Ashy Storm-petrel	*Oceanodroma homochroa*	Apr to Oct, Dec	May 1 to Jan 15
Bald Eagle	*Haliaeetus leucocephalus*	Jan to Dec	Jan 1 to Aug 31
Black Oystercatcher	*Haematopus bachmani*	Jan to Dec	Apr 15 to Oct 31
Black Scoter	*Melanitta nigra*	Jan to Mar, Oct to Dec	Breeds elsewhere
Black Skimmer	*Rynchops niger*	Jan to Dec	May 20 to Sep 15
Black Storm-petrel	*Oceanodroma melania*	Mar to Nov	May 15 to Nov 15
Black Swift	*Cypseloides niger*	Apr to Jun	Jun 15 to Sep 10
Black Turnstone	*Arenaria melanocephala*	Jan to Dec	Breeds elsewhere

Common Name	Scientific Name	Probability of Presence	Breeding Season
Black-chinned Sparrow	*Spizella atrogularis*	Mar to Sep	Apr 15 to Jul 31
Black-footed Albatross	*Phoebastria nigripes*	Mar to Jun, Aug, Oct	Breeds elsewhere
Black-legged Kittiwake	*Rissa tridactyla*	Jan to Apr, Oct to Dec	Breeds elsewhere
Black-vented Shearwater	*Puffinus opisthomelas*	Jan to Dec	Breeds elsewhere
Bonaparte's Gull	*Chroicocephalus philadelphia*	Jan to Jun, Aug, Oct to Dec	Breeds elsewhere
Burrowing Owl	*Athene cunicularia*	Jan to Dec	Mar 15 to Aug 31
California Thrasher	*Toxostoma redivivum*	Jan to Dec	Jan 1 to Jul 31
Clark's Grebe	*Aechmophorus clarkii*	Jan to Dec	Jan 1 to Dec 31
Costa's Hummingbird	*Calypte costae*	Jan to Dec	Jan 15 to Jun 10
Golden Eagle	*Aquila chrysaetos*	Jan to Dec	Jan 1 to Aug 31
Lawrence's Goldfinch	*Carduelis lawrencei*	Jan to Dec	Mar 20 to Sep 20
Nuttall's Woodpecker	*Picoides nuttallii*	Jan to Dec	Apr 1 to Jul 20
Song Sparrow	*Melospiza melodia*	Jan to Dec	Feb 20 to Sep 5
Spotted Towhee	*Pipilo maculatus clementae*	Jan to Dec	Feb 20 to Sep 5
Tricolored Blackbird	*Agelaius tricolor*	Jan to Dec	Mar 15 to Aug 10
Whimbrel	*Numenius phaeopus*	Jan to Dec	Breeds elsewhere
Wrentit	*Chamaea fasciata*	Jan to Dec	Mar 15 to Aug 10

Source: USFWS, 2018a.

3.12.1.4 Threatened and Endangered Species

This section discusses Federally listed species and State of California special status species that have the potential to occur within the area of analysis.

Federally Listed Species

Under the Endangered Species Act, an endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species likely to become an endangered species in the foreseeable future. Species Federally listed as threatened or endangered that have the potential to occur in the area of analysis are discussed in this section.

The Information, Planning, and Consultation System (IPaC), maintained by the USFWS, was queried for Federally listed threatened and endangered species and designated critical habitats potentially occurring within the Project area. The species list generated by the database search includes a total of 16 Federally threatened or endangered species (as shown in Table 3.12-2): five birds, one insect, two aquatic invertebrates and eight plants (USFWS, 2018a). NatureServe elemental occurrence data were used to determine the presence of species within the area of analysis (NatureServe, 2013). An elemental occurrence is defined by NatureServe as an area of land or water where a species or natural community is or was present and has conservation value. These occurrence data require that a species is in

appropriate habitat, at the appropriate time of the year, and is naturally occurring (NatureServe, 2013). Table 3.12-2 also includes a brief assessment of each species' likelihood of occurrence in the Project area based on the species' range/distribution and habitat requirements.

Table 3.12-2. Federally Threatened and Endangered Species Potentially Occurring in the Project Area

Species Name	Federal Status	Habitat Requirements/Range	Possibility of Occurrence in the Project Area
Birds			
California Condor (*Gymnogyps californianus*)	Endangered	Usual habitat is mountainous country at low and moderate elevations, especially rocky and brushy areas with cliffs available for nest sites, with foraging habitat encompassing grasslands.	None. No suitable habitat. No Critical Habitat in the Project area.
Coastal California Gnatcatcher(*Polioptila californica californica*)	Threatened	Several distinctive subassociations of the coastal sage scrub plant community	None. No suitable habitat. No Critical Habitat in the Project area.
Least Bell's Verio (*Vireo bellii pusillus*)	Endangered	Dense brush, mesquite, willow-cottonwood forest, streamside thickets and scrub oak in arid regions but often near water	None. No suitable habitat. No marshes or emergent riparian vegetation. No Critical Habitat in the Project area.
Light-footed Clapper Rail (*Rallus longirostris levipes*)	Endangered	Marshes and riparian fringe	None. No suitable habitat. No marshes or emergent riparian vegetation. No Critical Habitat in the Project area.
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	Endangered	Willow-cottonwood forest, streamside thickets	None. No suitable habitat. No riparian vegetation. No Critical Habitat in the Project area.
Insects			
Quino Checkerspot Butterfly (*Euphydryas editha quino (=E. e. wrighti*))	Endangered	Chaparral, coastal sage scrub with host plants *Plantago erecta* and *Plantago hookeriana* var. *californica*	None. No suitable habitat. No appropriate vegetation. No Critical Habitat in the Project area.

Species Name	Federal Status	Habitat Requirements/Range	Possibility of Occurrence in the Project Area
Aquatic Organisms			
Riverside Fairy Shrimp (*Streptocephalus woottoni*)	Endangered	Occurs in seasonal pools only identified in Riverside County that are filled by winter and spring rains that usually begin in November and continue into April or May.	None. No suitable habitat. No Critical Habitat in the Project area.
San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)	Endangered	Occurs in vernal pools and similar ephemeral wetland types, including artificial habitats. Habitat is typically shallow.	None. No suitable habitat. No Critical Habitat in the Project area.
Plants			
California Orcutt Grass (*Orcuttia californica*)	Endangered	Beds of dried vernal pools typically in grassland or chaparral	None. No suitable habitat. No Critical Habitat in the Project area.
Mexican Flannelbush (*Fremontodendron mexicanum*)	Endangered	Slopes covered with southern mixed chaparral, closed cone coniferous forest dominated by Tecate cypress	None. No suitable habitat. No Critical Habitat in the Project area.
Otay Mesa-mint (*Pogogyne nudiuscula*)	Endangered	Vernal pools. Moist flats in chaparral and coastal sage scrub.	None. No suitable habitat. No Critical Habitat in the Project area.
Otay Tarplant (*Deinandra* (=Hemizonia) *conjugens*)	Threatened	Clay soils in coastal sage scrub and grassland habitats at <300 m elevation	None. No suitable habitat. No Critical Habitat in the Project area.
San Diego Ambrosia (*Ambrosia pumila*)	Endangered	Coastal scrub, grasslands, open floodplains and low valley bottoms below 150 m	None. No suitable habitat. No Critical Habitat in the Project area.
San Diego Button-celery (*Eryngium aristulatum* var. *parishii*)	Endangered	Grows in vernal pools	None. No suitable habitat. No Critical Habitat in the Project area.
San Diego Thornmint (*Acanthomintha ilicifolia*)	Threatened	Restricted to gabbro soils or heavy clay soils in coastal sage scrub, grasslands and chaparral. Often in open areas, clay depressions, vernal pool habitats.	None. No suitable habitat. No Critical Habitat in the Project area.

Species Name	Federal Status	Habitat Requirements/Range	Possibility of Occurrence in the Project Area
Spreading Navarretia *(Navarretia fossalis)*	Threatened	Occurs in vernal pools, alkali playa habitat, and alkali sink habitats. Found on flat to gently sloping terrain. Soils have a clay component or an impermeable surface or subsurface layer that supports the vernal pool habitat. Requires areas that are (ephemerally) wet in winter and spring but dry in summer and fall.	None. No suitable habitat. No Critical Habitat in the Project area.

Source: USFWS, 2018a.

Critical habitat, as defined and designated by the USFWS, is the habitat necessary to support the special needs of Federally threatened or endangered species. There are no critical habitat designations for protected species in the proposed Project site (USFWS, 2018a), thus critical habitat is not discussed in the analysis of impacts.

State of California Special Status Species

Special status species are identified by state agencies to conserve rare species, avoid future Federal threatened or endangered status and avoid impacts during construction activities. These species are not listed as Federally threatened, endangered, proposed, or candidate species. Special status species are considered:

- Species protected by the MBTA (discussed above in Section 3.12.1.3 Migratory Birds);
- Rare, endangered, or threatened species designated by the State of California and/or listed in the California Natural Diversity Database (CNDDB, 2018a; CNDDB, 2018b; CNDDB, 2018c);
- Endangered or rare species designated under Section 15380(d) of California Environmental Quality Act (CEQA) guidelines (CEQA, 2016);
- A narrow endemic or covered species in the City of San Diego Multiple Species Conservation Program Plan (San Diego County, 1998);
- Species with a California Native Plant Society (CNPS) Rare Plant Ranking of 1 or 2 in the Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2018); and
- Fully protected animals by the California Department of Fish and Wildlife (CDFW, No Date).

The special status species listed Table 3.12-3 are known to occur within Otay Mesa based on information obtained from 2014 Otay Mesa Community Plan (San Diego, 2014; GSA, 2018c).

Table 3.12-3. State of California Special Status Species Potentially Occurring in the Project Area

Common Name	Scientific Name	Status [1,2]
Plants		
California adolphia	*Adolphia californica*	2B.1
Cliff spurge	*Euphorbia misera*	2B.2
San Diego barrel cactus	*Ferocactus viridescens*	2B.1, MSCP
Decumbent goldenbush	*Isocoma menziesii var. menziesii*	1B.2
Golden-spined cereus	*Bergerocactus emoryi*	2B.2
Little mousetail	*Myosurus minimus ssp. apus*	3.1
Nuttall's scrub oak	*Quercus dumosa*	1B.1
Orcutt's bird's-beak	*Dicranostegia orcuttiana*	2B.1
Orcutt's brodiaea	*Brodiaea orcuttii*	1B.1, MSCP
San Diego bur-sage	*Ambrosia chenopodiifolia*	2B.1
San Diego County viguiera	*Viguiera laciniata*	4.3
San Diego goldenstar	*Bloomeria clevelandii*	1B.1, MSCP
Small-leaved rose	*Rosa minutifolia*	CE, 2B.1, MSCP
Snake cholla	*Cylindropuntia californica var. californica*	1B.1, NE, MSCP
South coast saltscale	*Atriplex pacifica*	1B.2
Variegated dudleya	*Dudleya variegata*	1B.2, NE, MSCP
Birds		
Black-crowned night heron (rookery site)	*Nycticorax hoactli*	*
Burrowing owl	*Athene cunicularia*	BCC, CSC, MSCP, *
California horned lark	*Eremophila alpestris actia*	CWL, *
Cactus wren	*Campylorhynchus brunneicapillus*	BCC, MSCP, CSC, *
Cooper's hawk	*Accipiter cooperii*	CWL, MSCP, *
Golden eagle	*Aquila chrysaetos*	BCC, BEPA, CFP, CWL, MSCP, *
Grasshopper sparrow (nesting)	*Ammodramus savannarum*	CSC, *
Great egret (rookery site)	*Ardea alba egretta*	*
Loggerhead shrike	*Lanius ludovicianus*	BCC, CSC, *
Northern harrier	*Circus cyaneus*	CSC, MSCP, *
Peregrine falcon	*Falco peregrinus*	CWL, MSCP, *
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CWL, MSCP, *
White-tailed kite (nesting)	*Elanus leucurus*	CFP
Yellow-breasted chat (nesting)	*Icteria virens*	CSC, *
Reptiles and Amphibians		
Coronado skink	*Plestiodon skiltonianus interparietalis*	CWL
Orange-throated whiptail	*Aspidoscelis hyperythra*	CWL, MSCP, *
Red diamond rattlesnake	*Crotalus ruber*	CSC
San Diego horned lizard	*Phrynosoma blainvillii*	CSC, MSCP

Common Name	Scientific Name	Status [1,2]
Two-striped garter snake	*Thamnophis hammondii*	CSC *
Western spadefoot	*Spea hammondii*	CSC *
Mammals		
Northwestern San Diego pocket mouse	*Chaetodipus fallax*	CSC, *
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	CSC, *
San Diego desert woodrat	*Neotoma lepida intermedia*	CSC, *

Source: GSA, 2018c.

[1]Plant Status Codes

State Listed Plants

CE = State listed endangered

City Of San Diego

NE = Narrow endemic

MSCP = Multiple Species Conservation Program covered species

California Native Plant Society Rare Plant Rankings

1 = Rare in California and elsewhere

2 = Rare in California, but not elsewhere

A = Presumed extirpated or extinct

B = Rare, threatened, or endangered

2 = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.

3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.

4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).

.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).

.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).

[2]Animal Status Codes

BCC = U.S. Fish and Wildlife Service Birds of Conservation Concern species

BEPA = Bald and Golden Eagle Protection Act

CFP = California Department of Fish and Game fully protected

CSC = California Department of Fish and Game species of special concern

CWL = California Department of Fish and Game watch list

MSCP = Multiple Species Conservation Program covered species

* = Taxa listed with an asterisk fall into one or more of the following categories:

• Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines.

• Taxa that are biologically rare, very restricted in distribution, or declining throughout their range.

• Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California.

• Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands).

Based on a review of the habitat requirements of the special status plant and animal species listed in Table 3.12-3, the potential for these plants or animals to be present in the proposed Project site are low given the existing development and disturbed conditions at the site.

3.12.2 Environmental Consequences

This section addresses the potential effects of the No Action Alternative, Preferred Alternative (Alternative 1), and Reduced Build Alternative (Alternative 2) on the biological resources occurring in the area of analysis.

Impacts on vegetation would be considered significant if native vegetation is removed from specific plant communities that are considered to be locally or regionally important, or are known to play a critical role in maintaining local or regional ecosystem function and overall biodiversity; and if the amount of native vegetative habitat removed from any specific plant community would be enough to substantially alter regional ecosystem function or overall biodiversity due to loss or displacement of species from the area.

Impacts on wildlife and migratory birds would be considered significant if there is loss of wildlife habitats that are considered to be locally or regionally important and are critical in maintaining ecosystem function and overall biodiversity in the local area or region; if loss of habitat affects the viability of at least some native species; if enough individuals of a wildlife population are removed so that it would substantially alter ecosystem function in that region; if population numbers, population structure, genetic variability, and other demographic factors for species have large, short-term declines, with long-term population numbers significantly depressed; if frequent responses to disturbance by some individuals occurs, with negative impacts to feeding, reproduction, or other factors resulting in a long-term decrease in population levels; and if there is any violation of applicable state and Federal wildlife laws.

Impacts on threatened and endangered species would be considered significant if there is violation of the Federal Endangered Species Act of 1973. The loss of any threatened or endangered species individual or the degradation of any critical habitat would result in a significant impact.

3.12.2.1 Preferred Alternative (Alternative 1)

Under the Preferred Alternative, 10 acres of vegetation and wildlife habitat would be disturbed on the GSA-owned lot and 3.5 acres would be disturbed on the existing LPOE site, for a total of 13.5 acres of disturbance from proposed activities.

The USDA Plant Inspection Station would be constructed under the Preferred Alternative. Potential impacts on biological resources from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Vegetation

Project activities would occur in areas which consist predominantly of non-native vegetation in areas disturbed by past land use practices. As vegetation is largely non-native, impacts of the Preferred Alternative would be considered minimal.

Long-term impacts to vegetation would occur where plants are cleared or removed in the locations where proposed buildings, parking lots, roads, and other facilities would be constructed. Heavy equipment may

also cause short-term disturbance in adjacent areas beyond the footprint of construction sites. Repeated disturbance of vegetation (i.e., due to vehicle passes) during these activities would cause damage to plants and destruction of the vegetation mat. There would also be localized vegetation disturbance from foot traffic during construction activities. Adverse impacts from trampling would be short term as vegetation would be expected to recover over time. The overall impact on vegetation would be reduced by concentrating the area of disturbance to the smallest area necessary to complete the Project. Loss of an individual or small number of members of a given plant species would not jeopardize the viability of the population in the area, particularly because vegetation at the Project site is largely non-native.

Construction activities would result in soil compaction of the Project site and surrounding area. Excessive soil compaction impedes root growth and limits the amount of soil available for roots, decreasing a plant's ability to take up nutrients and water. Soil compaction also increases water runoff and soil erosion. Surface water runoff and sediment from areas disturbed by construction could adversely affect local vegetation by exposing soils and transporting sediment off-site. Though construction activities could result in an increase in soil compaction, erosion, and water runoff, the Project site is already disturbed and has experienced soil compaction from past land use practices.

Exotic plants or seeds could be brought to the Project site with fill material or on heavy equipment. Although the site already contains predominantly non-native plant species, heavy equipment should be cleaned and weed-free before entering the Project area. New introductions could allow for exotic plants to become established and spread, especially in areas where the ground has been disturbed by construction activities. Exotic plants currently growing in the area can also become established and spread on newly disturbed substrates. BMPs should be implemented to ensure that imported material does not contain exotic plants or seeds.

During construction, adverse effects to on-site and local off-site vegetation may occur because of fugitive dust emissions from construction machinery and worker traffic. Dust can reduce photosynthesis by reducing the amount of light penetrating through the leaves of vegetation. Dust emissions could also increase the growth of plant fungal disease (NZME, 2001). These impacts would be temporary and could be minimized through the use of dust abatement practices (i.e., watering the exposed soil). After construction, vegetation would be expected to recover in a reasonable amount of time.

In order to minimize soil erosion and inhibit the establishment and propagation of invasive exotic plant species, once construction is completed, disturbed areas that are not covered by buildings or other impermeable surfaces should be revegetated with appropriate native plant species. Over the long term during operation of the LPOE, vegetation would become reestablished within the disturbed areas that have been revegetated. This would be a beneficial effect on vegetation. No other impacts on vegetation would be expected during operation of the LPOE.

Overall, construction activities under the Preferred Alternative would have adverse short- and long-term, minor, medium (localized) extent impacts on vegetation with a high likelihood of occurrence due to loss and disturbance of vegetation in the Project area. As vegetation in the area of analysis consists primarily of non-native species on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be beneficial, long-term, negligible, small (limited), and with a high likelihood of occurrence due to revegetation/landscaping of disturbed areas with native plant species.

Wildlife

Although the abundance and diversity of wildlife species and habitat found in the Project area is minimal, any wildlife that is present would be temporarily disturbed or displaced by human presence and noise generated during construction activities. Although substantial noise and human activity already exists in the LPOE site, such disturbance would also occur on the 10-acre GSA-owned lot. Wildlife disturbance would be limited to the immediate area of the Project site and to the period of construction. Increased human activities may disrupt wildlife movements during migration or dispersal, breeding, nesting, and normal behavior. Displaced animals could occupy areas of similar habitat in the vicinity outside the Project area. Wildlife in the habitats adjacent to the Project site may also be displaced temporarily by construction noise but are likely to return soon afterwards. Species are expected to return to the Project site in areas where vegetation is not cleared and habitat still exists or recovers.

Once construction is completed, some species may be prevented from using the resources at the Project site over the short term due to habitat disturbance until it recovers in areas that have been revegetated. Alteration of the Project site would reduce cover, forage, and nesting habitat for some species. Wildlife occupying the Project site could also be permanently displaced to other locations over the long term due to habitat loss or removal where habitat is replaced by buildings, pavement, and other man-made surfaces. If this occurs, it is possible that survival would be reduced because of territorial fights and competition for food and cover. To minimize such adverse impacts, Project activities would be confined to the Project area, and no surrounding wildlife habitats would be physically disturbed. Disturbed areas that are not hardened should be revegetated with native plants after construction, which would benefit some species by providing food and cover habitat elements.

Earthwork during construction could result in mortality of small mammals, reptiles and amphibians through individual animals or eggs being crushed by construction equipment or being excavated from burrows or other refugia during ground disturbing activities. These actions also have the potential to disrupt breeding cycles. Such Project impacts would be short term, and it is likely that few individuals or eggs would be affected.

During operation of the LPOE, the idling time for vehicles would be reduced while the number of vehicles that could be processed at once would be greater than at present; thus, there could be increased noise and activity from the increased capacity of vehicles and people that would be processed by the upgraded LPOE. Although there is already a high level of noise and activity at the Project site, it is possible that increased traffic, noise, and human activity would contribute additional long-term adverse effects on wildlife.

Overall, construction activities under the Preferred Alternative would have adverse short- and long-term, minor to moderate, medium (localized) to large extent impacts on wildlife with a high likelihood of occurrence due to disturbance of animals and loss of habitat in the Project area. However, since the presence of wildlife is sparse and the site includes mainly non-native habitat on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be adverse, long-term, negligible, medium (localized) extent with a high likelihood of occurrence due increased noise and disturbance from a higher volume of vehicles and pedestrians passing through the LPOE.

Migratory Birds

Impacts on migratory birds would be similar to those described for general wildlife above. Additionally, construction impacts during the bird breeding season could result in nest destruction or abandonment if any are present, direct mortality with the loss of broods and fledged young, or bird displacement. Impacts to nesting birds would be minimized or avoided if timing of Project activities occurs outside of the bird breeding season. However, it is possible that some activities may occur during the breeding seasons of some birds without detrimental effects. To minimize impacts during construction to bird species protected under the MBTA, avoidance and mitigation measures may include the following:

- Vegetation and nest removal activities would occur outside the nesting season to the extent practicable;
- Preconstruction clearance surveys would be conducted during the nesting season by a qualified biologist to identify active nests; and
- Avoidance measures would be implemented for nests observed within and immediately adjacent to the active Project area.

Impacts to bald eagles would be avoided by implementing the *National Bald Eagle Management Guidelines* (USFWS, 2007) and through coordination with USFWS.

The burrowing owl could potentially be expected to use the disturbed habitat at the Project site. However, recent surveys did not identify any active burrows, existing owls, or other signs of burrowing owls being present. The Preferred Alternative would permanently impact marginal to moderately suitable habitat for the burrowing owl on the 10-acre GSA-owned lot. The GSA would ensure that a burrowing owl survey is completed prior to the start of construction so as to identify whether any owls are present at the site. Thus, adverse impacts to burrowing owls would not be expected to occur, and impacts to burrowing owl habitat would be adverse, permanent, minor, of small (limited) extent and with a high likelihood of occurrence.

Overall, construction activities under the Preferred Alternative would have adverse short- and long-term, minor to moderate, medium (localized) to large extent impacts on migratory birds with a high likelihood of occurrence due to disturbance of birds and loss of habitat in the Project area. However, since the presence of migratory birds is sparse and the site includes mainly non-native habitat on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be adverse, long-term, negligible, medium (localized) extent with a high likelihood of occurrence due increased noise and disturbance from a higher volume of vehicles and pedestrians passing through the LPOE.

Threatened and Endangered Species

No Federally listed species or critical habitats occur in the area of analysis, thus there would be no impacts from Project activities under the Preferred Alternative.

The potential for special status plant and animal species to be present in the Project area are low given the existing development and disturbed conditions at the site. However, surveys for presence of state listed species should be conducted prior to the start of construction activities. In the unlikely event that special status species are found in the Project area, the area would be under resource closure and no activities would occur until mitigation is implemented. Thus, adverse impacts to special status species could be minimized or completely avoided. If any impacts occur, they would be similar to those described

for general wildlife above. Impacts would be short-term during construction and long-term during operation of the LPOE, minor, of medium (localized) extent and with a high likelihood of occurrence, but not significant.

3.12.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, 13.5 acres of vegetation and wildlife habitat would be disturbed, altered, or lost during construction, the same as under the Preferred Alternative. No new construction would occur on the 10-acre GSA-owned land that would take place under the Preferred Alternative; instead, the 10-acre lot would be paved, thus removing all vegetation and wildlife habitat. Impacts on vegetation, wildlife, migratory birds, and threatened and endangered species would be similar to those described under the Preferred Alternative.

The USDA Plant Inspection Station would be constructed under the Reduced Build Alternative as under the Preferred Alternative. Potential impacts from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference.

Construction activities under the Reduced Build Alternative would have adverse short- and long-term, minor, medium (localized) extent impacts on vegetation with a high likelihood of occurrence due to loss and disturbance of vegetation in the Project area. Since vegetation in the area of analysis consists primarily of non-native species on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be beneficial, long-term, negligible, small (limited), and with a high likelihood of occurrence due to revegetation/landscaping of disturbed areas with native plant species.

Construction activities under the Reduced Build Alternative would have adverse short- and long-term, minor to moderate, medium (localized) to large extent impacts on wildlife with a high likelihood of occurrence due to disturbance of animals and loss of habitat in the Project area. However, since the presence of wildlife is sparse and the site includes mainly non-native habitat on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be adverse, long-term, negligible, of medium (localized) extent with a high likelihood of occurrence due increased noise and disturbance from a higher volume of vehicles and pedestrians passing through the LPOE.

Construction activities under the Reduced Build Alternative would have adverse short- and long-term, minor to moderate, medium (localized) to large extent impacts on migratory birds with a high likelihood of occurrence due to disturbance of birds and loss of habitat in the Project area. However, since the presence of migratory birds is sparse and the site includes mainly non-native habitat on land that has been previously disturbed, such impacts would not be considered significant. Impacts during operation of the LPOE would be adverse, long-term, negligible, medium (localized) extent with a high likelihood of occurrence due increased noise and disturbance from a higher volume of vehicles and pedestrians passing through the LPOE.

There would be no impacts on Federally listed species from Project activities under the Reduced Build Alternative. Adverse impacts to special status species could be minimized or completely avoided by mitigation if surveys detect any special status species. If any impacts occur, they would be similar to those described for general wildlife above. Impacts would be short-term during construction and long-term

during operation of the LPOE, minor, of medium (localized) extent and with a high likelihood of occurrence, but not significant.

3.12.2.3 No Action Alternative

No impacts on biological resources in the area of analysis would occur under the No Action Alternative as none of the proposed Project actions would occur. The USDA Plant Inspection Station would be constructed under the No Action Alternative as under the Preferred Alternative and Alternative 2. Potential impacts on biological resources from the construction of the USDA Plant Inspection Station were analyzed in the *2018 Final Environmental Assessment for the USDA Animal and Plant Health Inspection Service Plant Inspection Station at the Otay Mesa Land Port of Entry, San Diego, California* (GSA, 2018c) and are incorporated here by reference. Overall, impacts of the No Action Alternative on biological resources would not be significant.

3.13 WATER RESOURCES

3.13.1 Affected Environment

Water resources may be grouped into five different areas that characterize the spectrum of potential impacts to the resource, including water quality, water supply, surface water, floodplains, and wetlands. In the following sections, the affected environment that is subject to potential impacts is described for water quality, groundwater/water supply, and three areas that were eliminated from further analysis: surface water, floodplains, and wetlands.

3.13.1.1 Water Quality

The State Water Resources Control Board (SWRCB) divides California into nine regions, each defining the jurisdiction for regional administration of the state's water quality control program. The Project area is located within the Tijuana Hydrological Unit of the San Diego Region and drains south across the border into Mexico and eventually into the Tijuana River, which crosses the U.S.-Mexico border back into Southern California and empties into the Pacific Ocean in an estuary on the southern edge of San Diego. Specifically, the Project area is located within the Tijuana River Watershed Management Area, Tijuana Hydrologic Unit, Tijuana Valley Hydrologic Area, Water Tanks East Hydrologic Subarea. It is this last subarea that represents the area of analysis for water quality impacts due to this proposed Project.

Water quality is regulated within the context of meeting standards established for compliance with the CWA, specifically:

- Integrated Sections 303(d) and 305(b) – The integrated sections 303(d) and 305(b) reporting process of the CWA requires that states identify water quality segments that fail to meet water quality standards. The 305(b) section is the water quality assessment portion of that process. The list developed is updated biannually by the Regional Water Quality Control Board (RWQCB) and the SWRCB. The Tijuana River is listed as an impaired water body in the 2014 – 2016 303(d) list with pollutants that include toxicity, fecal indicator bacteria, lead, ammonia, pesticides, cadmium, and selenium. The Water Tanks East Hydrologic Subarea has no listed segments but is tributary to the listed segment of the Tijuana River (CWB, 2018). The listed lower segments of the Tijuana River are impaired by excessive sedimentation and trash. The San Diego Water Board is responding to the impairment by initiating a Total Maximum Daily Load (TMDL) program (GSA, 2018c).
- Section 401 – This section allows states and tribes to establish a certification process to ensure that standards will not be violated by discharge into a water body regulated under CWA Section 404. The California state certification process governs water quality standards established by the San Diego RWQCB - Region 9 and the South Coast Region of the California Department of Fish and Wildlife (CDFW) - Region 5.
- Section 402 – CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) program. The California permit program, implemented by the SWRCB, regulates discharges of pollutants into surface waters, including discharges during ground-disturbing activities that are transported by storm water runoff. The proposed Project would require an Erosion and Sediment Control Plan and a Stormwater Management Plan.
- Section 404 – Under CWA Section 404, the U.S. Army Corps of Engineers (USACE) regulates and permits the discharge of fill material into Waters of the U.S., defined in 33 CFR 328.4 (c) as those

that compose the area of a watercourse that extends up to the ordinary high-water mark in the absence of wetlands.

3.13.1.2 Groundwater/Water Supply

The Tijuana Groundwater Basin underlies the Project site with an extent of 11.6 square miles (CAGB, 2006) and is the area of analysis for groundwater/water supply impacts. However, the nearest groundwater well to the Project area that is registered with the State of California is approximately four miles away with a groundwater depth of 180 feet (GAMA, 2018).

Several Federal statutes have been enacted that are protective of groundwater quality, including:

- Safe Drinking Water Act Federal Insecticide, Fungicide, and Rodenticide Act
- Toxic Substances Control Act
- Resource Conservation and Recovery Act
- Comprehensive Environmental Response, Compensation, and Liability Act "Superfund Act"

The December 2017 Phase 1 Environmental Site Assessment (GSA, 2017b) for the Project site identified no recognized environmental conditions at the site or adjacent properties, indicating the likelihood that there are no previous conditions that may adversely affect groundwater quality, as defined by the requirements of these statutes.

The Project would obtain its water supply from the Otay Municipal Water District (District). In its 2015 Urban Water Management Plan Update, the District stated that it meets all its potable water demands with imported treated water from the San Diego County Water Authority.

The District currently does not obtain any of its supply from groundwater. The District has studied possible local groundwater development projects, but none to date have advanced to development. Both the geology and the semi-arid hydrologic conditions of the region limit groundwater supplies within the service area. Narrow river valleys with shallow alluvial deposits are characteristic of some of the more productive groundwater basins.

Additionally, irrigation with imported water and over- pumping has led to excessive salinity in many of the most promising basins. Outside of these alluvial basins, much of the geology consists of fractured crystalline bedrock and fine-grained sedimentary deposits that are generally capable of yielding only small amounts of groundwater to domestic wells. The District is continuing to investigate local groundwater opportunities as a means of reducing its dependence on imported water (OWD, 2016).

3.13.1.3 Water Resources Factors Eliminated from Analysis

In addition to the two water resources areas for which the affected environment is described above, an initial review of three other water resource areas determined that sufficient justification is available to exclude these areas from further analysis. The rationale for this determination is presented in the three sections below, Surface Water, Floodplains and Wetlands.

Surface Water

Neither natural nor artificial perennial surface water flow is present on the site. The drainage analysis report prepared for the Project indicates that runoff from the 10-acre GSA-owned plot of land, as well as the adjacent and existing 41-acre LPOE site, would be retained for storm events less than or equal to the

95th percentile rainfall event, in compliance with requirements of the EISA) of 2007 (GSA, 2010). This means that storm runoff would not be discharged from the site and would therefore have no effect except for infrequent storm events.

Floodplains

The Project site is not located within a designated 100-year or 500-year floodplain (GSA, 2010).

Wetlands

The Project site is on disturbed lands where no wetland areas are present onsite or on adjacent properties (GSA, 2018b). This indicates that compliance with CWA Section 404 is not an issue for the Project.

3.13.2 Environmental Consequences

Water resource impacts for the two action alternatives and the No Action Alternative are described in the sections below.

3.13.2.1 Preferred Alternative (Alternative 1)

Under the Preferred Alternative, there would be no water resource impacts resulting from storm events of magnitudes less than or equal to the 95th percentile rainfall event. This is because a stormwater retention system would be constructed that would retain runoff from the property for storm events of this magnitude or less.

Construction

During the construction stage of the Project, an Erosion and Sediment Control Plan and a Stormwater Management Plan would be implemented as a condition for issuance of a NPDES permit under CWA Section 402. Compliance with these permit conditions minimizes impacts from planned construction.

As mentioned in Section 2.1.1, the GSA requires that new construction and substantial renovation of its facilities obtain a Leadership in Energy and Environmental Design (LEED®) Gold certification. However, the GSA intends to obtain a Platinum certification at all its facilities. The LEED® certification for the Project is based on an accumulation of several scored green building features that may include Water Conservation Measures (WCMs) such as low-flow fixtures (interior) and installing a retention system to collect stormwater outflow for irrigation (exterior). These features potentially reduce the water supply requirements of the Project and improve the surface water quality for any water that leaves the property.

The WCMs that would be utilized have not been specifically identified at this time, but the analysis notes that general statements are made in the Project documents indicating that WCMs would be utilized. In personal communications with the GSA, planned measures for new facilities were identified that included dual-flush/low flush toilets, high efficiency urinals, metered lavatory faucets, a landscape design that uses 50 percent less irrigation per the SITES[16] certification requirement (see inset), and a stormwater retention facility (GSA, 2018a). The commitment to provide these WCMs as a feature of new building construction supports the low impacts described in this section.

[16] SITES-certified landscapes help reduce water demand, filter and reduce stormwater runoff, provide wildlife habitat, reduce energy consumption, improve air quality, improve human health and increase outdoor recreation opportunities.

Operation

The proposed stormwater retention facility has multiple benefits for reducing water resource impacts. A bioswale is one example of a water resources improvement that reduces the runoff rate to approximate runoff from an undeveloped site, or even eliminate such runoff. Bioswales are landscape elements designed to concentrate or remove debris and pollution out of surface runoff water. They consist of a swaled drainage course with gently sloped sides (less than 6%) and filled with vegetation, compost and/or riprap. The water's flow path, along with the wide and shallow ditch, is designed to maximize the time water spends in the swale, which aids the collection and removal of pollutants, silt and debris.

For this Project, all runoff would be retained onsite for storms up to the 95th percentile storm frequency, using a bioswale or similar stormwater retention system that may potentially include retention basins, permeable pavement, rain gardens, naturalized landscaping areas, and vegetated roofs. The reduction or elimination of runoff prevents erosion in downstream areas and degraded water quality.

The function of retention systems is slowing down or stopping the runoff rate, which increases the contact time between the water and the vegetation thereby having an additional cleaning effect on contaminants in the stormwater that interact with or are consumed by the biological matter. These provisions would contribute positively to compliance with TMDL requirements for water management authorities managing impaired water segments under CWA Sections 303(d), 305(b), and 401.

Storm events that exceed the 95th percentile would result in an impact less than would occur if the site was developed without retention, because though some storm flow is allowed to pass at those infrequent intervals, the stormwater volume within the retention facility would be detained (slowed), and the peak runoff rate would be reduced, with a resultant positive impact on potential flood flows downstream. It is, however, unlikely that the full effect of water quality improvement would occur if the retention facility is overtopped during these large, infrequent storms.

There is nothing proposed in the Preferred Alternative that would indicate an increased risk to groundwater quality, since compliance with the statutes identified in Section 3.13.1.2 would be expected.

Impacts from the Preferred Alternative would be direct and adverse, of minor magnitude, short-term duration, localized extent, and low likelihood for storm events greater than the 95th percentile rainfall event. These storm events are infrequent. In either case, the impacts would not be significant.

3.13.2.2 Reduced Build Alternative (Alternative 2)

Under the Reduced Build Alternative, there would be no impacts to water resource impacts for storm events of magnitudes less than or equal to the 95th percentile rainfall event. This is because a stormwater retention system would be constructed that would retain runoff from the property for storm events of this magnitude or less.

Construction

During the construction stage of the Project, an Erosion and Sediment Control Plan and a Stormwater Management Plan would be implemented as a condition for issuance of a NPDES permit under CWA Section 402.

The Reduced Build Alternative would not include any new building construction, as would be included in the Preferred Alternative. However, this alternative still includes construction of the USDA Plant

Inspection Facility, relocation or extension of two commercial exit booths, and paving the 10-acre parcel with asphalt.

Since no new GSA building construction is proposed under the Reduced Build Alternative, there would be no WCMs implemented and water consumption would remain at or near current levels.

Operation

Since this alternative still includes construction of the USDA Plant Inspection Facility, relocation or extension of two commercial exit booths, and paving the 10-acre parcel with asphalt, this means that runoff from the 10-acre site would be retained for storm events less than or equal to the 95th percentile rainfall event, in compliance with requirements of the EISA of 2007 (GSA, 2010). This retention of runoff would have mitigative effects on any water quality impacts created by paving of the 10-acre site.

Storm events that exceed the 95th percentile would still result in an impact less than would occur if the site was developed without retention, because though some storm flow can pass at those infrequent intervals, the stormwater volume within the retention facility would be detained (slowed), and the peak runoff rate would be reduced, with a resultant positive impact on potential flood flows downstream. It is, however, unlikely that the full effect of water quality improvement would occur if the retention facility is overtopped during these large, infrequent storms.

There is nothing proposed in the Reduced Build Alternative that would indicate an increased risk to groundwater quality, since compliance with the statutes identified in 3.13.1.2 would be expected.

Impacts from the Reduced Build Alternative would be direct and adverse, of minor magnitude, short-term duration, localized extent, and low likelihood for storm events greater than the 95th percentile rainfall event. In either case, the impacts would not be significant.

3.13.2.3 No Action Alternative

Under the No Action Alternative, there would be no impacts to water resources for storm events of magnitudes less than or equal to the 95th percentile rainfall event. This is because no new construction would occur that would require stormwater retention.

Construction

Under the No Action Alternative, no new GSA construction would occur on the 10-acre parcel, no renovations of existing facilities would occur, and the 10-acre parcel would not be paved.

Since no new GSA building construction or renovation is proposed under the No Action Alternative, there would be no WCMs implemented and water consumption would remain at or near current levels.

Operation

This alternative would still include construction of the USDA Plant Inspection Station under a separate project. This means that runoff from the USDA building site would be retained for storm events less than or equal to the 95th percentile rainfall event, in compliance with requirements of the EISA of 2007 (GSA, 2010). This retention of runoff would have mitigative effects on any water quality impacts created by construction of the Plant Inspection Station. Any stormwater retention would occur as a requirement of

the USDA Plant Inspection Station and would be associated with that project. There would be no retention requirement for the No Action Alternative since there would be no new construction.

Storm events that exceed the 95th percentile would still result in an impact less than would occur if the site was developed for the USDA Plant Inspection Station without retention because, though some storm flow is allowed to pass at those infrequent intervals, the stormwater volume within the retention facility would be detained (slowed), and the peak runoff rate would be reduced, with a resultant positive impact on potential flood flows downstream. It is, however, unlikely that the full effect of water quality improvement would occur if the retention facility is overtopped during these large, infrequent storms.

There would be no future change in effects to groundwater from the No Action Alternative.

Impacts for the No Action Alternative would be direct and adverse, of minor magnitude, short-term duration, localized extent, and low likelihood for storm events greater than the 95th percentile rainfall event. In either case, the impacts would not be significant.

3.14 Relationship Between Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity

Section 102(C)(iv) of NEPA [42 USC § 4332] and 40 CFR 1502.16 require an EIS to address "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity." This involves the consideration of whether a Proposed Action is sacrificing a resource value that might benefit the environment in the long term, for some short-term value to the project proponent or the public.

The purpose of the Proposed Action – expansion of the Otay Mesa LPOE – is to improve the efficiency, effectiveness, security, and safety at the existing facility, thereby increasing the LPOE's capacity and reducing wait times while addressing public and employee safety and border security concerns.

As described in Chapter 3 of this EIS, the environment in question is an empty, rectangular 10-acre lot lacking surface water resources and dominated by ruderal, invasive vegetation that does not constitute viable wildlife habitat. The lot is bordered by the existing LPOE on its western side and surrounded by urban development on the three other sides.

The environment of this empty lot does not possess existing and enduring resource or environmental values whose long-term potential benefits would be sacrificed to provide for short-term value to the Project proponent (GSA). The Proposed Action, if implemented, would last for many decades.

3.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROJECT

Section 102(C)(v) of NEPA [42 USC § 4332] requires EISs to address "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." Irreversible and irretrievable commitments of resources mean losses to or impacts on natural resources that cannot be recovered or reversed.

More specifically, "irreversible" implies the loss of future options. Irreversible commitments of resources are those that cannot be regained, such as permanent conversion of wetlands and loss of cultural resources, soils, wildlife, agricultural and socioeconomic conditions. The losses are permanent and incapable of being reversed. "Irreversible" applies mainly to the effects from use or depletion of nonrenewable resources, such as fossil fuels or cultural resources, or to those factors, such as soil productivity, that are renewable only over long periods of time.

"Irretrievable" commitments are those that are lost for a period of time, such as the temporary loss of timber productivity in forested areas that are kept clear for use as a ROW, road, or winter sports site. The lost forest production is irretrievable, but the action is not irreversible. If the use changes back again, it is possible to resume timber production.

3.15.1 Irreversible Commitments of Resources

Under both the Preferred Alternative (Alternative 1) and the Reduced Build Alternative (Alternative 2), the following irreversible commitments of resources would occur:

- Consumption of fossil fuels (primarily diesel) and lubricants by heavy construction equipment (e.g., bulldozers and Caterpillars, graders, scrapers, excavators, loaders, trucks) used to excavate and develop the 10-acre GSA-owned property;
- Consumption of fossil fuels (primarily diesel) and lubricants by heavy construction equipment used to renovate existing buildings at the Otay Mesa LPOE;
- Materials used to develop the 10-acre GSA-owned lot, construct the CAB (Alternative 1 only), and renovate existing buildings, including cement/concrete, soil cement, steel, iron and other metallic alloys, copper wiring, PVC pipe, plastic and so forth; and
- Energy, supplied by fossil fuels or some other source of electricity, used over the operational life of the Otay Mesa LPOE.

3.15.2 Irretrievable Commitments of Resources

As noted above, "irretrievable" commitments of resources are those that are lost for a period of time, but not permanently. Both action alternatives would entail the long-term loss of the largely ruderal, non-native vegetation within the 10-acre GSA-owned property.

4.0 CUMULATIVE IMPACTS

Cumulative impacts are defined by the Council on Environmental Quality (CEQ) regulations in 40 Code of Federal Regulations (CFR) 1508.7 as "the impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time." Cumulative impacts include the direct and indirect impacts of a project together with the past, present, and reasonably foreseeable future actions of other projects. According to CEQ's cumulative impacts guidance, the cumulative impact analysis should be narrowed to focus on important issues at a national, regional, or local level.

The City of Otay Mesa has experienced steady population and economic growth over the last few decades. Past and ongoing major actions in the area were and are primarily associated with commercial and industrial development and development of supporting infrastructure such as roadways and utility systems. Current and foreseeable future Federal and local development projects within and in the vicinity of the Project area are identified below.

Federal Projects

Notable Federal projects include the Proposed Otay Mesa East Port of Entry (POE), construction of the State Route (SR)-11 and SR-905 Connectors, and the reconfiguration and expansion of the San Ysidro Land Port of Entry (LPOE).

Proposed Otay Mesa East Port of Entry

The Otay Mesa East Port of Entry (POE) is a planned border crossing between San Diego and Tijuana, approximately 2 miles east of the existing Otay Mesa LPOE. Although the proposed crossing would allow for cars and pedestrians, it would mainly be designed for trucks and commercial vehicles. The proposed port would offer an alternative to the highly congested ports of entry at Otay Mesa and San Ysidro LPOEs, benefitting the regional economy and the environment by reducing border-crossing wait times (San Diego Union Tribune, 2015). The proposed future land port at Otay Mesa East is expected to ease congestion in the City of Otay Mesa by reducing delays for both personal and commercial crossings. Future commercial and residential growth in the SR-905 corridor may have minor operational impacts on the facility.

SR-11 and SR-905/SR-125/SR-11 Connectors

The SR-11 and SR-905 connectors are two major revenue constrained projects identified in the SANDAG San Diego Forward Regional Plan that are aimed at improving corridor efficiency. The first one-mile segment of SR-11 is complete, and funding has been secured for the second 1.5-mile segment that will extend to the future Otay Mesa East POE. The SR-11/Otay Mesa East POE project will provide fast, predictable, and secure crossings via a tolled road that serves both personal and commercial vehicles (Caltrans/SANDAG, 2017b). The SR-905/SR-125/SR-11 connectors project will help ease border congestion and facilitate the movement of goods between the U.S. and Mexico. The interchange is one of the last critical links in the overall border road network, providing direct access to SR-125 from SR-905 and SR-11. Currently, vehicles must use circuitous and congested local roads to access SR-125. The connectors will provide a seamless highway system for both commercial and passenger vehicles departing the existing Otay Mesa LPOE and future Otay Mesa East POE to destinations across San Diego County, California and the nation. The northbound connectors opened in 2016, and construction on the southbound connectors between SR-125 and SR-905 and SR-11 is anticipated to begin in late 2018 and be completed in 2020 (Caltrans/SANDAG, 2017b).

San Ysidro LPOE Reconfiguration and Expansion

The San Ysidro LPOE project will include complete reconfiguration and expansion of the primary and secondary inspection areas, administration and pedestrian buildings and all other support structures. The project will also expand pedestrian processing facilities, including a new pedestrian crossing on the east side of the LPOE that will connect with a new multimodal transportation hub in Mexico, and expanded northbound inspection facilities. Additionally, there will be a new bi-directional crossing at El Chaparral/Virginia Avenue with an associated transit center. Once all three phases are complete, the new port will contain 62 northbound vehicle primary inspection booths, one dedicated bus lane and inspection booth for every 34 lanes and improved processing facilities for bus and Secure Electronic Network for Travelers Rapid Inspection (SENTRI) travelers. The expanded LPOE will have over 110,000 square feet of new primary and secondary vehicle inspection canopies. In addition, a portion of the Interstate 5 South freeway will be realigned and expanded from the current five lanes to ten lanes which will connect to Mexico's new El Chaparral facility. A corresponding southbound inspection canopy will be constructed to support Customs and Border Protection (CBP) southbound vehicle inspection efforts. The project has been broken into three phases as follows:

- **Phase 1** – Includes the Pedestrian Bridge, Northbound Vehicular Inspection, Southbound Pedestrian Crossing, West Pedestrian Crossing, and the Virginia Ave Transit Center (completed).
- **Phase 2** – Includes the Main Administration Building (summer 2018) and the Historic Custom House and Southbound Plaza (spring 2019).
- **Phase 3** – Includes Interstate-5 North and Southbound Inspection Facilities (winter 2019).

Local Projects

Notable local current and future projects are described below.

Metropolitan Airpark at Brown Field

This project includes more than 1 million square feet of industrial buildings, restaurants, retail businesses and a hotel proposed across 331 acres. Approximately 8,000 construction and 4,000 permanent jobs could be generated in the South San Diego County area, with construction beginning in 2017 (Times of San Diego, 2017).

La Media Road Expansion

The City of San Diego plans to expand and repave La Media Road to address increased traffic in the area and a flooding issue at the intersection with Airway Road. La Media Road is located approximately one quarter mile northwest from the Otay Mesa LPOE.

Otay 250-Sunroad East Otay Mesa Business Park Specific Plan Amendment

The General Plan Amendment associated with the Otay 250 project proposes to include a mix of residential, commercial and industrial uses to a portion of the Otay Subregional Plan. The Specific Plan Amendment proposes to amend the East Otay Mesa Business Park Specific Plan to establish a new mixed-use land use category within the Specific Plan, which would allow for residential, commercial and employment uses at a maximum of 3,158 dwelling units, 78,000 square feet of commercial use and approximately 765,000 square feet of employment use.

Emergency Vehicles Operations Course (EVOC) Facility

A proposed Emergency Vehicles Operations Course (EVOC) Facility would provide a venue for hands-on vehicle and classroom training courses, primarily to public safety personnel. The 39.7-acre property proposed for the EVOC project is approximately one mile northeast of the Otay Mesa LPOE and southeast

of the intersection of Otay Mesa and Alta Roads. The project site is bordered on the north by a planned extension of Otay Mesa Road, on the west by undeveloped lots that abut the future extension of Alta Road and on the east by future lots. The proposed future extension of SR-11 runs along the southerly border of the project site.

I-5 Realignment Project

A portion of southbound Interstate 5 will be realigned and expanded into the Mexico El Chaparral Port of Entry. Construction work on southbound I-5 began in mid-September 2017. The realignment project will be completed in the summer of 2019.

Otay Valley Regional Park

The Otay Valley Regional Park is being created and will extend from the San Diego Bay east to the Otay Lakes. Presently, the park is without facilities, trails, or amenities.

South Bay Rapid Transit Corridor

Construction on the South Bay Rapid transit corridor began in early 2016 in Chula Vista, California. The newest addition to San Diego County's Rapid transit system, South Bay Rapid will provide a frequent and reliable transportation alternative for South San Diego County travelers. When completed, South Bay Rapid will span a 21-mile route, connecting residents to employment and activity centers in downtown San Diego and the South Bay. South Bay Rapid will begin a limited service route in September 2018 between the East Palomar Station at Interstate 805 in Chula Vista and Downtown San Diego. In early 2019, South Bay Rapid service will expand to full service and operate along a 26-mile route between the Otay Mesa Transit Center and Downtown San Diego (TransNet, No Date).

Otay Mesa Trunk Sewer Expansion

The San Diego City Public Utility Department is responsible for wastewater service within the Otay Mesa area. Wastewater service is currently provided through the Otay Mesa sewer collection system via the Otay Mesa Trunk Sewer, the Otay Valley Trunk Sewer system, and Metropolitan Sewer System (Metro). The Metro facilities include the San Ysidro Interceptor, the South Metro Interceptor, and the City's wastewater treatment facilities. The Otay Mesa Trunk Sewer has been planned for expansion to accommodate growth in Otay Mesa. A 27-inch-diameter City of San Diego sewer main is located along Via De La Amistad.

4.1 LAND USE

The LPOE and immediate area surrounding the Project site is part of a developed urban and industrial landscape. The cumulative projects in the area would continue to contribute to the character of that landscape. The majority of the potential and ongoing projects in the Project area are industrial in nature, also contributing to the existing character of the Project area. Several of the projects may result in the development of nearby residential and office space; however, no short-term or long-term cumulative direct or indirect effects on land use are expected from implementation of the Preferred Alternative.

Cumulative impacts under the Reduced Build Alternative would be similar to those that would occur under the Preferred Alternative.

Under the No Action Alternative, the United States Department of Agriculture (USDA) Plant Inspection Station would be constructed but no other construction or renovation of the LPOE would be implemented. No cumulative impacts would be expected from the No Action Alternative.

4.2 UTILITIES AND INFRASTRUCTURE

Continued population growth in the San Diego County and Otay Mesa area has the potential to cause strain to water, wastewater and electrical generation and transmission utilities. San Diego Gas & Electric Company (SDG&E) is responsible for providing electricity and natural gas to accommodate increases in demand due to population growth in the area. Otay Water District (OWD) is responsible for providing water and has projected enough capacity to meet demand for water for the next 20 years. Of the identified local development projects in the Otay Mesa LPOE Project area, the Otay Mesa Trunk Sewer Expansion project would affect utilities by helping to alleviate sewer capacity issues around the Otay Mesa LPOE. The Trunk Sewer Expansion project would have a beneficial impact. As discussed in Section 3.2, changes in utility usage due to the Preferred Alternative, Reduced Build Alternative and No Action Alternative would have negligible impacts to utility demand in the area compared to the impacts of population growth (San Diego, 2014).

4.3 HAZARDOUS WASTE AND MATERIALS

Although there have been no documented spills or releases of hazardous material on the General Services Administration (GSA)-owned 10-acre plot of land or the Otay Mesa LPOE, as stated in Section 3.3.2.1, construction activities could result in the release of diesel fuel, gasoline, paints and solvents (hazardous materials) and worker exposure to Asbestos-containing materials (ACMs), Lead-containing surfaces (LCSs) and Polychlorinated biphenyl (PCB)[17] (hazardous waste). However, Project-specific impacts from hazardous waste/materials would be reduced through conformance with applicable regulatory requirements and implementation of appropriate avoidance, minimization and mitigation measures as required by OSHA and RCRA. In addition, any hazardous materials released or hazardous waste discovered during the construction and operation of other nearby projects would be cleaned up according to all appropriate laws and regulations. Therefore, the potential adverse cumulative impacts associated with hazardous waste and materials would not be significant when considered with other past and future projects within the vicinity of the Otay Mesa LPOE.

Under the Reduced Build Alternative, project activities, and the amount of hazardous waste/materials potentially generated, would be less than under the Preferred Alternative. Therefore, the likelihood of cumulative impacts would be less than the Preferred Alternative and significant adverse cumulative impacts would not be expected.

Under the No Action Alternative, project activities and the amount of hazardous waste/materials potentially generated would be less than under the Preferred Alternative and the Reduced Build Alternative. Therefore, significant cumulative impacts would not be expected.

4.4 TRANSPORTATION AND TRAFFIC

The proposed Project entails the reconfiguration and expansion of the existing Otay Mesa LPOE to enhance traffic circulation, specifically the flow of commercial traffic, and to increase capacity. Both the Preferred Alternative and the Reduced Build Alternative would result in improvements to cross-border traffic. Future growth in the region and development of the new South Bay Rapid transit center are expected to increase cross-border travel. The Preferred and Reduced Build alternatives would alleviate vehicle and pedestrian traffic problems at the Otay Mesa LPOE caused by these future projects. Expansion projects at other regional LPOEs in addition to the proposed Project at the Otay Mesa LPOE would reduce

[17] PCBs have not been documented at the Otay Mesa LPOE or the 10-acre site; however, it is possible that PCBs are present because transformers and utility vaults are located in and around these areas.

congestion for vehicles crossing the border and reduce travel times and associated costs. Overall, cumulative impacts from the action alternatives when combined with current and future development projects within the vicinity would be beneficial.

The Preferred Alternative would result in an increase in the number of vehicles on nearby roadways during the construction/demolition phases. However, the increase would be well within the roadway capacities and would not result in a change to level of service (LOS) ratings. Transportation and traffic impacts generated by past projects (described in Section 4.0) were likely minor and temporary and ended with the completion of construction activities. Transportation and traffic impacts from construction of any future development projects within and in the vicinity of the Otay Mesa LPOE are expected to be minor. Therefore, significantly adverse cumulative impacts are not expected from potential concurrent increases to vehicle trips from construction of the Preferred Alternative and other planned projects. Planning, development and implementation of the routes and roadways used for any projects that would be constructed concurrently with the Preferred Alternative would be coordinated through California Department of Transportation planners and engineers as well as San Diego County authorities to minimize the magnitude of impacts. For these reasons, construction of the Preferred Alternative is not expected to have significantly adverse cumulative impacts on transportation and traffic.

Under the Reduced Build Alternative, the predicted additional vehicle trips from construction/demolition activities would be less than the Preferred Alternative. Therefore, significant adverse cumulative impacts from construction would not be expected when considered with other future development projects within the vicinity of the Otay Mesa LPOE. Under the No Action Alternative, the only construction that would occur at the Otay Mesa site would be the new USDA Plant Inspection Station, so significant adverse cumulative impacts from construction would not be expected.

4.5 NOISE

Cumulative effects to the ambient soundscape in the Project area would be expected from past, present, and foreseeable future construction projects and traffic. Noise intrusions associated with the use of construction equipment are anticipated to be temporary and of short to medium duration. Human voices may also be heard at construction sites or existing facilities. Noise from vehicle traffic would be long-term but at higher or lower levels at different times of day. The immediate area near the Otay Mesa LPOE is part of a developed urban industrial landscape. The projects described in Section 4.0 would be consistent with the character of the urban and industrial area surrounding the LPOE. Noise impacts associated with Project activities would be small as compared with the existing cumulative noise. Therefore, short-term and long-term cumulative effects are expected to be negligible under the Preferred Alternative. This Project as well as other border projects and transportation projects listed in Section 4.0 are all designed to move traffic more quickly through the area. These projects would result in a decrease of idling vehicles waiting for customs processing or waiting in traffic and a corresponding decrease in ambient noise levels from vehicle idling. Overall, the Preferred Alternative would not result in a long-term increase in ambient noise and would likely contribute to a slight decrease in ambient noise levels.

Cumulative impacts under the Reduced Build Alternative would be similar to those described under the Preferred Alternative.

Under the No Action Alternative, over time, there would be a slow build-up of traffic queuing up for processing at the LPOE. This, coupled with the projects listed as occurring in the surrounding area, could lead to an increase in noise with a long-term, minor cumulative and adverse noise impact with medium extent and high likelihood.

4.6 SOCIOECONOMICS

When considered in tandem with the construction activities associated with the Preferred Alternative, the proposed Otay Mesa East Port of Entry, La Media Road Expansion, EVOC Facility, Metropolitan Airpark at Brown Field, and San Ysidro LPOE Reconfiguration and Expansion projects would create both adverse and beneficial, minor cumulative impacts to socioeconomic resources. Cumulative, adverse impacts from increased noise levels, air emissions and congestion could be synergistic if the construction of the Preferred Alternative and these other five projects occur at the same time. Or, area residents may experience time delays over a longer period of time if the construction periods from these projects are considered sequentially. The same idea applies to health and economic beneficial impacts from job creation. Noise levels in or around Otay Mesa from the five projects would not feel exponentially louder or exceed a threshold of significance when considered with the Preferred Alternative because the projects would not occur at the same place (and noise from construction usually only carries about 1,000 feet).

Long-term, adverse and beneficial cumulative impacts on socioeconomic resources would be minor. It is assumed that the Metropolitan Airpark at Brown Field and the San Ysidro LPOE Reconfiguration and Expansion project would also cause San Diego County's population to grow permanently in the long term. Workers and their families re-locating to the area would further decrease rental vacancy rates. Unemployment rates in San Diego County would likely decrease; and PCPI and compensation of employees in the retail trade, accommodation and food services, construction, real estate and rental and leasing, and arts, entertainment, and recreation industries would likely increase. When considered with the Preferred Alterative, the proposed Otay Mesa East Port of Entry, SR-11 and SR-905/SR-125/SR-11 connectors, and San Ysidro LPOE Reconfiguration and Expansion projects would have a synergistic and beneficial impact on trade between the U.S. and Mexico.

Many of the activities described under the Preferred Alternative would not occur under the Reduced Build Alternative. Therefore, both adverse and beneficial short-term cumulative impacts under the Reduced Build Alternative would be similar in nature but at a reduced magnitude than those described under the Preferred Alternative. When considered with the No Action Alternative, short-term, cumulative impacts would be negligible. When considered with the No Action Alternative or the Reduced Build Alternative, long-term minor, adverse cumulative impacts on trade, businesses in the Foreign Trade Zone and Regional Enterprise Zone, and factories in the maquiladora system are expected as San Diego County would continue to grow but the capacity and efficiency at the Otay Mesa LPOE would not increase.

4.7 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

When considered in tandem with the construction activities associated with the Preferred Alternative, the proposed Otay Mesa East Port of Entry, La Media Road Expansion, EVOC Facility, and the San Ysidro LPOE Reconfiguration and Expansion projects would create both adverse and beneficial, minor cumulative impacts to minority and youth populations near the Project area. Cumulative, adverse impacts from increased air emissions and congestion could be synergistic if the construction of the Preferred Alternative and the other four projects occur at the same time. Or, area residents may experience time delays over a longer period of time if the construction periods from these projects are considered sequentially. The same idea applies to health and economic beneficial impacts from job creation. Noise levels in or around Otay Mesa from the four projects would neither feel exponentially louder nor exceed a threshold of significance when considered with the Preferred Alternative because the projects would not occur at the same place (and noise from construction usually carries about 1,000 feet). When considered with the operation of the Preferred Alternative, the four, abovementioned projects are expected to create negligible, adverse and beneficial cumulative impacts once construction activities are completed.

Many of the activities described under the Preferred Alternative would not occur under the Reduced Build Alternative. Therefore, both adverse and beneficial short-term cumulative impacts under the Reduced Build Alternative would be similar in nature but at a reduced magnitude than those described under the Preferred Alternative. When considered with the No Action Alternative, short-term, cumulative impacts from the four projects would be negligible. When considered with the No Action Alternative or the Reduced Build Alternative, long-term minor, adverse cumulative impacts on minority populations and children near the LPOE are expected as San Diego County would continue to grow but the capacity and efficiency at the Otay Mesa LPOE would not increase. Emissions from idling vehicles at the Otay Mesa LPOE would disproportionately affect minority populations and children due to worsening air quality.

4.8 VISUAL AND AESTHETIC RESOURCES

The immediate area near the Otay Mesa LPOE is part of a developed urban and industrial landscape. Both the Otay Mesa LPOE expansion and reconfiguration and the projects proposed under Section 4.0 are consistent with this type of landscape. Based on the perspective of the viewer, development and renovations that would occur under the Preferred Alternative could be seen as having either an adverse or beneficial impact on visual resources in the Project area. Facility development and renovation could be seen as beneficial since it is consistent with the existing character of the landscape and would contribute to greater cohesion in views of the landscape. It could be seen as adverse if the viewer values more open space or undeveloped land, even within a developed landscape. This perspective could be applied to any of the facility development projects that may occur in the area. Thus, from a visual standpoint, impacts resulting from development that would occur under the Preferred Alternative combined with any or all of the projects that could occur under Section 4.0 could be perceived as either cumulatively adverse or cumulatively beneficial. Regardless of the perspective, cumulative impacts to visual resources are not likely to be significant since the landscape is already heavily developed. Whether or not a variety of facilities are constructed would not greatly change views of or from the area.

Many of the activities described under the Preferred Alternative would not occur under the Reduced Build Alternative. Therefore, both adverse and beneficial cumulative impacts under the Reduced Build Alternative would be similar in nature but at a reduced magnitude than those described under the Preferred Alternative.

Under the No Action Alternative, no construction would occur at the Otay Mesa LPOE and it would continue to operate in its current capacity. The other projects described in Section 4.0 are consistent with the urban and industrial environment of the Project area. Long-term minimal effects on visual and aesthetic resources based on the other projects would occur; however, the contribution of the No Action Alternative to these other actions would not result in significant beneficial or adverse cumulative impacts.

4.9 CULTURAL RESOURCES

Because no impacts to historic or tribal resources are anticipated as a result of the action alternatives or the No Action Alternative, this Project would not contribute to possible cumulative impacts that could be created by the variety of other projects proposed near the Project area.

4.10 GEOLOGY, SEISMICITY, AND SOILS

Cumulative impacts on geology and soils would be expected from past, present, and foreseeable future activities such as road construction and infrastructure development. Adverse impacts would include soil compaction, channelization of runoff from impervious surfaces, erosion of soils, loss of ecological function

where soils are under impervious surfaces, and land subsidence. The LPOE and immediate area surrounding the Project site is part of a developed urban and industrial landscape. The cumulative projects in the area would continue to contribute to that character. Adverse soils impacts associated with the Project activities would be small as compared to cumulative past, present, and foreseeable future effects. Short- and long-term, minor, adverse, cumulative impacts on geological resources with small extent and high likelihood would be expected from construction activities of the Preferred Alternative

Cumulative impacts under Reduced Build Alternative would be similar to those described under the Preferred Alternative.

Under the No Action Alternative, no construction or renovation of the LPOE would be implemented and no disturbance to soils or geological resources would occur. Therefore, no cumulative impacts would be expected.

4.11 Air Quality and Greenhouse Gas Emissions

The Preferred Alternative would result in emissions of criteria pollutants, greenhouse gases (GHGs), and fugitive dust during the construction/demolition phases. Predicted annual construction/demolition emissions would be less than the Federal *de minimis* thresholds for criterial pollutants and represent a miniscule fraction of California's annual GHG emissions. Air emissions generated by past projects (described in Section 4.0) were likely minor and temporary and ended with the completion of construction activities. Air emissions from any future development projects within and in the vicinity of the Otay Mesa LPOE are expected to be minor. Therefore, significantly adverse cumulative impacts are not expected from potential concurrent emissions from the Preferred Alternative and other planned projects. Fugitive dust would be required to be controlled via state regulations during the Preferred Alternative and other planned projects. For these reasons, the Preferred Alternative is not expected to have significantly adverse cumulative impacts on air quality or GHGs (i.e., climate change).

Under the Reduced Build Alternative, the predicted construction/demolition emissions of criteria pollutants, GHGs, and fugitive dust would be less than the Preferred Alternative. Therefore, significant adverse cumulative impacts are not expected when considered with other past and future development projects within the vicinity of the Otay Mesa LPOE. However, without the additional commercial lanes and with the expected population growth in the surrounding area, the annual air emissions from vehicles idling could contribute to minor adverse cumulative impacts.

When considered with the No Action Alternative, cumulative impacts from past and future development projects would be minor and adverse – similar to the cumulative impacts described under the Reduced Build Alternative. Without the addition of commercial lanes, wait times (and associated air emissions) at the Otay Mesa LPOE would continue to increase and adversely impact the air quality in the surrounding area.

4.12 Biological Resources

Vegetation, including threatened and endangered species, in the Project area and vicinity has been, and continues to be, cleared and/or disturbed for such purposes as construction of roads and urban and industrial development. These activities involve removal, trampling, or destruction of vegetation; disturbance of ground cover; and introduction of invasive species. Many of these actions also contribute to soil compaction and erosion, making it more difficult for native plant species to re-inhabit an area after disturbance. Additionally, pressure from increasing human presence includes trampling of vegetation due

to pedestrian traffic, and concentrated areas of foot traffic which removes vegetation and fragments habitat and vegetative populations. Wildlife, including migratory birds and threatened and endangered species, and habitat in the Project area and vicinity have been, and continue to be, subject to disturbance and alteration from urban and industrial development, road construction and vehicle traffic and increase in human population. Wildlife impacts related to these activities include harassment, displacement, and mortality of individuals; interruption of breeding; the loss, fragmentation, and degradation of habitat; introduction of invasive species which outcompete native species, particularly vegetation that then alters and degrades habitat; and higher levels of human presence and activity which increases noise and disturbs wildlife.

The immediate area near the LPOE is a developed urban and industrial space. Other projects as listed in Section 4.0 would contribute cumulatively to the urban and industrial character of the area surrounding the LPOE. Adverse impacts on vegetation and wildlife associated with Project activities would be small as compared to cumulative past, present, and foreseeable future effects; thus, cumulative impacts from the Preferred Alternative would be adverse and negligible. Existing vegetation would be removed and any wildlife present would be disturbed and displaced; however, vegetation consists of non-native grasses and other low-growing plants with little habitat value, and the site has been heavily disturbed. No cumulative impacts on Federally-listed or state protected species would occur.

Cumulative impacts under the Reduced Build Alternative would be similar to those that would occur under the Preferred Alternative.

Under the No Action Alternative, there would be a slow build-up of traffic queuing up for processing. This, coupled with the projects listed as occurring in the surrounding area, could lead to an increase in noise, which could contribute to a long-term, minor, cumulative adverse impact on wildlife.

4.13 WATER RESOURCES

As discussed in Section 3.13, the Preferred Alternative results in very slight impacts to water resources. Through its commitment to sustainable building concepts described in certifications programs such as Leadership in Energy and Environmental Design (LEED®) and Sustainable Sites Initiative (SITES), and through compliance with Federal requirements such as the Energy Independence and Security Act (EISA), the GSA has taken responsible actions to reduce the cumulative impacts to water resources that would be associated with this Project and other relevant past, present, and reasonably foreseeable actions.

The most apparent action that would result in cumulative impacts when considered with the Preferred Alternative is the construction of the USDA Plant Inspection Station, collocated with the proposed Commercial Annex Building (CAB) facility on the 10-acre parcel immediately east of the Otay Mesa LPOE. From a water resources perspective, it is fortunate that these two projects were analyzed together in the same drainage plan, with provisions to retain runoff for storm events less than or equal to the 95th percentile rainfall event, in compliance with requirements of the EISA of 2007 (GSA, 2010). This provision alone demonstrates that full attention has been given to reducing the cumulative impacts of rainfall runoff from these two proposed projects.

Additionally, through proposed water conservation measures (WCMs) to be implemented as a LEED® building sustainability feature and water-conserving landscaping practices implemented using SITES sustainability principles, the Project proponent has shown positive attention to water consumption impacts in addition to rainfall runoff impacts.

For a rain event exceeding the 95th percentile, the runoff from the development site would still receive a benefit from the retention facility feature, in that it would incrementally reduce the fully developed peak flow in lower portions of the Tijuana River watershed where some of the identified actions with potential cumulative effects are located. The exact reduction in potential peak flood flows is unknown, but the peak flow would certainly be somewhat less than would have been experienced if the Project site would be fully developed without retention facilities.

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7.0 GLOSSARY

Aesthetic – The philosophical theory or set of principles governing the idea of beauty at a given time and place.

Alluvial – Relating to, composed of, or found in alluvium, which is clay, silt, sand, gravel, or similar detrital material deposited by running water.

Attainment area – Areas with concentrations of criteria pollutants that are below the levels established by the NAAQS.

Best management practices (BMPs) – Structural, nonstructural, and managerial techniques used to prevent or reduce pollution and potential harm to protected species. BMPs can include activity schedules; practice prohibitions; baseline surveys, maintenance procedures; treatment requirements; operating procedures; and waste disposal.

Bioswale – Bioswales are landscape elements designed to concentrate or remove debris and pollution out of surface runoff water.

Census Tract – Small, relatively permanent statistical subdivisions of a county or equivalent entity, generally with a population size between 1,200 and 8,000 people. A census tract usually covers a contiguous area; and its boundaries usually follow visible and identifiable features.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 – A Federal law (also known as Superfund) enacted in 1980 and reauthorized in 1986 (Title 42 of USC Part 9601 et seq.) that provides the legal authority for emergency response and cleanup of hazardous substances released into the environment and for the cleanup of inactive waste sites.

Contamination – The deposition of undesirable material in air, soils, water or ecological resources or on the surfaces of structures, areas, objects or personnel.

Criteria pollutant – Six pollutants that can harm human health and the environment and cause property damage. They are regulated by the Clean Air Act.

Critical Habitat – Habitat essential to the conservation of an endangered or threatened species that has been designated as critical by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act (Title 16 of USC Part 1531 et seq.) and its implementing regulations (Title 50 CFR Part 424). The lists of critical habitats can be found in 50 CFR Sections 17.95 (fish and wildlife) and 17.96 (plants) and Part 226 (marine species).

Cultural resources – All sites, buildings, structures, districts, and objects as defined by the National Historic Preservation Act, as amended.

Day-night average sound level – The 24-hour, A-weighted equivalent sound level expressed in decibels. A 10-decibel penalty is added to sound levels between 10:00 P.M. and 7:00 A.M. to account for increased annoyance due to noise during night hours. (See *decibel*, *A-weighted*.)

Decibel (dB) – A unit for expressing the relative intensity of sounds on a logarithmic scale where zero is below human perception and 130 is above the threshold of pain to humans. For traffic and industrial noise measurements, the A-weighted decibel, a frequency-weighted noise unit, is widely used. (See *decibel*, *A-weighted*.)

Decibel, A-weighted (dBA) – A unit of frequency-weighted sound pressure level, measured by the use of a metering characteristic and the "A" weighting specified by the American National Standards Institute in ANSI S1.4-1983 (R1594), which accounts for the frequency of the human ear.

Drainage basin – An area of land where precipitation collects and drains into a common outlet, for example into a river, bay or other body of water.

Endangered species (*Federal)* – Species that are in danger of extinction throughout all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following procedures outlined in the Endangered Species Act (Title 16 USC Part 1531 et seq.) and its implementing regulations (Title 50 CFR Part 424). The lists of endangered species can be found in 50 CFR Sections 17.11 (wildlife), 17.12 (plants) and 222.23(a) (marine organisms).

Environmental Assessment (EA) – A concise public document that a Federal agency prepares under the National Environmental Policy Act (NEPA) (Title 42 of the USC Part 4321 et seq.) to provide sufficient evidence and analysis to determine whether a proposed agency action would require preparation of an Environmental Impact Statement (EIS) or a Finding of No Significant Impact. A Federal agency may also prepare an EA to aid its compliance with NEPA when no EIS is necessary or to facilitate its preparation of an EIS when one is necessary.

Environmental Impact Statement (EIS) – The detailed written statement that is required by Section 102(2)(C) of the National Environmental Policy Act (NEPA) (Title 42 of the USC Part 4321 et seq.) for a proposed major Federal action that could significantly affect the quality of the human environment.

Fill material – Soil, rock, gravel, or other matter that is placed at a specified location to bring the ground surface up to a desired elevation.

Geology – The study of the Earth's physical structure and composition, as well as the configuration of the surface and subsurface features.

Granite – An igneous rock formed when hot, molten rock crystalizes and solidifies. The name comes from the Latin word "granum," meaning "grain," which refers to the grains of quartz and feldspar that define granite.

Greenhouse Gas – Gases that trap heat in the atmosphere by absorbing outgoing infrared radiation. Greenhouse gas emissions occur from natural processes and human activities.

Hazardous waste – A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics described in Title 40 of the CFR, Sections 261.20 through 261.24 (i.e., ignitability, corrosivity, reactivity or toxicity), or it must be specifically listed by the U.S. Environmental Protection Agency in 40 CFR, Sections 261.31 through 261.33.

Historic properties – Cultural resources included in, or eligible for inclusion in, the National Register for Historic Places.

Housing Unit – A house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Both occupied and vacant housing units are included in the total housing unit inventory.

Labor Force – Includes all people classified in the civilian labor force, plus members of the U.S. Armed Forces on active duty. The Civilian Labor Force consists of people classified as employed or unemployed.

Level of Service – A qualitative measurement of operational conditions within traffic based on factors such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Maintenance area – Nonattainment areas that meet the NAAQS and the redesignation requirements in the Clean Air Act are redesignated as maintenance areas.

Metamorphic rocks – Formed when rocks are subjected to high heat, high pressure, hot mineral-rich fluids or a combination of these factors. The process of metamorphism transforms the rocks into denser, more compact rocks. New minerals are created either by rearrangement of mineral components or by reactions with fluids that enter the rocks.

Migratory Bird Treaty Act – This act (Title 16 of USC Part 703 et seq.) states that it is unlawful to pursue, take, attempt to take, capture, possess or kill any migratory bird or any part nest, or egg of any such bird unless permitted by regulations.

Noise – Any sound that is undesirable because it interferes with speech and hearing, is intense enough to damage hearing or is otherwise annoying or undesirable.

Nonattainment area – Areas where the concentration of one or more criteria pollutants is found to exceed the regulated level for one or more of the NAAQS.

Occupied Housing Unit – A housing unit is classified as occupied if it is the usual place of residence of a person or group of people.

Permeability – Soil permeability is the ease at which a saturated soil will transmit water.

Persons per household – Obtained by dividing the number of persons in households by the number of households (or householders). Also referred to as average household size.

Phase 1 Environmental Site Assessment – A report prepared for a real estate holding that identifies potential or existing environmental contamination liabilities.

Recognized Environmental Condition – Potential or existing environmental contamination liabilities.

Rental Vacancy Rate – The proportion of the rental inventory which is vacant for rent. The rental vacancy rate is computed by dividing the number of vacant units for rent by the sum of the number of renter-

occupied units, the number of vacant units for rent, the number of rented not yet occupied units, and then multiplying by 100.

Ruderal vegetation **–** A plant species that is first to become established in disturbed lands.

Slope gradient – The difference in elevation between two points, expressed as a percentage of the distance between those points. A low and high value indicate the range of this attribute for the soil component.

Soils – The unconsolidated material overlying bedrock.

Stormwater retention – A stormwater management practice that holds runoff water until it infiltrates the soil or evaporates. This is similar to stormwater detention, which is a stormwater management practice that reduces the rate of runoff, often to the rate of runoff from undeveloped land, resulting in no net effect due to proposed land development.

Topography – Describes the general shape and arrangement of the natural and artificial physical features of a land surface.

Unemployment Rate – The number of unemployed persons divided by the labor force, where the labor force is the number of unemployed persons plus the number of employed persons.

Vacant Housing Unit – A housing unit is classified as vacant if it is not the usual place of residence of a person or group of people.

Viewshed – The view of an area from a specific location.

Visual Resource – The interaction between a human observer and the landscape he or she is observing.

Waters of the U.S. – Defined in 33 CFR 328.4 (c) as those that compose the area of a water course that extends up to the ordinary high-water mark in the absence of wetlands.

Xeriscaping – Landscaping that reduces or eliminates the need for additional water from irrigation.

Zones – Definition of the uses permitted in a particular area.

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