
4.0 CUMULATIVE IMPACTS

4.1 CUMULATIVE SIGNIFICANCE CRITERIA

Section 1508.7 of the Council on Environmental Quality (CEQ) regulations for the implementation of NEPA defines a cumulative impact as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. CEQ interprets this regulation as referring to the cumulative impacts of the direct and indirect effects of the proposed action and its alternatives when added to the aggregate effects of past, present, and reasonably foreseeable future actions (CEQ, 2005). The contribution of the proposed action and its alternatives to an overall cumulative impact is of particular concern as an agency determines whether an action is cumulatively considerable.

The effects of a particular action or group of actions must meet all of the following criteria to be considered cumulative impacts:

- Effects of several actions would occur in a common locale or region.
- Effects would not be localized (i.e., they could contribute to effects of an action in a different location).
- Effects on a particular resource are similar (i.e., the same specific element of a resource would be affected).

4.2 CUMULATIVE ANALYSIS APPROACH

The process of analyzing cumulative effects involves the traditional components of an environmental impact assessment: conducting scoping, describing the affected environment, and determining the environmental consequences (CEQ, 1997).

4.2.1 Cumulative Projects

Scoping of cumulative projects for this EIS entailed contacting the following agencies for information regarding past, ongoing, and reasonable foreseeable actions in the vicinity of the project sites for the EIS Alternatives that would be appropriate to analyze in combination with the EIS Alternatives:

- National Park Service, Golden Gate National Recreation Area (NPS GGNRA)
- San Francisco Planning Department
- San Francisco Redevelopment Agency
- San Francisco Recreation and Park Department
- San Francisco Public Works Department
- Port of San Francisco
- University of California, San Francisco (UCSF)

Projects identified as having potential to contribute incrementally to cumulative environmental impacts are shown in Figures 4-1 and 4-2 and listed in Tables 4-1 and 4-2.¹ These lists include projects that have been recently completed or are anticipated to be completed within the next 10–20 years.² Specifically, the cumulative projects in Table 4-1 were used to determine the cumulative impacts associated with the existing SFVAMC Fort Miley Campus (Alternative 1), and the cumulative projects in Table 4-2 were used to determine the cumulative impacts associated with the potential new SFVAMC Mission Bay Campus (Alternative 2).

Alternative 2 consists of near-term projects at the existing SFVAMC Fort Miley Campus and long-term projects at the potential new SFVAMC Mission Bay Campus. Alternative 2 near-term projects are identical to Alternative 1 near-term projects; therefore, the cumulative impacts associated with the near-term projects of both alternatives are identical.

No cumulative impact analysis for the No Project Alternative (Alternative 3) is necessary, because there would be no project contributing toward potential cumulative impacts.

4.2.2 Cumulative Context

To describe the affected environment as it relates to cumulative projects for this EIS, the following context was identified for each EIS topic area: geographic area, time frame, and type of projects.

4.2.3 Cumulative Impact Methodology

Once the context was established, the relevant cumulative projects listed in Tables 4-1 and 4-2 that would potentially contribute to cumulative construction-related or operational impacts were identified for each analysis topic. The cumulative projects relevant to a particular topic were then referred to as the identified cumulative projects in the analysis of that particular topic. Thus, the cumulative projects identified in this chapter vary by topic, and sometimes by whether they apply to construction-related or operational impacts.

Finally, to determine the cumulative environmental consequences for the EIS Alternatives, the following process was followed for each topic area for both the construction and operational phases:

- For each alternative, determine whether an adverse cumulative impact could occur. (If not, the cumulative impact would be minor.)
- For any adverse cumulative impacts, determine whether an alternative's contribution to the cumulative impact would be considerable. (If not, the cumulative impact would be minor.) To determine whether an alternative's contribution would be cumulatively considerable, the following factors were considered: absolute size of the contribution; relative size of the contribution; comparative size of the other contributors; effect of the contribution, or effect combined with other contributors, on the environment; and whether the impact could be mitigated if this type of contribution were not mitigated.
- For any cumulatively considerable impacts, provide feasible mitigation measures to avoid or minimize an alternative's contribution to the adverse cumulative impact.

¹ Where applicable, environmental analysis of the projects listed in Tables 4-1 and 4-2 has been or will be conducted separately, with the results of those analyses incorporated into environmental review documents prepared specifically for these projects.

² Note that CEQ regulations do not require agencies to catalogue or exhaustively list and analyze all individual cumulative projects; rather, agencies must summarize the most pertinent cumulative projects.



Sources: Aviles, pers. comm., 2011; Beyer, 2011; Lindsay, pers. comm., 2011; data compiled by AECOM in 2012

Figure 4-1: Cumulative Projects in the Vicinity of the SFVAMC Fort Miley Campus

Table 4-1: Cumulative Projects in the Vicinity of the SFVAMC Fort Miley Campus

Project No.	Agency Jurisdiction	Project Name and Location	Approved or Proposed Uses	Anticipated Buildout Date
1	National Park Service	<i>USS San Francisco</i> Memorial Parking Lot Renovation (within NPS GGNRA lands)	Renovation of <i>USS San Francisco</i> Memorial parking lot	Completed in 2011
2	National Park Service	Merrie Way Visitor Center Visitor Center (within NPS GGNRA lands)	Development of 4,000-sf visitor center (including gift shop, food service, and bathrooms) adjacent to Merrie Way parking lot	Completed in 2012
3	National Park Service	Golden Gate National Recreation Area Dog Management Plan (within NPS GGNRA lands)	Allowance of on-leash dogs along some GGNRA trails within East Fort Miley area	2012
4	National Park Service	Golden Gate National Recreation Area General Management Plan (within NPS GGNRA lands)	<p>Preservation and enhancement of historic structures and landscapes. East and West Fort Miley landscape and access improvements would focus on enhancing their appearance and better connecting the sites to their surroundings, including the community, Lands End, and SFVAMC Fort Miley Campus. Improved picnicking and group camping facilities would be provided in an appropriate location, as would opportunities for outdoor learning and leadership programs.</p> <p>Safe and more direct vehicle and trail access to East Fort Miley would be developed to better support its future use and preservation. Needed maintenance functions would remain at the site, or if such functions were to be relocated to a more suitable site, historic structures could be made available for environmental education or other public uses.</p> <p>West Fort Miley would provide an enhanced setting for outdoor learning and leadership. The Marine Exchange Lookout Station (Octagon House) would be rehabilitated to interpret its history and provide for park or public uses.</p>	2012 and beyond
5	SFRPD	Cabrillo Playground Renovation (38th Avenue and Cabrillo Street)	Repair and renovation of the clubhouse, upgrade to the children's play areas, renewal of the picnic areas, and improvement of the courts	May 2013
6	SF Planning	Albertsons reuse (3132 Clement Street)	Conversion of a 43,800-sf, vacant Albertsons to a CVS Pharmacy and Fresh & Easy Market	Completed in 2011
7	SF Planning	Safeway redevelopment (850 La Playa Street)	Demolition of a 40,000-sf Safeway and construction of a 65,000-sf grocery store, 49 residential units, and a 3,500-sf retail building	2015
8	SF Planning	5400 Geary Boulevard	Reuse of commercial uses and construction of 46 residential units	2013

Table 4-1: Cumulative Projects in the Vicinity of the SFVAMC Fort Miley Campus

Project No.	Agency Jurisdiction	Project Name and Location	Approved or Proposed Uses	Anticipated Buildout Date
9	SFVAMC	Ground Source Heat Pump Systems (SFVAMC Fort Miley Campus)	Installation and operation of suitable, appropriately sized, engineered ground source heat pump systems in, and associated with, up to eight buildings	June 2012
10	SFVAMC	Solar Photovoltaic System (SFVAMC Fort Miley Campus)	Installation and operation of solar photovoltaic system that includes up to seven rooftop and parking structure locations	September 2015
11	SFVAMC	North Slope Seismic/Geologic Stabilization (SFVAMC Fort Miley Campus)	Construction of two retaining walls and storm water drainage improvements on the northern Campus perimeter and grounds	Completed in December 2011
12	SFVAMC	Electrical System Upgrade Exterior Work (SFVAMC Fort Miley Campus)	Repair, replacement, and installation of primary or secondary electrical distribution systems	August 2012
Net Total of 4,000 sf of visitor center uses, 28,500 sf of commercial uses, and 95 residential units				

Note: GGNRA = Golden Gate National Recreation Area; NPS = National Park Service; sf = square feet; SF Planning = San Francisco Planning Department; SFRPD = San Francisco Recreation and Park Department; SFVAMC = San Francisco Veterans Affairs Medical Center

Sources: Aviles, pers. comm., 2011; Beyer, pers. comm., 2011; Olsen, pers. comm., 2012; data provided by SFVAMC in 2011

Table 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

Project No.	Agency Jurisdiction	Project Name	Approved or Proposed Uses	Anticipated Buildout Date
1	City and County of San Francisco as Successor to SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between San Francisco Bay and Interstate 280)	Development of 6,000 housing units, with 1,700 (28%) affordable to moderate, low, and very low-income households on Blocks 2 through 7, 9 through 13, and N1 through N5	2030
2	City and County of San Francisco as Successor to SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between San Francisco Bay and Interstate 280)	Development of 4.4 million sf of office/life science/biotechnology commercial space on Blocks 26 through 34, X3, 36, and 38 through 43	2030
3	City and County of San Francisco as Successor to the SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between San Francisco Bay and Interstate 280)	Development of 500,000 sf of city and neighborhood-serving retail space along Fourth Street on the Fourth Street side edges of Blocks 2 through 7 and 13 and along Third Street on the Third Street side edge of Blocks 10 and 20	2030
4	City and County of San Francisco as a Successor to SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between San Francisco Bay and Interstate 280)	Development of a 500-room hotel on Block 1	2021
5	City and County of San Francisco as a Successor to SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between San Francisco Bay and Interstate 280)	Development of 41 acres of new public open space, including parks along Mission Creek and along San Francisco Bay, plus 8 acres of open space within the UCSF Research Campus	2030
6	City and County of San Francisco as a Successor to SF Redevelopment	Mission Bay North and South Redevelopment Project Areas (303 acres of land between the San Francisco Bay and Interstate 280)	Development of a new 500-student public school, a new public library, and new fire and police stations and other community facilities on Block 14	2016
7	UCSF	UCSF Medical Center at Mission Bay: Phase I	Development of 1.79 million sf, excluding parking, and includes: <ul style="list-style-type: none"> • 289-bed hospital (621,000 gsf) • outpatient building (213,500 gsf) • 430 surface parking spaces • 626 parking structure spaces 	2014–2015
8	UCSF	UCSF Medical Center at Mission Bay: Future Phase	Development of 793,500 sf, excluding parking; includes 261-bed hospital and between 225 and 925 parking spaces	2025–2030

Table 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

Project No.	Agency Jurisdiction	Project Name	Approved or Proposed Uses	Anticipated Buildout Date
		<i>Total UCSF Medical Center at Mission Bay space (south side of 16th Street) within Alternative 2 Mission Bay area</i>	<i>2.58 million sf on 14.5 acres</i>	
9	UCSF	UCSF Research Campus at Mission Bay: Neurosciences Research Building, Block 19A	Development of a 237,000-sf, five-story, neuroscience research building located on Block 19A off the Koret Quad adjacent to Rock Hall on the UCSF Mission Bay campus. The Building will house the Department of Neurology, Institute for Neurodegenerative Diseases, and the W. M. Keck Foundation Center for Integrative Neuroscience	April 2012
10	UCSF	UCSF Research Campus at Mission Bay: UC Hall Seismic Replacement	Development of the following uses: 315,000 sf of laboratory research and research support space 15,000 sf of instructional facilities 21,000 sf of campus administration and campus community functions 20,000 sf of academic support space 14,000 sf of logistical support space	August 2002
11	UCSF	UCSF Research Campus at Mission Bay: Mission Bay Developmental Biology and Genetics Building, Building 19B and Mission Bay Campus Community Center, Building 21B	Development of the following uses: 385,000 sf of research, instruction, and support space Phase 1 landscaping, parking, and infrastructure improvements New public street, Fourth Street, running north-south through the UCSF Research Campus site	2003
12	UCSF	UCSF Research Campus at Mission Bay: QB3 and Building 21A Parking Garage	Development of the following uses: 153,000 sf of research, instruction, and support space 4,200 off-street parking spaces	July 2005
13	UCSF	UCSF Research Campus at Mission Bay: Block 20 Housing	Development of the following uses: 400,000 sf of residential uses 14,595 sf of retail and community services 6,775 sf of office/logistics support	2005
14	UCSF	UCSF Research Campus at Mission Bay: Block 23B Parking Garage	Development of the following within a nine-level parking garage: 1,180 parking spaces 70 bicycle parking spaces 130 motorcycle parking spaces 6,500 sf of retail or office space within the ground floor of the garage	2007

Table 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

Project No.	Agency Jurisdiction	Project Name	Approved or Proposed Uses	Anticipated Buildout Date
15	UCSF	UCSF Research Campus at Mission Bay: Block 17C Cancer Research Building	Development of 162,000 sf as follows: wet laboratory research space for expanding School of Medicine research programs in neurological surgery, urology, and Cancer Center–related research space for laboratory support, desktop research, office/administrative support, a vivarium, and logistics	December 2007
16	UCSF	UCSF Research Campus at Mission Bay: Cardiovascular Research Building 17A/B	Development of 236,000 sf as follows: five-story clinical research and basic research facility for the UCSF School of Medicine	2010
17	UCSF	UCSF Research Campus at Mission Bay: Block 25 Faculty Office Building (currently unprogrammed space)	Development of 252,000 sf as follows: six-story faculty office building associated with the UCSF Medical Center at Mission Bay	2014–2015
18	UCSF	UCSF Research Campus at Mission Bay: Additional planned but currently unprogrammed space at Mission Bay	483,400 sf of research, instruction, and support space	2030
<i>Total UCSF Research Campus at Mission Bay space (north side of 16th Street) within Alternative 2 Mission Bay area</i>			<i>2.65 million square feet on 43 acres</i>	
19	SFRPD	Potrero Hill Landscape and Playground Improvements (bounded by 22nd, 23rd, and Wisconsin Streets)	Reconfiguration of Arkansas Street entry to provide disabled access, renovation of tot playground and north softball field and fencing; new site furniture and paving; planting, and fencing around the perimeter of the recreation center	September 2011
20	SF Port	Pier 70 Master Plan (located at the foot of Potrero Hill along San Francisco’s Central Waterfront)	Maintaining approximately 17 acres for ship repair and development of remaining 50 acres of historic shipyard area with: <ul style="list-style-type: none"> • 700,000 sf of new uses within historic buildings • 11 acres of open space along the shoreline (including Crane Cove Park and Slipways Park) and up to 9 additional acres of open space integrated within the development • 3 million sf of compatible infill development • Infrastructure construction and environmental remediation to support implementation of the master plan 	2032

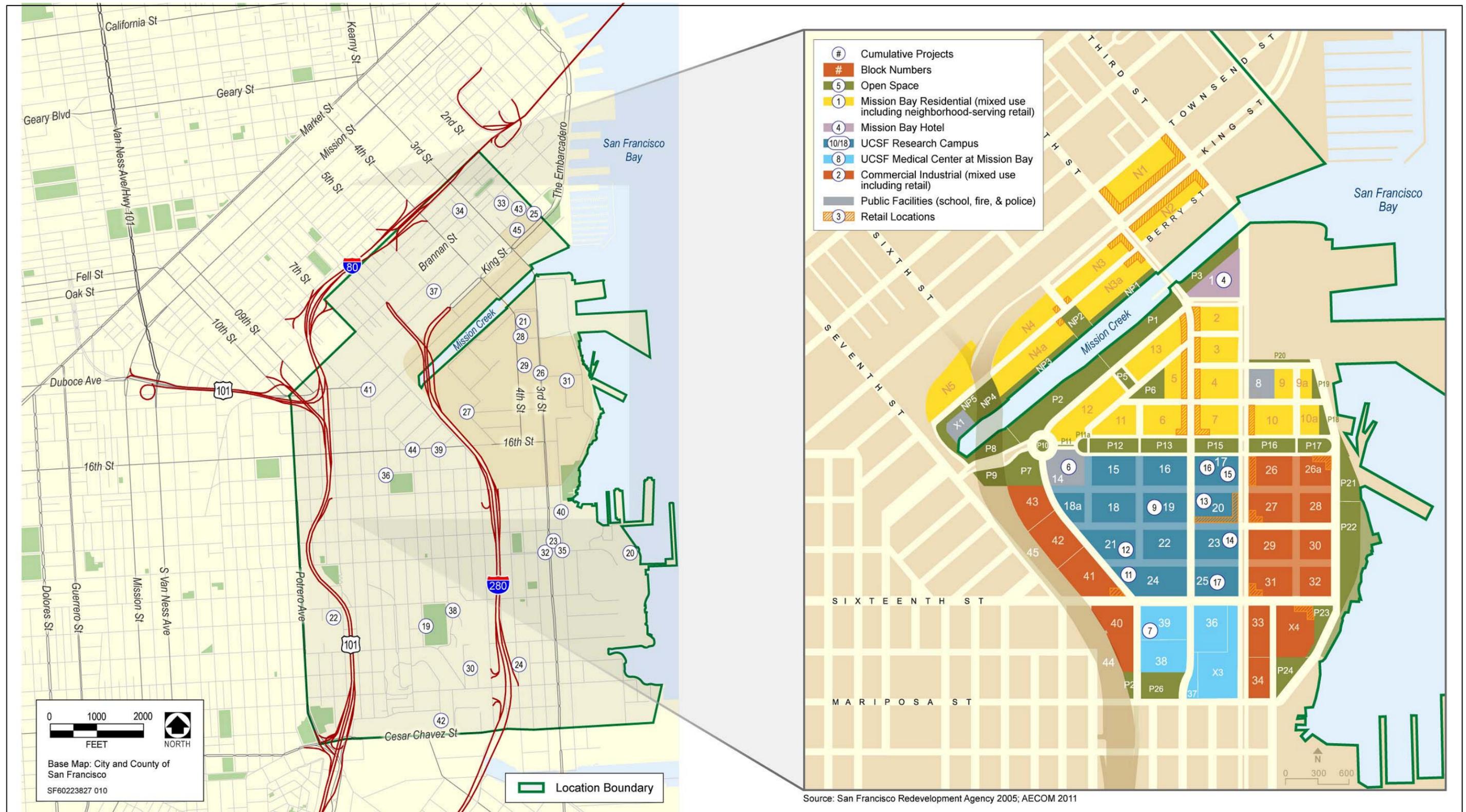
Table 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

Project No.	Agency Jurisdiction	Project Name	Approved or Proposed Uses	Anticipated Buildout Date
21	SF Port	China Basin Seawall Lot 337 & Pier 48 (just south of AT&T Park and immediately adjacent to the emerging Mission Bay neighborhood)	Development of a mixed-use, waterfront community that includes: <ul style="list-style-type: none"> • 11.17 acres of open space (which includes a 6.2-acre waterfront park) • 875 residential units • 244,590 sf of retail • 1,037,400 sf of office • 181,200 sf of exhibition space • 0.33 acre (14,400 sf) of recreation space • 163 shared parking spaces Revitalization of Historic Pier 48 to host events, shows, and expositions	2027
22	SF Planning	1001 Potrero Avenue	Development of 419,070 sf of commercial uses	2012
23	SF Planning	2235 Third Street	Development of 5,339 sf of commercial uses and 196 residential units	2012
24	SF Planning.	1301 Indiana Street	Removal of 9,800 sf of commercial uses and development of 71 residential uses	Unknown
25	SF Planning.	750 Second Street	Removal of 2,710 sf of commercial uses and development of 14 residential units	2013
26	SF Planning.	1455 Third Street	Development of 380,999 sf of commercial uses	2014
27	SF Planning	1600 Owens Street	Development of 245,000 sf of commercial uses	2014
28	SF Planning	555 Mission Rock Street	Development of 150 residential units	2014
29	SF Planning	166 Townsend Street	Removal of 73,625 sf of commercial uses and development of 66 residential units	December 2011
30	SF Planning	1004 Mississippi Street	Development of 28 residential units	2014
31	SF Planning	455 Mission Bay Boulevard South	Development of 333,945 sf of commercial uses	2014
32	SF Planning	2298 Third Street	Development of 14,000 sf of commercial uses and 40 residential units	2014
33	SF Planning	345 Brannan Street	Development of 53,030 sf of commercial uses	2014
34	SF Planning	246 Ritch Street	Removal of 4,130 sf of commercial uses and development of 19 residential units	2014
35	SF Planning	616 20th Street	Development of 6,340 sf of commercial uses and 269 residential units	2014
36	SF Planning	1717 17th Street	Removal of 13,369 sf of commercial uses and 41 residential units	2016
37	SF Planning	690 Fifth Street	Development of 32,500 sf of commercial uses	2016
38	SF Planning	1 Turner Terrace	Development of 30,000 sf of commercial uses and 1,094 residential units	2018

Table 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

Project No.	Agency Jurisdiction	Project Name	Approved or Proposed Uses	Anticipated Buildout Date
39	SF Planning	1000 16th Street	Development of 26,500 sf of commercial uses and 450 residential units	2018
40	SF Planning	740 Illinois Street	Removal of 8,500 sf of commercial uses and development of 70 residential units	2018
41	SF Planning	1-25 Division Street	Removal of 35,453 sf of commercial uses and development of 100 residential units	Unknown
42	SF Planning	1263 Connecticut Street	Development of 26,500 sf of commercial uses	2013
43	SF Planning	72 Townsend Street	Development of 74 residential units	2013
44	SF Planning	1150 16th Street	Development of 1,000 sf of commercial uses and 15 residential units	Unknown
45	SF Planning	144 King Street	Development of 44,000 sf of hotel/visitor uses	Unknown
Total SF Planning space within Alternative 2 Mission Bay area			Net Total of 10,566,400 sf of commercial (retail and industrial) , 9,206 residential units, 5,230,000 sf of medical (hospital and research), 63.5 acres of park/open space/recreation, 1,037,400 sf of office, 500-room hotel, 225,200 sf of hotel/visitor/exhibition, and 500-student public school/public library/ fire and police stations/other community facilities	

Note: gsf = gross square feet; sf = square feet; SF Planning = San Francisco Planning Department; SF Redevelopment = San Francisco Redevelopment Agency; SFRPD = San Francisco Recreation and Park Department; UCSF = University of California, San Francisco
Sources: Reilly, pers. comm., 2011; Wong, pers. comm., 2011; Beyer, pers. comm., 2011; Beaupre, pers. comm., 2011; Olsen, pers. comm., 2012



Source: Reilly, pers. comm., 2011; Wong, pers. comm., 2011; Beyer, pers. comm., 2011; Beaupre, pers. comm. 2011; Lindsay, pers. comm., 2011; Olsen, pers. comm., 2012; data compiled by AECOM in 2012

Figure 4-2: Cumulative Projects in the Vicinity of the Potential New SFVAMC Mission Bay Campus

4.3 CUMULATIVE IMPACT ANALYSIS

4.3.1 Aesthetics

Alternative 1

Views and Visual Character

Construction

The geographic context for the analysis of potential cumulative construction-related aesthetic impacts includes areas with proximate and relatively distant views of the existing SFVAMC Fort Miley Campus. Past, present, and future projects within this geographic context include Cumulative Projects 4 (NPS GGNRA General Management Plan), 10 (Solar Photovoltaic System), and 12 (Electrical System Upgrade) (Table 4-1).

Construction activity and construction materials associated with this alternative and the identified cumulative projects could occur at the same time. However, dense vegetation exists within the GGNRA and visually screens many areas within the GGNRA from outside view locations. Similarly, portions of the existing SFVAMC Fort Miley Campus are screened by vegetation located within GGNRA lands and/or by existing buildings on the Campus. Because views into GGNRA land and the Campus are relatively limited from any one location, construction activity and construction materials associated with Alternative 1 would not be cumulatively visually intrusive, even if construction were to occur concurrently with other cumulative projects. Therefore, this would be a minor cumulative impact.

Operation

The geographic context for the analysis of potential cumulative operational aesthetic impacts includes areas with proximate and relatively distant views of the existing SFVAMC Fort Miley Campus. Past, present, and future projects within this geographic context include Cumulative Project 4 (NPS GGNRA General Management Plan).

Dense vegetation exists within the GGNRA and visually screens many areas within the GGNRA from outside view locations. Similarly, portions of the existing SFVAMC Fort Miley Campus are screened by vegetation located within GGNRA lands and/or by existing buildings on the Campus. Because views into GGNRA land and the existing Campus are relatively limited from any one location, the new permanent structures associated with this alternative would not be visually intrusive when combined with cumulative projects in the same viewshed, and the visual character of the area would not change substantially. Therefore, this would be a minor cumulative impact.

Light and Glare

Construction

Construction activity associated with this alternative, and Cumulative Projects 10 (Solar Photovoltaic System), 12 (Electrical System Upgrade), and 4 (GGNRA General Management Plan) could potentially occur at the same time, although it is anticipated that construction activity would occur during daylight hours. Therefore, lighting of

construction areas during construction activities is not anticipated. However, the use of some low-level nighttime security lighting in construction areas would be necessary. This lighting would be limited to facility footprints that are currently lit at night and/or experience light spillage from nearby lighting sources. It is not anticipated that lighting associated with Alternative 1 construction would be visually intrusive, even when considering other projects in the area. Therefore, this would be a minor cumulative impact.

Operation

The amount of light and glare at the existing SFVAMC Fort Miley Campus may increase under implementation of Alternative 1, and it is possible that certain activities associated with Cumulative Project 4 (GGNRA General Management Plan) would result in increased lighting levels in the GGNRA. In addition, Cumulative Project 10 (Solar Photovoltaic System) could result in additional glare because it would involve installation of solar panels on tops of existing SFVAMC buildings; however, such rooftop installation would limit the amount of glare that would be seen by people on Campus and in proximate GGNRA and areas of San Francisco. In addition, the amount of new light and glare associated with Alternative 1 would not be cumulatively substantial. Therefore, this would be a minor cumulative impact.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Views and Visual Character

Construction

The geographic context for the analysis of potential cumulative construction-related aesthetic impacts includes locations in which the projects listed in Table 4-2 would be implemented after the year 2020. Only projects after 2020 are included in the geographic context, because the Alternative 2 analysis focuses only on long-term projects. Furthermore, projects listed in Table 4-2 that would be constructed before 2020 would for the most part be relatively smaller projects whose aesthetic impacts would be relatively minor.

The occurrence of construction activity and presence of construction materials associated with Alternative 2 could change views of and from the potential new SFVAMC Mission Bay Campus and could change the visual character of the Mission Bay area. However, it is reasonable to assume that the aesthetic effect that would result from implementing Alternative 2 would not be cumulatively considerable, even though the exact location of a site within Mission Bay has not been identified and no project plans are available. Based on the overall amount of development that is anticipated to occur in the Mission Bay area over the next two decades, construction sites and construction activities will continue to be part of the visual character of the Mission Bay area. Therefore, this would be a minor cumulative impact.

Operation

The geographic context for the analysis of potential cumulative operational aesthetic impacts includes locations in which the projects listed in Table 4-2 would be implemented after the year 2020. Only projects after 2020 are included in the geographic context, because the Alternative 2 analysis focuses only on long-term projects. Furthermore, projects listed in Table 4-2 that would be implemented before 2020 would for the most part be relatively smaller projects whose aesthetic impacts would be relatively minor.

Implementation of Alternative 2 could change the visual character of the Mission Bay area, and could change the views of and from the site within the Mission Bay that is potentially developed as part of the SFVAMC. It is not possible to definitively determine the level of cumulative impact that would result from this alternative, given that the exact location of the project site and a detailed project design are unknown at this time. Although the SFVAMC intends to locate the potential new SFVAMC Mission Bay Campus on federal lands, it will be required to follow the San Francisco Planning Code requirements related to zoning, height, and bulk restrictions. However, based on the substantial amount of development that is anticipated to occur in the Mission Bay area over the next two decades, it is reasonable to assume that the change in visual character that would result from new SFVAMC buildings in the Mission Bay area would not be cumulatively considerable. Therefore, this would be a minor cumulative impact.

Light and Glare**Construction**

As noted previously, the exact location within the Mission Bay area that would potentially be developed as the potential new SFVAMC Mission Bay Campus is unknown; however, it is reasonable to assume that, based on the substantial amount of development that is anticipated to occur in the Mission Bay area over the next two decades, construction activity associated with Alternative 2 could potentially occur at the same time as other construction projects in the Mission Bay area. It is anticipated that construction activity would occur during daylight hours; therefore, lighting of construction areas during construction activities is not anticipated. However, the use of some low-level nighttime security lighting in construction areas may be necessary. It is not anticipated that lighting associated with the construction period of Alternative 2 would be visually intrusive, even when considering other projects in the Mission Bay area. Therefore, this would be a minor cumulative impact.

Operation

New sources of light and glare would likely result from SFVAMC development under Alternative 2, but it is not possible to definitively determine the level of cumulative impact because the exact location of the project site and a detailed project design are unknown at this time. However, it is reasonable to assume that, based on the substantial amount of development that is anticipated to occur in the Mission Bay area over the next two decades, the light and glare contribution of this alternative would not be cumulatively considerable. Therefore, this would be a minor cumulative impact.

4.3.2 Air Quality

Alternative 1

Criteria Pollutants

Construction

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-1. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFVAMC Fort Miley Campus would not result in construction-related emissions of criteria pollutants. In addition, Cumulative Project 6 would not apply to this analysis, because there would be no construction associated with a change in commercial uses within an existing building. Therefore, for purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 2, 4, 5, 7, 8, 9, 10, and 12.

Criteria air pollutants are regional and cumulative by nature, and are controlled by local air district's air quality management plans and the State Implementation Plan (SIP). The *de minimis* evaluation performed for Alternative 1 covers both project and cumulative emissions by assessing the incremental contribution of both near- and long-term construction-related emissions of criteria pollutants to the region's budget. Additionally, each project mentioned in the previous paragraph would also need to comply with the local air quality management plan or the SIP.

Under Alternative 1, construction of an estimated 204,300 net new square feet would occur in the near term and an additional 189,700 net new square feet would occur in the long term. This is a large project relative to the other cumulative projects (see Table 4-1 for net totals of cumulative projects); however, construction would occur over a finite time period (2013–2023), and the emissions would only occur during this time period, unlike operational emissions, which would be emitted over the lifetime of the project.

The *de minimis* thresholds would not be exceeded (even when overlapping construction and operational emissions were combined under the Alternative 1 scenario—see Tables 3.2-10 and 3.2-14 in Section 3.2, “Air Quality”), and the other, aforementioned projects would also be required to meet applicable California Environmental Quality Act (CEQA) or NEPA thresholds. Therefore, implementation of Alternative 1 would not make a considerable contribution to cumulative emissions of criteria pollutants, and this would be a minor cumulative impact.

Operation

As discussed previously, for the purposes of the cumulative operational analysis, projects from Table 4-1 that are considered in this cumulative analysis include Cumulative Projects 2, 4, 5, 7, 8, 9, 10, and 12.

The *de minimis* evaluation performed for Alternative 1 covers both project-specific and cumulative emissions by assessing the incremental contribution of both near- and long-term operational emissions of criteria pollutants to the region's budget. Additionally, all cumulative projects identified above would also have to comply with the local air quality management plan or the SIP.

Under Alternative 1, an estimated 394,000 net new square feet would be constructed (combination of the near-term and long-term projects). This total is large relative to the cumulative projects listed in Table 4-1; however, the *de minimis* thresholds would not be exceeded (even when overlapping construction and operational emissions were combined under the Alternative 1 scenario; see Tables 3.2-10 and 3.2-14 in Section 3.2, “Air Quality”), and the other, aforementioned projects would also be required to meet applicable CEQA or NEPA thresholds. Therefore, Alternative 1 would not make a considerable contribution to cumulative emissions of criteria pollutants during the operational phase, and this would be a minor cumulative impact.

Localized Carbon Monoxide Emissions

Operation

The area near the existing SFVAMC Fort Miley Campus is largely built out, and future traffic volumes, when added to that generated by Alternative 1, would not be sufficient to cause a carbon monoxide (CO) hotspot (see the traffic study in Appendix E for future traffic volumes related to regional growth in the area as well as that generated by the project). Therefore, Alternative 1 would not make a considerable contribution to CO hotspot formation during the operational phase, and this would be a minor cumulative impact.

Localized Toxic Air Contaminant and Particulate Matter Emissions

Construction and Operation

To determine the significance of cumulative localized impacts of toxic air contaminants (TACs) and fine particulate matter (PM_{2.5}), the Bay Area Air Quality Management District (BAAQMD) thresholds were used. Exposure of sensitive receptors to TACs and PM_{2.5} would be considered cumulatively significant if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from this alternative, would exceed the following:

- an excess cancer risk level of more than 100 in 1 million or a chronic hazard index greater than 10 for TACs; or
- 0.8 microgram per cubic meter (µg/m³) annual average PM_{2.5}.

A detailed health risk assessment was conducted of Alternative 1, both near-term and long-term projects to determine the proposed LRDP’s incremental contribution during construction to potential health risks associated in the area. As the assessment of potential health risks associated with Alternative 1 evaluated the incremental contribution of SFVAMC development combined with known existing and planned sources (i.e. cumulative projects), the assessment of project-level impacts would also be considered to address cumulative impacts. As stated in Section 3.2 of the EIS, localized TAC and PM_{2.5} emissions associated with construction would be minor, and the impacts of localized TAC and PM_{2.5} emissions associated with operation of Alternative 1 would also be minor.

Odors

Construction

Localized odor emissions associated with construction could occur near sensitive receptors (patients at the existing SFVAMC Fort Miley Campus and nearby residents) during an 11-year period. However, these odors would be temporary, would occur during business hours during the construction period, and would disperse quickly given the wind in the area. In addition, because of the localized nature of construction-related odors and the distance to nearby cumulative projects (Cumulative Projects 2 and 4 are the closest to the existing SFVAMC Fort Miley Campus), it may be concluded that construction of cumulative projects would not make a considerable contribution to localized odor emissions. This would be a minor cumulative impact.

Operation

Impacts related to exposure of sensitive receptors to odor emissions associated with operation of Alternative 1 would be minor after mitigation. As described previously, there is currently no odor complaint history related to the existing SFVAMC Fort Miley Campus that would impact off-site sensitive receptors, and there are no other odor sources in the vicinity that could impact on-site sensitive receptors. Additionally, the Fort Miley area is windy, which reduces the chances of odor exposures, and no foreseeable future projects are located within 2 miles of the existing SFVAMC Fort Miley Campus (Projects 1–8) that would be considered major odor sources (see Table 3.2-6 in Section 3.2, “Air Quality”). It is unlikely that even foreseeable projects in the vicinity of the Campus (Cumulative Projects 1, 3, 4, and 9–12) would cause odor emissions. Therefore, it may be concluded that operation of cumulative projects would not make a considerable contribution to localized odor emissions. This would be a minor cumulative impact.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Past, present, and probable future cumulative projects within these geographic and temporal contexts include all of the cumulative projects listed in Table 4-2. Thus, for purposes of the analysis, identified projects from Table 4-2 include Cumulative Projects 1–45.

Criteria Pollutants

Construction

The *de minimis* evaluation performed for Alternative 2 covers both project-specific and cumulative emissions by assessing the incremental contribution of long-term construction-related emissions of criteria pollutants to the region’s budget. Additionally, each project mentioned in the previous paragraph would also have to comply with the local air quality management plan or the SIP.

Under Alternative 2, construction of approximately 620,000 square feet in the Mission Bay area would occur in the long-term, which in total is substantial relative to the other cumulative projects (see Table 4-2 for net totals of cumulative projects); however, construction would occur over a finite time period (2024–2027), and the emissions would only occur during this time period, unlike operational emissions, which would occur over the lifetime of the project.

The *de minimis* thresholds would not be exceeded (even when overlapping construction and operational emissions were combined under the Alternative 2 scenario; see Table 3.2-17 in Section 3.2, “Air Quality”), and the other, aforementioned projects would also be required to meet applicable CEQA or NEPA thresholds. Therefore, construction of cumulative projects would not make a considerable contribution to cumulative emissions of criteria pollutants, and this would be a minor cumulative impact.

Operation

The *de minimis* evaluation performed for Alternative 2 covers both project-specific and cumulative emissions by assessing the incremental contribution of long-term operational emissions of criteria pollutants to the region’s budget. Additionally, each project mentioned in the previous paragraph would also have to comply with the local air quality management plan or the SIP.

Under Alternative 2, operation of approximately 620,000 square feet would occur in the long term, which in total is large relative to the other, aforementioned projects (see Table 4-2 for net totals). However, the *de minimis* thresholds would not be exceeded (even when overlapping construction and operational emissions were combined under the Alternative 2 scenario; see Table 3.2-17 in Section 3.2, “Air Quality”). Therefore, the project would not be considered to make a considerable contribution to cumulative impacts. This would be a minor cumulative impact.

Localized Carbon Monoxide Emissions

Operation

Implementation of Alternative 2 has the potential to add incremental operational CO emissions that could cause or contribute to an existing hotspot in the heavily trafficked Mission Bay area. When added to the operational CO emissions associated with Cumulative Projects 1–45 in Table 4-2, it may be concluded that operation of cumulative projects could make a considerable contribution to existing or new CO hotspots, and this would be an adverse cumulative impact.

There are no feasible mitigation measures to reduce future traffic volumes to which the hospital would contribute. However, it should be noted that as vehicular emission rates continue to improve over time, CO concentrations would reasonably be anticipated to decrease as well, and CO hotspot formation is anticipated to be less likely in the long-term.

Localized Toxic Air Contaminant and Particulate Matter Emissions

Construction and Operation

To determine the significance of cumulative localized impacts of TACs and PM_{2.5}, the BAAQMD thresholds were used. Exposure of sensitive receptors to TACs and PM_{2.5} would be considered cumulatively significant if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from the project, would exceed the following:

- an excess cancer risk level of more than 100 in 1 million or a chronic hazard index greater than 10 for TACs; or
- 0.8 µg/m³ annual average PM_{2.5}.

With respect to construction activities at the existing SFVAMC Fort Miley Campus, A detailed health risk assessment was conducted of Alternative 2, both near-term and long-term projects to determine the proposed LRDP's incremental contribution during construction to potential health risks associated in the area. As the assessment of potential health risks associated with Alternative 1 evaluated the incremental contribution of SFVAMC development combined with known existing and planned sources (i.e. cumulative projects), the assessment of project-level impacts would also be considered to address cumulative impacts. As stated in Section 3.2 of the EIS, localized TAC and PM_{2.5} emissions associated with construction would be minor, and the impacts of localized TAC and PM_{2.5} emissions associated with operation of Alternative 1 would also be minor.

The exact location of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus is unknown; thus, the number of potential foreseeable projects listed in Table 4-2 within a 1,000-foot radius of the Mission Bay location is also unknown. Under Alternative 2, construction and operation of approximately 620,000 square feet would occur in the long term, which in total is large relative to the other, above-mentioned projects (see Table 4-2 for net totals). Because the Mission Bay area is heavily trafficked, the impact of localized TAC and PM_{2.5} emissions associated with construction and operation would be potentially adverse under Alternative 2. When considered with the many foreseeable projects listed in Table 4-2, it may be concluded that construction and operation of cumulative projects could make a considerable contribution to localized TAC and PM_{2.5} emissions and exposure of sensitive receptors to TAC and PM_{2.5} emissions (including patients at the Mission Bay hospital facilities and nearby residents). This would be a potentially adverse cumulative impact.

Any on-site or off-site stationary TAC sources would require permits, and would be subject to local air district review as well as CEQA and/or NEPA review; therefore, further mitigation would not be feasible or necessary for permitted sources. There are no feasible mitigation measures to reduce future traffic volumes to which the hospital would contribute. It should be noted that the Mission Bay area is windy, and mobile TAC and PM_{2.5} emissions are anticipated to decrease in the future because of State and federal regulatory requirements.

Odors

Construction

Localized odor emissions associated with construction could occur near sensitive receptors during a 4-year period. However, these odors would be temporary, would occur during business hours during the construction period, and would disperse quickly given the wind in the area. In addition, because of the localized nature of construction-related odors and the distance to nearby cumulative projects, it may be concluded that construction of Alternative 2 would not make a considerable contribution to localized odor emissions. This would be a minor cumulative impact.

It should be noted that the Mission Bay area is windy, and mobile-source TAC and PM_{2.5} emissions are anticipated to decrease in the future because of State and federal regulatory requirements, which would also reduce odors associated with construction-related diesel combustion.

Operation

Exposures of sensitive receptors to odor emissions associated with operation of Alternative 2 would be potentially adverse. As described previously in Section 3.2, "Air Quality," several existing odor sources and an existing odor complaint history related to the Mission Bay area could affect on-site sensitive receptors at the potential new SFVAMC Mission Bay Campus. Additionally, the potential new Campus could potentially generate minor odors that could affect off-site sensitive receptors. Implementation of Measure AQ-5 would reduce the impact of on-site odor sources to a minor level.

There are no foreseeable future projects located within 2 miles of the site of the potential new SFVAMC Mission Bay Campus (Cumulative Projects 1–45 in Table 4-2) that, based on land use type, would be considered potential major odor sources. It is unlikely that even foreseeable projects close to the potential new Campus would cause substantial odor emissions. Furthermore and as noted above, the Mission Bay area is windy, and mobile-source TAC and PM_{2.5} emissions are anticipated to decrease in the future because of State and federal regulatory requirements, which would also reduce odors associated with construction-related diesel combustion. As a result, operation of Alternative 2 would not make a considerable contribution to odor impacts in the area. Impacts would be minor.

Mitigation of existing odor emissions may not be feasible because on-site sensitive receptors could be exposed to odors outdoors, and odor removal by heating, ventilation, and air conditioning (HVAC) systems may not be effective. As noted previously, the Mission Bay area is windy, which would reduce the chances of odor exposures.

4.3.3 Community Services

Alternative 1

Fire Protection Services

Construction

Construction activities associated with Alternative 1, in combination with the cumulative projects listed in Table 4-1 (except Cumulative Projects 1, 3, and 6), could result in an incremental increase in demand for fire services. However, because of the location and scope of identified projects, any increase in demand for fire protection services would be minimal.

Under Alternative 1, construction-related impacts including street closures or temporary obstruction would be subject to National Fire Protection Association (NFPA) emergency access standards, requirements, and review (with consideration of the San Francisco Fire Code), which would further reduce construction-related effects on fire access and response times. In addition, all identified cumulative projects would be required to comply with applicable fire and building codes. Furthermore, a site-specific fire flow analysis would be required to assess the adequacy of the water infrastructure and fire flow system for each new project. Therefore, cumulative impacts related to fire protection services during the construction phase would be minor.

Operation

Implementation of Alternative 1, in combination with the cumulative projects listed in Table 4-1 (except Cumulative Projects 3, 6, and 9 through 12), could result in an incremental increase in demand for fire services. Implementing Alternative 1 could result in an incremental increase in demand for fire services because of increases in daily population at the existing SFVAMC Fort Miley Campus. However, San Francisco Fire Department (SFFD) personnel have indicated that Alternative 1 would not have a substantial effect on their services. As discussed previously, the existing Campus is currently served by Station 34, and it is anticipated that some of the cumulative projects would also be served by Fire Station 34. However, because of the anticipated low net total of residential units generated by related projects (39 residential units under Cumulative Project 8), Alternative 1, in combination with cumulative projects identified in Table 4-1, is not anticipated to create a cumulative demand for fire protection services beyond SFFD's ability to maintain acceptable service ratios, response times, or other performance objectives. Furthermore, these services are subject to an annual budgeting process during which citywide priorities are established and service levels are monitored, allowing for adjustments where needed.

As discussed previously, there is sufficient capacity in the existing SFVAMC Fort Miley Campus's existing fire flow system to meet Fire Code requirements; however, the SFVAMC LRDP recommends that a more thorough analysis of system capacity be conducted as a part of the design of any new buildings, building upgrades, or site utility improvements. With both the SFVAMC under Alternative 1 and the identified projects adhering to all applicable national and local fire regulations, cumulative impacts related to fire protection services during operation would be minor.

Law Enforcement Services

Construction

Construction of Alternative 1, in conjunction with the cumulative projects listed in Table 4-1 (except Cumulative Projects 1, 3, and 6), would not place undue demand on any one police provider, given the multiple law enforcement jurisdictions (San Francisco Police Department [SFPD], NPS, VA) that are represented by the identified projects. As discussed previously, the existing SFVAMC Fort Miley Campus is under exclusive federal jurisdiction and police protection service is provided by the VA Police force. The three identified projects that would occur within NPS lands (Cumulative Projects 1, 2, and 4) are under the jurisdiction of two NPS law enforcement divisions—the U.S. Park Police and the Law Enforcement Rangers.³ The remaining three projects would be under the jurisdiction of the local SFPD. Therefore, any increase in demand for police protection services at the Campus would be accommodated by the VA Police force and would not affect the NPS law enforcement divisions or SFPD. Because any increase in demand would be absorbed across three separate police agencies (VA Police, NPS law enforcement, and SFPD), cumulative impacts related to police protection services during the construction phase would be minor.

Operation

Implementation of Alternative 1, in conjunction with the cumulative projects listed in Table 4-1 (except Cumulative Projects 3, 6, and 9–12), would not place undue demand on any one police provider, for the same reasons described above. Therefore, cumulative impacts related to police protection services during the operational phase would be minor.

Recreation

Construction

The short-term construction impacts that would result from implementation of Alternative 1 were considered together with the effects of projects listed in Table 4-1 (except Cumulative Projects 1, 6, and 9–12). Three of the cumulative projects identified in Table 4-1 would occur on NPS lands near the existing SFVAMC Fort Miley Campus. For the most part, these projects involve enhancement and restoration efforts, such as Cumulative Projects 4 (GGNRA General Management Plan) and 2 (Merrie Way Visitors Center). Adverse impacts resulting from construction activities under Alternative 1 primarily involve noise and potential temporary detours of Fort Miley access roads. These impacts are anticipated to have little or no effect on park accessibility and usage. Therefore, cumulative impacts related to recreation would be minor during construction.

Operation

As discussed previously, implementation of Alternative 1 would result in an increase in personnel, patients, and visitors at the SFVAMC Fort Miley Campus. This increase would occur gradually over a 20-year period. Cumulative projects listed in Table 4-1, except Cumulative Project 6, are estimated to introduce a net total of 39 residential units. The introduction of 39 residential units is not anticipated to substantially affect citywide park

³ The GGNRA is served by independent law enforcement divisions within NPS—U.S. Park Police and Law Enforcement (LE) Rangers. Patrol operations cover all GGNRA lands (GGNRA, 2011:282).

demand. Four of the eight projects listed in Table 4-1 involve park improvements within the NPS system. In particular, Cumulative Project 4 (GGNRA General Management Plan) aims to better connect sites to their surroundings, including Lands End and the existing SFVAMC Fort Miley Campus. The GGNRA General Management Plan, along with the other NPS projects included in Table 4-1, is anticipated to beneficially affect park accessibility and overall enjoyment of the park system. Thus, there would be a beneficial cumulative impact related to recreation during operation.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Fire Protection Services

Construction

Without knowing where Alternative 2 long-term construction would occur within the Mission Bay area, it is not possible to determine which cumulative projects listed in Table 4-2 should be evaluated in conjunction with Alternative 2 for cumulative fire protection impacts. The level of development associated with Alternative 2, together with the projects listed in Table 4-2, has the potential to substantially affect demand for fire protection services and fire/emergency medical services (EMS) access and response times, especially if multiple projects were constructed close to one another at the same time. Furthermore, a site-specific fire flow analysis would be required to determine the adequacy of the water infrastructure and fire flow system. As a result, cumulative fire protection impacts would be considered potentially adverse, but would require further evaluation at the time a specific location has been selected for a potential new SFVAMC Mission Bay Campus.

Operation

Without knowing where Alternative 2 long-term development would occur, it is not possible to determine which cumulative projects listed in Table 4-2 should be evaluated in conjunction with Alternative 2 for cumulative fire protection impacts. The square footage that would be developed in the Mission Bay area under Alternative 2, (620,000 square feet) together with the projects listed in Table 4-2, has the potential to substantially affect demand for fire protection services, fire and EMS response times, emergency access, and fire flow as compared to the anticipated demand. As a result, cumulative fire protection impacts would be considered potentially adverse. Because a specific location and design for a new SFVAMC campus within the Mission Bay area is currently unknown, further quantitative analysis would be required once a specific location and site plan for a SFVAMC campus in the Mission Bay area is identified.

Law Enforcement Services

Construction

Long-term development under Alternative 2 would result in a 620,000-square-foot SFVAMC campus in the Mission Bay area, which would be under the jurisdiction of VA Police.⁴ During construction of Alternative 2 long-term projects, it is anticipated that VA Police would be responsible for providing law enforcement and security services to the project site. Therefore, because the cumulative projects listed in Table 4-2 are under the jurisdiction of the local SFPD, no cumulative construction-related police protection impacts would occur.

Operation

Long-term development under Alternative 2 would result in a 620,000-square-foot SFVAMC campus in the Mission Bay area, which would be under the jurisdiction of VA Police. During the operational phase of Alternative 2 long-term projects, it is anticipated that VA Police would be responsible for providing law enforcement and security services at the potential new SFVAMC Mission Bay Campus. Therefore, because the cumulative projects listed in Table 4-2 are under the jurisdiction of the local SFPD or University of California (UC) Police, no cumulative police protection impacts would occur.

Recreation

Construction

The impact of construction of Alternative 2 long-term projects on recreation was considered together with the effects of the 45 cumulative projects in or near the Mission Bay area, as listed in Table 4-2. Alternative 2's cumulative construction impact on recreation is anticipated to be minor; however, without knowing where Alternative 2 construction would occur, it is not possible to come to a definitive conclusion. A more detailed analysis would be required once a location has been selected.

Operation

The implementation of Alternative 2 would introduce a new daily population to an as-yet-undetermined site in the Mission Bay area. Medical personnel, and to a lesser extent, patients and visitors associated with Alternative 2 might use surrounding parks, open space, and recreational facilities. Implementation of the cumulative projects listed in Table 4-2 is estimated to introduce a net total of 4,090 residential units. The introduction of 4,090 residential units has the potential to substantially affect demand for park and recreational resources in the Mission Bay neighborhood. Therefore, there would be a potentially adverse cumulative impact related to recreation. Further evaluation would be required once a specific site for a potential new SFVAMC Mission Bay Campus is identified.

⁴ Although property owned by VA is considered federal property and outside the jurisdiction of SFPD, SFPD may provide backup support in the event of an emergency.

4.3.4 Cultural Resources

Alternative 1

Paleontological Resources

Construction

The existing SFVAMC Fort Miley Campus and the cumulative projects listed in Table 4-1 are all located in the northwestern portion of the San Francisco Peninsula. Adverse impacts on paleontological resources can only occur during ground-disturbing activities. Alternative 1 and all of the projects listed in Table 4-1, with the exception of Cumulative Projects 1 (*USS San Francisco* Memorial Parking Lot Renovation) and 3 (Golden Gate National Recreation Area Dog Management Plan), would entail ground-disturbing activities. Fossil discoveries resulting from excavation and earth-moving activities associated with development are occurring with increasing frequency throughout the state. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Unique, scientifically important fossil discoveries are relatively rare, and the likelihood of encountering them is based on the type of specific geologic rock formations found underground. These geologic formations vary from location to location.

A records search of the UC Museum of Paleontology's Paleontology Collections database in Berkeley, California, did not identify any previously recorded fossil localities within or immediately adjacent to the existing SFVAMC Fort Miley Campus. Furthermore, the geologic formations that are present underneath the Campus (i.e., artificial fill, dune sand, and the Franciscan Assemblage) either are too young to contain fossils or would not contain unique vertebrate fossils because of the mechanism by which the formation was created. However, the identified cumulative projects would entail ground-disturbing activities that could occur in paleontologically sensitive geologic formations. Thus, the identified cumulative projects could themselves result in adverse impacts on paleontological resources. However, because Alternative 1 would not result in adverse impacts on unique vertebrate fossils, implementation of Alternative 1 would not result in a cumulatively considerable incremental contribution to an adverse cumulative impact. Therefore, this would be a minor cumulative impact.

Operation

Because operation of Alternative 1 and the cumulative projects listed in Table 4-1 would not result in ground-disturbing activities, no cumulative impact on paleontological resources would occur.

Archaeological Resources

Construction

The geographic context for the analysis of potential cumulative construction-related impacts for archaeological resources includes those areas in the general vicinity of the existing SFVAMC Fort Miley Campus and the Campus itself. Based on the geographic area, time frame, and types of projects listed in Table 4-1, identified cumulative projects for archaeological resources include Cumulative Projects 3 (Merrie Way Visitor Center), 4

(GGNRA General Management Plan), 9 (Ground Source Heat Pump Systems), and 11 (North Slope Seismic/Geologic Stabilization). All identified projects would involve ground-disturbing activities that could result in the discovery or damage of archaeological sites. Implementation of near-term development could result in adverse impacts on archaeological resources. Therefore, the identified cumulative projects in addition to Alternative 1 could result in adverse cumulative impacts on archaeological resources if no mitigation measures were to be implemented for Alternative 1. There would be no cumulative impacts for the remaining projects in the table, because they do not pertain to archaeological resources or they are located outside the geographic context being considered for archaeological resources.

Implementation of Mitigation Measure CUL-1 identified in Section 3.4, “Cultural Resources,” would reduce potentially adverse impacts that could result from implementation of Alternative 1. Effects that could result from inadvertent damage or destruction of presently undocumented significant archaeological resources and human remains during construction would be minor, because site-specific research, documentation, avoidance and treatment measures would be implemented as required under Section 106 of the National Historic Preservation Act. As such, Alternative 1’s contribution to a potentially adverse cumulative impact would not be considerable. Therefore, this would be a minor cumulative impact.

Operation

None of the projects listed in Table 4-1 have the potential to disturb archaeological sites during the operational phase, because it is assumed that no ground-disturbing activities would occur after the construction phase is complete. Therefore, there would be no cumulative impacts on archaeological resources during the operational phase.

Historic Resources

Construction

The geographic context for the analysis of potential cumulative construction-related impacts on historic resources includes those areas close to the existing SFVAMC Fort Miley Campus and the Campus itself. The time frame would include past, present, and probable future cumulative projects with a buildout date to 2023. The project type would be those projects including nonarchaeological historic properties. Based on the geographic area, time frame, and type of projects listed in Table 4-1, Cumulative Projects 1 (*USS San Francisco* Memorial Parking Lot Renovation), 2 (Merrie Way Visitor Center), 4 (GGNRA General Management Plan), 9, 10, 11, and 12 are the identified projects included in this cumulative analysis for historic resources. Cumulative Project 1 is unlikely to result in significant impacts on historic properties, because modification of the existing parking lot would not adversely affect the setting of nearby historic properties because the parking lot is already part of the setting. Cumulative Project 2 is also unlikely to affect nearby historic properties, because it does not obstruct or impede the views of the ruins of the Sutro Baths or the Cliff House restaurant. Cumulative Project 4 will likely be beneficial to historic resources, because part of the purpose of that plan is preservation and enhancement of historic structures and landscapes.

Cumulative Projects 9 (Ground Source Heat Pump Systems), 10 (Solar Photovoltaic System), 11 (North Slope Seismic/Geologic Stabilization), and 12 (Electrical System Upgrade Exterior Work) on the SFVAMC Fort Miley Campus have the potential to result in adverse effects on the SFVAMC Historic District. In addition, Alternative 1

near- and long-term projects would result in adverse effects even with implementation of identified mitigation, because the project would still result in demolition of contributors and densification of the SFVAMC Historic District. Therefore, there would be an adverse cumulative impact on historic resources.

Operation

None of the projects listed in Table 4-1 would be anticipated to alter historic structures during the operational phase because it is assumed that there would be no potential for alterations to historic structures after completion of the construction phase. Therefore, there would be no cumulative impacts on historic resources during operation.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Paleontological Resources

Construction

The Mission Bay area considered under Alternative 2 and the cumulative projects listed in Table 4-2 are all located in the eastern portion of the San Francisco Peninsula. Adverse impacts on paleontological resources only occur during ground-disturbing activities. The Mission Bay area considered under Alternative 2, and all of the projects listed in Table 4-2, would entail varying amounts of ground-disturbing activities. Fossil discoveries resulting from excavation and earth-moving activities associated with development are occurring with increasing frequency throughout the state. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Unique, scientifically important fossil discoveries are relatively rare, and the likelihood of encountering them is site-specific and is based on the type of specific geologic rock formations found underground. These geologic formations vary from location to location.

A records search of the UC Museum of Paleontology's Paleontology Collections database in Berkeley, California, did not identify any previously recorded fossil localities within the Mission Bay area. Furthermore, the geologic formations that are present underneath the Mission Bay area of Alternative 2 (Holocene alluvium, artificial fill, dune sand, and the Franciscan Assemblage) either are too young to contain fossils or would not contain unique vertebrate fossils because of the mechanism by which the formation was created.

When unique, scientifically important fossils are encountered by construction activities, the subsequent opportunities for data collection and study generally provide a benefit to the scientific community. Therefore, because of the site-specific nature of unique paleontological resources; the low probability that any project would encounter unique, scientifically important fossils; and the benefits that would occur from recovery and further study of those fossils if encountered, development of the Mission Bay area under Alternative 2 would not result in

a cumulatively considerable incremental contribution to an adverse cumulative impact. Therefore, this would be a minor cumulative impact.

Operation

Because no ground-disturbing activities are anticipated after completion of the construction phase, there would be no cumulative impact on paleontological resources during the operational phase of Alternative 2.

Archaeological Resources

Construction

The geographic context for the analysis of potential cumulative construction-related impacts for archaeological resources includes those areas near the Mission Bay area boundary for Alternative 2. Based on the geographic area, time frame (buildout date to 2030) and type of projects, Cumulative Projects 1–45 in Table 4-2 are identified as cumulative projects for archaeological resources, because these projects are located in an area that has a high potential for significant archaeological resources. The identified cumulative projects also involve ground-disturbing activities that could result in the discovery or damage of archaeological sites. In addition, implementation of Alternative 2 could result in potentially adverse impacts on archaeological resources. The impact of Alternative 2, when considered with the cumulative projects identified above, could result in an adverse cumulative impact on archaeological resources.

Given that Alternative 2 long-term projects in the Mission Bay area represent approximately 620,000 square feet of new development and that Cumulative Projects 1–45 in Table 4-2 represent more than 16 million square feet of new development, Alternative 2 long-term projects would not constitute a considerable amount of the identified adverse cumulative impact. Therefore, this would be a minor cumulative impact.

Operation

None of the projects listed in Table 4-2 have the potential to disturb archaeological sites during the operational phase because it is assumed that no ground-disturbing activities would occur after completion of the construction phase. Therefore, there would be no cumulative impacts on archaeological resources during the operational phase.

Historic Resources

Construction

The geographic context for the analysis of potential cumulative construction-related impacts for historic resources includes those areas close to the boundary for Alternative 2 in the Mission Bay area. The time frame would include past, present, and probable future cumulative projects with a buildout date to 2030. Based on the geographic area, time frame, and type of projects, Cumulative Projects 1–45 in Table 4-2 are identified as cumulative projects for historic resources because they are located in an area that contains historic-era resources, some of which are likely historically significant. If projects are sited near or in place of historically significant buildings, construction of such projects may damage or alter those resources so that they no longer convey significance. For this reason, implementation of Alternative 2 would be potentially adverse to historic resources.

Similarly, implementation of Cumulative Projects 1–45 in Table 4-2 would be potentially adverse to historic resources. The impact of Alternative 2, in addition to the identified cumulative projects, would likely result in an adverse cumulative impact on historic resources. Given that Alternative 2 long-term projects in the Mission Bay area represent approximately 620,000 square feet of new development and Cumulative Projects 1–45 in Table 4-2 represent more than 16 million square feet of new development, Alternative 2 long-term projects would not constitute a considerable amount of the potentially adverse cumulative impact. Therefore, this would be a minor cumulative impact.

Operation

None of the projects listed in Table 4-2 would disturb historic structures after construction. Therefore, there would be no cumulative impacts on historic resources during operation.

4.3.5 Floodplains, Wetlands, and Coastal Management

Alternative 1

The geographic context for the analysis of cumulative floodplains, wetlands, or coastal management zone impacts includes the NPS GGNRA and outer Richmond District watershed lands and surrounding drainages. Relevant past, present, and probable future cumulative projects listed in Table 4-1 within this geographic context include the NPS *USS San Francisco* Memorial Parking Lot Renovation, Merrie Way Visitor Center Visitor Center, and NPS GGNRA General Management Plan (Cumulative Projects 1, 2, and 4).

Construction and Operation

Wetlands Alteration

Because there are no wetlands or waters of the United States on or near the existing SFVAMC Fort Miley Campus that could be affected by implementation of Alternative 1 near-term projects, there would be no cumulative impact associated with either construction or operation.

Flooding as a Result of Location within a Floodplain

Because the existing SFVAMC Fort Miley Campus is not situated within a designated floodplain, there would be no cumulative flooding impact associated with either construction or operation that would result from location within a floodplain.

Construction

Degradation of Coastal Resources

The identified cumulative projects in conjunction with Alternative 1 within the GGNRA and outer Richmond District watershed lands have the potential to affect water quality of coastal resources via erosion and sedimentation, including as a result of dewatering discharges during construction. The identified cumulative projects and the SFVAMC, in implementing Alternative 1, would be required to comply with the federal Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES), and Article 4.1 of the San

Francisco Public Works Code, which specifies implementation of a storm water pollution prevention plan (SWPPP) with best management practices (BMPs) for construction activities. In addition, Alternative 1 would be required to comply with erosion and sediment controls outlined in VA Specification Section 015719. All these aforementioned regulations are designed to protect regional water quality and incorporate measures to protect beneficial uses of water bodies within the relevant watershed lands and surrounding drainages. Therefore, construction-related cumulative impacts on coastal resources would be minor.

Operation

Degradation of Coastal Resources

Long-term operations of identified cumulative projects have some potential to exceed the capacity of existing and planned sewers and degrade the quality of stormwater discharged to those sewers and Combined Sewer Overflow (CSO) events discharged to the Pacific Ocean, because of further reductions in open space and other pervious surfaces and changes in intensity and types of land use. However, cumulative projects disturbing 5,000 square feet or more of the ground surface would require compliance with the *San Francisco Stormwater Design Guidelines*. Because a federal facility would be involved, The SFVAMC, in implementing Alternative 1, would be required to comply with Section 438 of the Energy Independence and Security Act (EISA), under which Low Impact Development (LID) techniques (e.g., bioretention areas, permeable pavements, cisterns/recycling, and green roofs) would be implemented to mimic the predevelopment stormwater runoff conditions by using site design techniques that store, infiltrate, evaporate, and detain runoff. Cumulative projects would also be required to comply with Article 4.2 of the San Francisco Public Works Code, which requires that the project proponent submit a stormwater control plan that meets guidelines established by the San Francisco Public Utilities Commission (SFPUC).

These planning efforts and policies are all designed to protect regional water quality and incorporate measures to protect beneficial uses of water bodies based on overall consideration of past, present, and future conditions within the region. With incorporation of these efforts and policies, the cumulative impact on coastal resources from increased frequency or severity of CSO events and/or downstream flooding, or water quality degradation caused by changes in land use or increases of impervious surfaces, would be minor.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near-term and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

The geographic context for the analysis of cumulative hydrology and water quality impacts of the Mission Bay portion of Alternative 2 includes the Bayside Drainage. Relevant past, present, and probable future cumulative projects listed in Table 4-2 within this geographic context include the San Francisco Redevelopment Agency (Cumulative Projects 1–4 and 6), UCSF (Cumulative Projects 9 and 11–18), San Francisco Recreation and Park Department (Cumulative Project 19), Port of San Francisco (Cumulative Projects 20 and 21), and residential, commercial, and redevelopment projects (Cumulative Projects 22–45).

Construction

Wetlands Alteration

The identified cumulative projects within the Mission Bay area watershed lands have the potential to affect wetlands indirectly via erosion and sedimentation if located adjacent to or down gradient from wetlands, or directly via loss of wetlands if located within wetland areas. The identified cumulative projects and the SFVAMC, in implementing Alternative 2, would be required to comply with the federal CWA, the NPDES, and Article 4.1 of the San Francisco Public Works Code, which specifies implementation of a SWPPP with BMPs for construction activities. In addition, the SFVAMC, in implementing Alternative 2, would be required to comply with erosion and sediment controls outlined in VA Specification Section 015719. These requirements include such measures as setting work area limits, protecting the landscape, reducing exposure of unprotected soils, protecting disturbed areas, installing erosion and sediment control devices, implementing hazardous material spill prevention measures, managing spoil areas, and following good housekeeping procedures. This would result in a minor cumulative impact associated with indirect wetlands alteration as a result of erosion or sedimentation from construction activities. However, because a final location has not been determined for Alternative 2, it is possible that an adverse cumulative impact could occur if it were located such that a loss of jurisdictional wetlands would result.

Should Alternative 2 result in the loss of jurisdictional wetlands, Mitigation Measure FWC-1 would be implemented, which would reduce construction-related wetland impacts to a minor level by minimizing the loss of San Francisco Bay estuarine and marine wetlands as a result of the project to the greatest extent feasible. Under this measure, a qualified wetland biologist would conduct a wetlands assessment in compliance with Executive Order 11990, and a qualified biologist would develop a conceptual wetland mitigation plan, including appropriate wetland replacement ratios as determined by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and San Francisco Bay Conservation and Development Commission. Other cumulative projects would require compliance with Executive Order 11990 and similar wetlands mitigation measures. Thus, with implementation of the above regulatory requirements and Mitigation Measure FWC-1, Alternative 2 would not cumulatively contribute to wetlands alteration.

Degradation of Coastal Resources

As noted above, the identified cumulative projects within the Mission Bay area watershed lands would be required to comply with the federal CWA, the NPDES, and Article 4.1 of the San Francisco Public Works Code, which specifies implementation of a SWPPP with BMPs for construction activities. In addition, the SFVAMC, in implementing Alternative 2, would be required to comply with erosion and sediment controls outlined in VA Specification Section 015719. Implementation of all these aforementioned regulatory requirements would result in a minor cumulative impact associated with degradation of coastal resources as a result of construction activities.

Operation

Wetlands Alteration, Degradation of Coastal Resources

Although the precise location of the Alternative 2 site is unknown at this time, stormwater from the Mission Bay area, part of the Bayside Drainage, is collected in the combined sewer system and treated pursuant to the effluent discharge limitations set by the NPDES permit at the City's Southeast Water Pollution Control Plant before being discharged to San Francisco Bay. Implementation of SFPUC's *San Francisco Sewer System Master Plan* and *Sewer System Improvement Plan* would accommodate the need for additional sewer/stormwater system capacity for planned future development through 2030 by implementing capital improvements. Identified cumulative projects would likely be required to provide on-site treatment and reduce peak runoff from storm events using LID features, which would provide improved ground/soil absorption of runoff and control erosion, improve stormwater runoff quality, and minimize the impact of stormwater flows. Identified cumulative projects would be required to comply with the San Francisco Stormwater Design Guidelines and Article 4.2 of the San Francisco Public Works Code. As a result of these planning efforts and policies, the cumulative impact related to wetlands alteration and on coastal resources from increased frequency or severity of CSO events and/or downstream flooding, or water quality degradation caused by changes in land use or increases of impervious surfaces, would be minor.

Flooding as a Result of Location within a Floodplain

Identified cumulative projects located within a floodplain (as well as SFVAMC, in implementing Alternative 2, if it would be located within a floodplain) would be required to comply with the San Francisco Floodplain Management Ordinance. Ordinance requirements include locating the first floor of structures above the floodplain or floodproofing the structures. Compliance with the Floodplain Management Ordinance would be required; therefore, a cumulative impact is not anticipated within a floodplain.

4.3.6 Geology and Soils

Alternative 1

Construction

The geographic context for the analysis of potential cumulative geology and soils impacts consists of the project site and the immediately adjacent properties. The cumulative projects considered for cumulative construction impacts are Cumulative Projects 3 and 4. The time frame for considering cumulative effects for Alternative 1 is assumed to be the buildout of the LRDP (2030). Cumulative Project 1 was completed in 2010 and involved renovation of a parking lot. Thus, Cumulative Project 1 was not considered in this cumulative analysis. Implementing Cumulative Project 3 (the GGNRA Dog Management Plan) would not result in any construction-related impacts; therefore, in combination with Alternative 1, no cumulatively considerable construction-related geology and soils impacts would be associated with Cumulative Project 3. Construction of Alternative 1 would not contribute to a cumulative impact related to geology and soils while considering the construction of Cumulative Project 4, because both projects would seismically retrofit or construct facilities consistent with seismic standards. Therefore, this would be a minor cumulative impact.

Operation

Potential effects on geologic and soil conditions are typically considered site specific. Therefore, the geographic context for the analysis of potential cumulative geology and soils impacts consists of the project site and the immediately adjacent properties. The cumulative projects considered for cumulative operation impacts are Cumulative Projects 3 and 4 listed in Table 4-1. Cumulative Project 3 (the GGNRA Dog Management Plan) would not include operational geology and soils impacts because it is a dog management plan; therefore, in combination with Alternative 1, there would be no cumulatively considerable operational geology and soils impacts associated with Cumulative Project 3. The seismic retrofitting of several existing buildings in combination with the preservation and enhancement of historic structures would result in a beneficial cumulative impact related to the operation of the sites. Operations-related seismically induced ground shaking and failure, landslide, or slope failure impacts are specific to the existing SFVAMC Fort Miley Campus or the GGNRA site (Cumulative Project 4). Consequently, no cumulative operational cumulative impact would result from Alternative 1 and the impact would be minor.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Potential effects on geologic and soil conditions are typically considered site specific. Therefore, the geographic context for the analysis of potential cumulative geology and soils impacts consists of the project site and the immediately adjacent properties. Past, present, and probable future cumulative projects within this geographic context include the projects listed in Table 4-2 and shown in Figure 4-2. Because the project site for Alternative 2 is uncertain, all of the projects in Table 4-2 are considered for potential cumulative geology and soils impacts. The time frame for considering cumulative effects is 2030, consistent with the anticipated buildout of the LRDP.

Construction

The alteration of topography is a site-specific impact and would be considered on a cumulative level only if two or more projects would overlap in a site area. The potential new SFVAMC Mission Bay Campus considered under Alternative 2 would not overlap in site area with any projects listed in Table 4-2. Therefore, Alternative 2 would not result in any cumulative impact associated with the alteration of topography. An NPDES general permit for stormwater discharges associated with construction activities (Construction General Permit; State Water Resources Control Board Order No. 99-08-DWQ) would be required for the potential new Campus and all cumulative projects. In addition, for the construction of Alternative 2 and cumulative projects that disturb 1 acre or more and drain to the separate sewer system, compliance with the Construction General Permit and preparation and implementation of a SWPPP that meets Construction General Permit conditions would be required. Although the project may contribute incrementally to cumulative erosion impacts, adherence to standard construction practices and requirements would limit the magnitude of cumulative impacts from this project and other cumulative projects. Therefore, this would be a minor cumulative impact.

Operation

As indicated in Section 3.6, “Geology and Soils,” all new VA buildings would be structurally designed and constructed in compliance with VA Seismic Design Requirements H-18-8 and the International Building Code (IBC). Thus, a geotechnical report for new structures would be prepared before construction; the report would include recommendations to protect against seismic impacts. All new structures would be designed and built to the recommended seismic specifications for the site-specific conditions of the potential new SFVAMC Campus. Further, all adjacent cumulative projects would be required to conduct a detailed site-specific assessment of geologic hazards in areas delineated with seismic hazards, landslides, expansive or corrosive soils, and liquefaction, as required by the Community Safety Element of the *San Francisco General Plan* (City General Plan). Filled land and geologic hazards such as landslides and shoreline erosion are addressed in the Environmental Protection Element of the City General Plan. In addition, all cumulative projects would be required to comply with the San Francisco Building Code (Municipal Code Title 17, Chapter 17.04), which consists of the 2006 IBC. Although new facilities and other projects would be constructed in eastern San Francisco in the future, the increase in risk to people or property from seismic events would be minimal because new development would be designed and constructed to site-specific geotechnical standards and other established San Francisco standards and policies would be implemented to minimize potential impacts. Therefore, this would be a minor cumulative impact.

4.3.7 Greenhouse Gas Emissions

Alternative 1

Greenhouse Gas Emissions

Because greenhouse gas (GHG) emissions are global air emissions with an atmospheric residence time of at least 200 years, GHG emissions associated with construction and operation of most projects listed in Table 4-1 are considered in this cumulative analysis. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFVAMC Fort Miley Campus would not result in construction-related or operational GHG emissions. In addition, Cumulative Project 6 would not apply to this analysis, because no construction GHG emissions and no net new operational GHG emissions would be associated with a change in the commercial uses of an existing building.

Construction

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 2, 4, 5, 7, 8, 9, 10, 11, and 12.

Construction of Alternative 1 projects in conjunction with identified cumulative projects would result in emissions of cumulative metric tons (MT) of carbon dioxide equivalent (CO₂e) between 2010 and 2023. However, these construction-related GHG emissions would be emitted only once and would be spread out over a 13-year time period (2010–2023). Therefore, construction of Alternative 1 would not make a considerable contribution to cumulative GHG emissions and global climate change, and this would be a minor cumulative impact.

Operation

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, 9, 10, 11, and 12.

Operation of the LRDP facilities under Alternative 1 in conjunction with identified projects would generate cumulative emissions of CO₂e each year by 2023. These cumulative operational emissions of GHGs would be below 25,000 MTCO₂e per year; therefore, implementation of Alternative 1 would not make a considerable contribution to cumulative GHG emissions and global climate change. This would be a minor cumulative impact.

Sea Level Rise

Sea level rise for the Pacific Ocean near San Francisco is predicted to be 12–17 inches by 2050 and 20–55 inches by 2099.

Construction

Because impacts of sea level rise are operational, no cumulative impacts related to sea level rise would be associated with the construction of cumulative projects.

Operation

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the operation of some of the cumulative projects listed in Table 4-1. Cumulative Projects 5, 6, and 8 would not apply to this analysis because these projects are or would be located at least 2,000 feet inland from the Pacific Ocean. Therefore, for purposes of this analysis, the projects identified projects in Table 4-1 include Cumulative Projects 1–4 and 7.

Based on sea level rise predictions of 12–17 inches by 2050 and 20–55 inches by 2099, sea level rise could cause flooding in some of the coastal areas of San Francisco. However, because identified Cumulative Projects 1–4 and 7 are at much higher elevations (292–320 feet above mean sea level) than the Pacific Ocean (0 feet above mean sea level), there would be no cumulative climate change–related sea level rise impacts to which Alternative 1 would contribute. Therefore, cumulative projects would not be unprepared for inevitable environmental changes that would occur from climate change, and thus, would not result in harm to persons or property or degradation natural resources or ecosystems. No cumulative impact would occur.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Greenhouse Gas Emissions

GHG emissions are global air emissions with an atmospheric residence time of at least 200 years. All of the cumulative projects listed in Table 4-2 fall within these geographical and temporal contexts. Therefore, for purposes of this analysis, identified projects from Table 4-2 include Cumulative Projects 1–45.

Construction

Construction of Alternative 2 projects in conjunction with identified cumulative projects would generate cumulative emissions of CO₂e between 2010 and 2035. Even though these construction-related GHG emissions would be emitted only once and would be spread out over a 25-year time period, this total still represents a large quantity of GHG emissions. Therefore, construction of cumulative projects would make a considerable contribution to cumulative GHG emissions and global climate change, and this would be an adverse cumulative impact.

However, the contribution of approximately 1,767 MT of CO₂e by Alternative 2 long-term projects in the Mission Bay area to the total quantity of cumulative construction-related GHG emissions would not be considerable. Therefore, construction of Alternative 2 would represent a minor contribution to this cumulative impact.

Operation

Operation of LRDP facilities under Alternative 2 in conjunction with identified projects would generate cumulative emissions of CO₂e each year by 2030. Because it is anticipated that cumulative operational GHG emissions would exceed 25,000 MTCO₂e per year, implementation of cumulative projects would make a considerable contribution to cumulative GHG emissions and global climate change. This would be an adverse cumulative impact.

However, under Alternative 2, the contribution of approximately 12,648 MT of CO₂e per year to the total quantity of cumulative operational GHG emissions would not be considerable. Therefore, under Alternative 2, operation of the proposed LRDP would represent a minor contribution to this cumulative impact.

Sea Level Rise

Sea level rise for San Francisco Bay near San Francisco is predicted to be 12–17 inches by 2050 and 20–55 inches by 2099.

Construction

Because impacts of sea level rise are operational, no cumulative impacts related to sea level rise would be associated with the construction of cumulative projects.

Operation

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the operation of some of the cumulative projects listed in Table 4-2. Cumulative Projects 19–22, 24–28, 30, 32, 37, 40 through 45, 47–61, 63, and 65–45 would not apply to this analysis because these projects are or would be

located at least 2,000 feet inland from San Francisco Bay. Therefore, for purposes of this analysis, identified projects from Table 4-2 include Cumulative Projects 1–18, 23, 25, 26, 28, 31, 33, and 43.

Based on sea level rise predictions of 12–17 inches by 2050 and 20–55 inches by 2099, sea level rise could cause flooding in some of the coastal areas of San Francisco. Tidal flooding issues currently exist in the Mission Bay area and such flooding issues could be exacerbated with sea level rise. This would represent an adverse cumulative impact related to sea level rise.

However, because the specific location of the potential new SFVAMC Mission Bay Campus and its elevation relative to San Francisco Bay are both unknown, an adverse cumulative climate change–related impact related to sea level rise could occur under Alternative 2. However, project-level NEPA review (and CEQA review, if necessary) would be conducted in the future when more specific project details are available. Therefore, this cumulative impact is currently unknown.

4.3.8 Hydrology and Water Quality

Alternative 1

The geographic context for the analysis of cumulative construction-related and operational hydrology and water quality impacts includes the proximate GGNRA and outer Richmond District watershed lands and surrounding drainages. Relevant past, present, and probable future cumulative projects listed in Table 4-1 located within this geographic context include the NPS *USS San Francisco* Memorial Parking Lot Renovation (Cumulative Project 1), Merrie Way Visitor Center (Cumulative Project 2), NPS GGNRA General Management Plan (Cumulative Project 4), the Safeway expansion (Cumulative Project 7), and 5400 Geary Boulevard conversion of commercial to residential use (Cumulative Project 8).

Construction

Water Quality Degradation as a Result of Erosion, Sedimentation, or Construction Contaminants

Construction of Alternative 1 projects in conjunction with the identified cumulative projects within the proximate GGNRA and outer Richmond District watershed lands could affect regional water quality by causing erosion and sedimentation from dewatering discharges. The identified projects, as well as the SFVAMC in implementing Alternative 1, would be required to comply with the federal CWA, the NPDES, and Article 4.1 of the San Francisco Public Works Code, which specifies implementation of a SWPPP with BMPs for construction activities. In addition, the SFVAMC, in implementing Alternative 1, would be required to comply with erosion and sediment controls outlined in VA Specification Section 015719. These regulations are designed to protect regional water quality and incorporate measures to protect beneficial uses of water bodies within the relevant watershed lands and surrounding drainages. Therefore, construction-related cumulative impacts related to water quality would be minor.

Depletion of Groundwater Resources

With respect to depletion of groundwater supplies or interference with recharge, the groundwater basins underlying the SFVAMC Fort Miley Campus are not a substantial source of water supply for San Francisco or

VA. Groundwater recharge in San Francisco results from infiltration of rainfall, landscape irrigation, and leakage of water and sewer pipes. Recharge caused by leaky municipal water and sewer pipes accounted for approximately half of the total recharge of groundwater in San Francisco. Construction of Alternative 1 in conjunction with identified projects would not deplete groundwater supplies such that a net deficit in aquifer volume or substantial interference with recharge would result. In fact, cumulative development projects in San Francisco may positively contribute to recharge by implementing LID measures that would increase infiltration and reduce runoff to the combined sewer. Dewatering activities associated with the construction of multiple projects within a groundwater basin could reduce a water table temporarily; however, this effect would be short term and offset by infiltration. Thus, construction of Alternative 1 in conjunction with identified cumulative projects would have a minor cumulative impact on groundwater supplies and recharge.

Operation

Long-term operations of identified cumulative projects could exceed the capacity of the existing and planned sewer systems and degrade the quality of stormwater discharged to those sewer systems because the cumulative projects would further reduce open space and other pervious surfaces, and cause changes in the intensity and types of land use. However, the *San Francisco Stormwater Design Guidelines* require new development and redevelopment disturbing 5,000 square feet or more of the ground surface to manage stormwater on-site. In combined sewer areas under SFPUC jurisdiction, projects must reduce the flow rate and volume of stormwater going into the combined system by achieving Leadership in Energy and Environmental Design (LEED®) Sustainable Sites Credit 6.1, “Stormwater Design: Quantity Control.” LEED® Sustainable Sites Credit 6.1 states that for sites where the existing imperviousness is greater than 50 percent, the project must “implement a stormwater management plan that results in a 25 percent decrease in the volume of stormwater runoff from the two-year 24-hour design storm.”

As a federal facility, the SFVAMC is not required to comply with the *San Francisco Stormwater Design Guidelines* for implementation of Alternative 1; however, it must comply with Section 438 of the EISA because construction at the federal SFVAMC Fort Miley Campus would have a footprint greater than 5,000 square feet. Implementation of LID techniques (e.g., bioretention areas, permeable pavements, cisterns/recycling, and green roofs) is required to mimic predevelopment stormwater runoff conditions by using site design techniques that store, infiltrate, evaporate, and detain runoff. Cumulative projects under the jurisdiction of the City would be required to comply with Article 4.2 of the San Francisco Public Works Code, which requires that the project proponent submit a stormwater control plan that meets SFPUC guidelines.

These planning efforts and policies are all designed to protect regional water quality and incorporate requirements for on-site management of stormwater and implementation of stormwater management plans to reduce the volume of stormwater runoff reaching the sewer system. With incorporation of these efforts and policies, the cumulative impact on the frequency or severity of CSO events and/or downstream flooding, or water quality degradation caused by changes in land use or increases of impervious surfaces, would be minor.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near-term and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

The geographic context for the analysis of cumulative construction-related and operational hydrology and water quality impacts includes the Bayside Drainage. Relevant past, present, and probable future cumulative projects listed in Table 4-2 within this geographic context include the San Francisco Redevelopment Agency Mission Bay North and South Redevelopment Project Areas (Cumulative Projects 1–6), the UCSF Medical Center and Research Campus at Mission Bay (Cumulative Projects 7–18), the Port of San Francisco Pier 70 Master Plan (Cumulative Project 20), China Basin Seawall Lot 337 and Pier 48 (Cumulative Project 21), and several commercial and residential use development and redevelopment projects (Cumulative Projects 22–45).

Construction

Water Quality Degradation as a Result of Erosion, Sedimentation, or Construction Contaminants

Construction of the identified cumulative projects in conjunction with Alternative 2 within the Bayside Drainage has the potential to affect regional water quality by causing erosion and sedimentation from dewatering discharges. The identified cumulative projects, as well as the SFVAMC in implementing Alternative 2, would be required to comply with the federal CWA, the NPDES, and Article 4.1 of the San Francisco Public Works Code, which specifies implementation of a SWPPP with BMPs for construction activities. Using erosion and sediment-control BMPs—specified construction techniques and postconstruction stormwater BMPs—would reduce the potential for runoff and the release, mobilization, and exposure of pollutants from the project sites. In addition, the SFVAMC, in implementing off-site portions of Alternative 2, would be required to comply with erosion and sediment controls outlined in VA Specification Section 015719. These regulations are designed to protect regional water quality and incorporate measures to protect beneficial uses of water bodies within the Bayside Drainage. Therefore, construction-related cumulative impacts related to water quality would be minor.

Depletion of Groundwater Resources

Multiple dewatering projects within a groundwater basin could reduce a water table temporarily; however, this effect would be short term and would be offset by infiltration. In addition, the increase in impervious surfaces that would result from Alternative 2, when considered with identified cumulative projects, would result in a minor cumulative impact on infiltration characteristics, because much of the Mission Bay area is already covered by impervious surfaces. In fact, cumulative projects in San Francisco may positively contribute to recharge by implementing LID measures that would increase infiltration and reduce runoff to the combined sewer. Groundwater would also not be used as a drinking water or consumptive water supply source during construction. Thus, there would be a minor cumulative impact on groundwater supplies and recharge.

Operation

Long-term operations of identified cumulative projects within the Mission Bay area watershed lands have the potential to exceed the capacity of existing and planned sewers and degrade the quality of stormwater discharged

to those sewers because the cumulative projects would further reduce open space and other pervious surfaces, and cause changes in intensity and types of land use. The precise location of the Alternative 2 project site in the Mission Bay area is unknown at this time; however, stormwater from the Mission Bay area is part of the Bayside Drainage and is collected in the combined sewer system and treated pursuant to the effluent discharge limitations set by the NPDES permit at the City's Southeast Water Pollution Control Plant before being discharged to San Francisco Bay. Cumulative projects would be required to comply with the *San Francisco Stormwater Design Guidelines* and Article 4.2 of the San Francisco Public Works Code. As a federal facility, the SFVAMC would not be required to comply with the *San Francisco Stormwater Guidelines*, but would be required to comply with Section 438 of the EISA. Incorporation of LID or other techniques required under the EISA would also serve to protect water quality during project operation. Sustainable stormwater design (e.g., green roofs, vegetated swales, storm water detention) would provide on-site stormwater treatment before off-site discharge.

These planning efforts and policies are all designed to protect regional water quality and incorporate measures to protect beneficial uses of water bodies based on overall consideration of past, present, and future conditions within the region. With incorporation of these efforts and policies, the cumulative impact on the frequency or severity of CSO events and/or downstream flooding, or water quality degradation caused by changes in land use or increases of impervious surfaces, would be minor.

4.3.9 Land Use

Alternative 1

The geographic context for the analysis of potential cumulative land use impacts is at a local scale. Land use compatibility issues are relevant at a local level because they involve the interrelationship between land uses associated with the alternatives and neighboring properties. Probable future cumulative projects within this geographic context include the GGNRA Dog Management Plan and General Management Plan (Cumulative Projects 3 and 4) (Table 4-1 and Figure 4-1) and Cumulative Projects 9–12. The time frame for considering cumulative effects is to buildout (2023).

Construction

Land use impacts are assessed based on the proposed land use, rather than construction activities. Therefore, no cumulative construction-related impacts on land use would occur.

Operation

Cumulative Projects 3(NPS GGNRA Dog Management Plan), 4 (NPS GGNRA General Management Plan), 9 (Ground Source Heat Pump Systems), 10 (Solar Photovoltaic System), 11 (North Slope Seismic/Geologic Stabilization), and 12 (Electrical System Upgrade) would not alter the existing land uses in the adjacent Fort Miley area. When Cumulative Project 3 (NPS GGNRA Dog Management Plan) and Cumulative Project 4 (General Management Plan) are considered from a cumulative perspective, potential cumulative land use impacts would be limited. These NPS projects would apply only to GGNRA lands and would not substantially affect land uses beyond the GGNRA, and the plans are programmatic documents with no project-specific land use impacts that would be cumulatively considerable. Neither project would cause changes to land use or nearby communities such that they would result in a cumulative impact on land use.

The other projects being evaluated as part of the cumulative land use analysis are not likely to have substantial land use impacts, because the projects would be expected to follow local planning plans and policies and be compatible with surrounding land uses. In addition, when the cumulative projects are viewed in combination with Alternative 1, there are no anticipated land use effects that could be compounded through this combination. For these reasons, Alternative 1 would not contribute to a significant cumulative land use impact. This would be a minor cumulative impact.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

The geographic context for the analysis of potential cumulative land use impacts is at the local level because of the interrelationship between land uses associated with Alternative 2 and land uses of neighboring properties in and near the Mission Bay area. Past, present, and probable future cumulative projects within this geographic context include the projects listed in Table 4-2 and shown in Figure 4-2. Because the project site for Alternative 2 long-term development in the Mission Bay area is uncertain, all of the projects in Table 4-2 are considered for potential cumulative land use impacts. The time frame for considering cumulative effects is to buildout (2030).

Construction

There would be no construction-related land use impacts under Alternative 2. Thus, no cumulative construction-related land use impacts would occur.

Operation

Long-term development under Alternative 2 includes the construction of a 620,000-square-foot SFVAMC campus on approximately 3.56 acres in the Mission Bay area. Development of adjacent cumulative projects would be compatible with operation of a potential new SFVAMC Mission Bay Campus. None of the cumulative projects listed in Table 4-2 would result in changes to land use or nearby communities such that they would have a cumulative impact to land use, because they would be consistent with City zoning, plans, and policies. At the program level, Alternative 2 would not contribute to a significant cumulative land use impact.

4.3.10 Noise

The geographic context for the analysis of cumulative noise impacts varies based on the type of noise impact being analyzed. For construction and stationary-source noise impacts, only the area around a development site (in this case, the existing SFVAMC Fort Miley Campus or potential new SFVAMC Mission Bay Campus) would be included. For example, construction noise dissipates/attenuates quickly as the distance between the construction site and the receptor increases. As a result, only those projects within 1,000 feet of the existing Campus or the site of the potential new Campus are considered for the analysis of cumulative construction noise impacts.

The geographic context for the analysis of cumulative operational mobile-source noise impacts is defined as the immediate area surrounding the roadways that would be affected by implementation of a particular alternative, as

well as cumulative development. It should be noted that future roadway volumes identified under the long-term (2035) evaluation in Section 3.10, “Noise,” of this EIS include regional growth calculations because they would affect local traffic volumes, and are thus considered cumulative. Traffic-related noise increases discussed in Section 3.10 are both project-specific and cumulative in nature, as both project-generated and regional traffic levels are analyzed.

Alternative 1

Noise

Construction

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-1. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFVAMC Fort Miley Campus would not result in construction-related noise impacts. In addition, Cumulative Projects 2 and 4–8 would be located more than 1,000 feet from the Campus. Therefore, potential construction noise from Alternative 1 would not be considered cumulatively considerable with these projects because of the distance between sources. Therefore, for purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1 and 9–12.

Cumulative Projects 1 and 4 would be located down-gradient of the existing SFVAMC Fort Miley Campus. With respect to Cumulative Project 4, the use of heavy equipment during construction is anticipated to be minor and likely limited to one or two pieces of heavy construction equipment (e.g., backhoe/loader). Any concurrent construction activities that could result in cumulative noise increases would be limited to the northern portion of the existing Campus and portions of Lincoln Park located between Cumulative Project 4 and the existing Campus. Therefore, off-site residential structures located south of the existing Campus would not be exposed to potential cumulative construction noise levels. Construction activities at and around historic structures associated with Cumulative Project 4 would likely limit the number of visitors to Lincoln Park in that area. Furthermore, intervening terrain would limit the potential cumulative noise exposure to park visitors. Combined with implementation of Mitigation Measures NOI-1 and NOI-2, in addition to compliance with VA Specification Section 015719, “Temporary Environmental Controls,” Alternative 1 would not be considered cumulatively considerable with this project. Therefore, cumulative construction impacts associated with Alternative 1 would be minor.

Operation

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the operation of the cumulative projects listed in Table 4-1. None of the cumulative projects identified in Table 4-1 are located within 1,000 feet of the existing SFVAMC Fort Miley Campus, nor would they include unique or substantial stationary noise sources beyond existing conditions. Therefore, cumulative impacts related to stationary source noise would not occur.

With respect to operational mobile-source noise, the cumulative projects listed in Table 4-1 would potentially contribute additional vehicle trips to the local roadway network in the vicinity of the SFVAMC Fort Miley Campus. Those projects are therefore included within the geographic and temporal contexts for cumulative impacts of Alternative 1.

To examine the potential cumulative effects of traffic increases in the vicinity of the existing SFVAMC Fort Miley Campus, traffic noise levels associated with the Campus were calculated for nearby roadway segments. Traffic volumes for each study segment were derived from p.m. peak intersection turning movements (see Section 3.13, “Transportation and Parking”) using a K Factor of 10 to compute the average daily trips on roadway segments. (A K Factor is a multiplication factor used to compute average daily traffic.) Vehicle speeds and truck volumes on local roadways were determined based on field observations conducted in and around the existing Campus. Table 4-3 summarizes the modeled traffic noise levels at 50 feet from the centerline of affected roadway segments near the Campus. The modeling found that the largest potential change in ambient roadway noise levels under cumulative (2035) conditions would occur along 42nd Avenue between Clement Street and Point Lobos Avenue. The change in ambient roadway noise levels along that segment would be approximately 3.4 A-weighted decibels (dBA) day-night average sound level (L_{dn}), less than the threshold of 5.0 dBA for future roadway noise levels.

Table 4-3: Predicted Cumulative Future Traffic Noise Levels (Alternative 1)

Roadway	Segment		L_{dn} at 50 Feet, dBA			
	From	To	Existing	Cumulative (2035) Conditions	Net Change	Substantial Increase?
Clement Street	43rd Avenue	42nd Avenue	62.0	63.2	1.2	No
Clement Street	42nd Avenue	34th Avenue	63.6	65.2	1.5	No
Clement Street	43rd Avenue	48th Avenue	60.7	61.5	0.8	No
43rd Avenue	Clement Street	Point Lobos Avenue	60.8	62.4	1.6	No
42nd Avenue	Clement Street	Point Lobos Avenue	57.5	60.8	3.4	No

Notes:

dBA = A-weighted decibels; L_{dn} = day-night average noise level

Traffic noise levels are predicted at a standard distance of 50 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Data modeled by AECOM in 2012.

The increase in daily vehicle operations at the existing SFVAMC Fort Miley Campus as a result of implementation of Alternative 1 would result in a minor cumulative impact on ambient traffic noise along local roadways.

Vibration

Construction

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-1. Cumulative Project 3 would not apply to this

analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFVAMC Fort Miley Campus would not result in construction-related vibration. In addition, Cumulative Projects 2 and 4–8 would be located more than 1,000 feet from the existing Campus and would not generate vibration. Therefore, for purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1 and 9–12.

Cumulative Projects 1 and 4 would be located down-gradient of the proposed development at the existing SFVAMC Fort Miley Campus and away from the existing residences located south of the Campus. Based on the distance between Cumulative Projects 1 and 4 and nearby on- and off-site receptors, as well as the representative vibration source levels for construction equipment shown in Table 3.10-8 in Section 3.10, “Noise,” the vibration levels associated with construction of those projects would generate up to 68 velocity decibels (VdB) at a distance of 500 feet. When considered in connection with construction vibration levels associated with Alternative 1, off-site residential structures located south of the existing Campus would not be exposed to potential cumulative construction noise levels in excess of Federal Transit Administration standards. Therefore, construction vibration associated with Alternative 1 would not be considered cumulatively considerable. Impacts would be minor.

Operation

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the operation of the cumulative projects listed in Table 4-1. As noted in the discussion of project impacts in Section 3.10, “Noise,” the potential for operational vibration impacts is limited to areas subject to substantial heavy truck traffic or rail operations, neither of which would occur within the existing SFVAMC Fort Miley Campus area. Therefore, the potential for cumulative operational vibration impacts near the existing SFVAMC Fort Miley Campus is considered minimal. Impacts would be minor.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Noise

Construction

Cumulative impacts related to construction activities under Alternative 2 near- and long-term projects at the existing SFVAMC Fort Miley Campus would be the same as those identified above for Alternative 1. Noise is a site-specific impact, and a specific site in the Mission Bay area has not been identified for Alternative 2; therefore, it is not possible to determine which cumulative projects listed in Table 4-2 should be evaluated in conjunction with Alternative 2 to determine cumulative construction noise impacts. Nonetheless, future development of the potential new SFVAMC Mission Bay Campus would likely expose some receptors to elevated noise levels during construction. To achieve a substantial cumulative effect in terms of construction noise levels, an additional source of high levels of construction noise would need to be in close to a noise receptor. Construction activities within the cumulative context would be subject to the requirements of the San Francisco Noise Control Ordinance and would not occur during potentially noise sensitive hours, unless a special permit issued by the City allows such activities. However, depending on the location of the cumulative project(s) in relation to the potential new

Campus and any nearby receptors, cumulative noise levels could exceed City standards. Because the exact location of the project site and a detailed project design are unknown at this time, it is not possible to definitively determine the level of cumulative impact that would result from this alternative. The cumulative construction noise impact of Alternative 2 would require further evaluation when a location within the Mission Bay area is identified.

Operation

To examine the potential cumulative effects of traffic increases in the vicinity of the existing SFVAMC Fort Miley Campus, traffic noise levels associated with the Campus were calculated for nearby roadway segments. Traffic volumes for each study segment were derived from p.m. peak intersection turning movements (see Section 3.13, “Transportation and Parking”) using a K Factor of 10 to compute the average daily trips on roadway segments. (As noted above, a K Factor is a multiplication factor used to compute average daily traffic.) Vehicle speeds and truck volumes on local roadways were determined based on field observations conducted in and around the existing Campus. Table 4-4 summarizes the modeled traffic noise levels at 50 feet from the centerline of affected roadway segments near the Campus. The modeling found that the largest potential change in ambient roadway noise levels under cumulative (2035) conditions would occur along 42nd Avenue between Clement Street and Point Lobos Avenue. The change in ambient roadway noise levels along that segment would be approximately 0.8 dBA L_{dn} , less than the threshold of 5.0 dBA for future roadway noise levels.

Table 4-4: Predicted Cumulative Future Traffic Noise Levels (Alternative 2)

Roadway	Segment		L_{dn} at 50 Feet, dBA			
	From	To	Existing	Cumulative (2035) Conditions	Net Change	Substantial Increase?
Clement Street	43rd Avenue	42nd Avenue	62.0	62.6	0.6	No
Clement Street	42nd Avenue	34th Avenue	63.6	64.3	0.6	No
Clement Street	43rd Avenue	48th Avenue	60.7	61.3	0.6	No
43rd Avenue	Clement Street	Point Lobos Avenue	60.8	61.5	0.7	No
42nd Avenue	Clement Street	Point Lobos Avenue	57.5	58.3	0.8	No

Notes:

dBA = A-weighted decibels; L_{dn} = day-night average noise level

Traffic noise levels are predicted at a standard distance of 50 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Data modeled by AECOM in 2012.

The increase in daily vehicle operations at the existing SFVAMC Fort Miley Campus as a result of implementation of Alternative 2 would result in a minor cumulative impact on ambient traffic noise along local roadways.

Because a specific site in the Mission Bay area has not been identified for Alternative 2, it is not possible to determine which cumulative projects from Table 4-2 should be evaluated in conjunction with Alternative 2 to determine cumulative construction noise impacts. Based on the anticipated square footage of the potential new SFVAMC Mission Bay Campus under this alternative, the project's potential contribution to roadway noise levels under Alternative 2 would be considered cumulatively considerable and could contribute to a substantial permanent increase in roadway noise levels. The exact location of the project site and a detailed project design are unknown at this time and would require further evaluation when a location within the Mission Bay area is identified; therefore, it is not possible to definitively determine the level of cumulative impact that would result from Alternative 2.

Vibration

Construction

Cumulative impacts related to construction activities under Alternative 2 near- and long-term projects at the existing SFVAMC Fort Miley Campus would be the same as those identified above for Alternative 1. Because a specific site in the Mission Bay area has not been identified for Alternative 2, it is not possible to determine which cumulative projects from Table 4-2 should be evaluated in conjunction with Alternative 2 to determine cumulative construction vibration impacts. As noted above for the evaluation of cumulative construction noise impacts, the potential for cumulative construction vibration impacts would depend on the location of a cumulative project or projects from Table 4-2 and a sensitive receptor in relation to the potential new SFVAMC Mission Bay Campus. For example, should a cumulative project and the potential new Campus be located within 100 feet of a residential structure, vibration levels would exceed the Federal Transit Administration's threshold for human annoyance and impacts would be adverse. The exact location of the project site and a detailed project design are unknown at this time and would require further evaluation when a location within the Mission Bay area is identified; therefore, it is not possible to definitively determine the level of cumulative impact that would result from Alternative 2.

Operation

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the operation of the cumulative projects listed in Table 4-1. As noted in the discussion of project impacts in Section 3.10, "Noise," the potential for operational vibration impacts is limited to areas subject to substantial heavy truck traffic or rail operations. Several of the cumulative projects listed in Table 4-2 could generate substantial heavy truck and/or rail operations; however, the potential new SFVAMC Mission Bay Campus and facilities proposed at the existing SFVAMC Fort Miley Campus under Alternative 2 would generate minimal truck traffic. Therefore, impacts associated with Alternative 2 would not be considered cumulatively considerable with respect to operational vibration, and impacts would be minor.

4.3.11 Socioeconomics and Environmental Justice

Alternative 1

Population and Employment

Construction

The geographic context for analysis of cumulative socioeconomic and environmental justice impacts is the community contiguous with the existing SFVAMC Fort Miley Campus, and the temporal context is the duration of construction for cumulative projects listed in Table 4-1. Thus, past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-1. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing Campus would not result in socioeconomic or environmental justice effects. In addition, Cumulative Project 6 would not apply to this analysis because no construction would be required for a change in commercial uses in an existing building. Therefore, for purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, and 7–12.

Construction of Alternative 1 in conjunction with identified projects is anticipated to require construction crews derived from the local labor pool, depending on the various construction schedules. Both the greater Bay Area and San Francisco proper have experienced a notable reduction in employment availability, including construction jobs, over the last decade (between 2000 and 2010); therefore, the addition of construction jobs that could be filled by Bay Area and/or San Francisco residents would be considered a beneficial cumulative impact related to growth inducement.

In addition, construction of Alternative 1 in conjunction with identified cumulative projects is not anticipated to impede residential or business activity in the community surrounding the existing SFVAMC Fort Miley Campus. Thus, there would be no displacement of persons, residences, or businesses and no cumulative displacement impact would occur.

Operation

Aside from the development of 39 residential units under Cumulative Project 8, none of the cumulative projects listed in Table 4-1 include housing such that they could result in permanent residents. In addition, Alternative 1 would not entail housing. Therefore, there would be no cumulative growth-inducement impact related to population and housing.

Project operation under Alternative 1 in conjunction with Cumulative Projects 2 and 7 would result in a cumulative increase in daily employment population. Both the greater Bay Area and San Francisco proper have experienced a notable reduction in employment availability over the last decade (between 2000 and 2010); thus, the addition of jobs that could be filled by Bay Area and/or San Francisco residents would result in no cumulative growth-inducement impact.

Environmental Justice

Construction

Because cumulative construction activities would not cause temporary displacement of low-income populations, minority populations, or Indian tribes, no cumulative construction-related environmental justice impact would occur.

Operation

The outer Richmond District neighborhood of San Francisco, which is adjacent to the existing SFVAMC Fort Miley Campus, and is adjacent to or contains the cumulative projects listed in Table 4-1, does not represent low-income populations, minority populations, or Indian tribes. Therefore, implementation of Alternative 1 in conjunction with identified cumulative projects could not result in disproportionate and/or adverse human health or environmental impacts on such populations. Thus, no cumulative environmental justice impact would occur.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Population and Employment

Construction

The geographic context for analysis of cumulative socioeconomic and environmental justice impacts is the community contiguous with the potential new SFVAMC Mission Bay Campus, and the temporal context is the duration of construction for cumulative projects in Table 4-2. Thus, the past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-2. Therefore, for purposes of this analysis, identified projects from Table 4-2 include Cumulative Projects 1–45.

Construction of Alternative 2 in conjunction with identified cumulative projects is anticipated to require construction crews derived from the local labor pool, depending on the various construction schedules. Both the greater Bay Area and San Francisco proper have experienced a notable reduction in employment availability, including construction jobs, over the last decade (between 2000 and 2010); therefore, the addition of construction jobs that could be filled by Bay Area and/or San Francisco residents would be a beneficial cumulative impact related to growth inducement.

The specific location of the potential new SFVAMC Mission Bay Campus proposed under Alternative 2 is unknown. Thus, it is unknown whether construction of Alternative 2 in conjunction with identified projects could impede residential or business activity in the surrounding community. As a result, displacement of persons, residences, or businesses could occur, but the potential cumulative displacement impact is unknown. Future

project-level environmental review would be required to determine the significance of this impact and, if adverse, to identify any feasible mitigation.

Operation

Cumulative residential projects listed in Table 4-2 would result in a permanent population. However, Alternative 2 would not entail housing. Therefore, there would be no cumulative growth-inducement impact related to population and housing.

Project operation under Alternative 2 in conjunction with the cumulative commercial and office projects listed in Table 4-2 would result in a cumulative increase in daily employment population. Both the greater Bay Area and San Francisco proper have experienced a notable reduction in employment availability over the last decade (between 2000 and 2010); therefore, the addition of jobs that could be filled by Bay Area and/or San Francisco residents would result in no cumulative growth-inducement impact.

Environmental Justice

Construction

Because cumulative construction activities would not cause temporary displacement of low-income populations, minority populations, or Indian tribes, no cumulative construction-related environmental justice impact would occur.

Operation

The Mission Bay area of San Francisco, which is where the cumulative projects listed in Table 4-2 are located, does not represent low-income populations, minority populations, or Indian tribes. Therefore, implementation of Alternative 2 could not result in disproportionate and/or adverse human health or environmental impacts on such populations. Thus, no cumulative environmental justice impact would occur.

4.3.12 Solid and Hazardous Materials

The potential contribution to cumulative impacts on solid and hazardous materials is evaluated in the context of reasonably foreseeable future development anticipated to occur within the respective service areas for solid waste; routine transport, use, or disposal of hazardous materials; and release of hazardous materials into the environment.

Alternative 1

Solid Waste

The level of cumulative impacts related to solid waste is based on a determination of whether the facilities constructed and operated under Alternative 1 would be served by a landfill whose permitted capacity would be exceeded by accommodating the projected solid-waste disposal needs.

Construction

The construction of eight projects—Cumulative Projects 2, 5, 7, 8, and 9–12—may occur concurrently with Alternative 1. The total construction disposal volumes for the cumulative projects are unknown; however, construction activities associated with these cumulative projects and Alternative 1 would increase the demand on regional landfill capacity. In accordance with the City Ordinance No. 27-06, the Construction and Demolition Debris Recovery Ordinance, which regulates construction and demolition debris for projects under City jurisdiction, at least 65 percent of waste generated during construction of these cumulative projects would be reused or recycled and diverted from landfills. In addition, in accordance with the *Department of Veterans Affairs Strategic Sustainability Performance Plan* (VA SSPP), at least 50 percent of waste generated during construction of Alternative 1 would be reused or recycled and diverted from landfills. Further, the landfills located in the region, including Keller Canyon and Redwood Sanitary, both currently have ample capacity and at least 20 years of remaining capacity to receive waste from their service areas. Therefore, there would be a minor cumulative impact related to solid waste and landfill capacity during construction.

Operation

An increase in the generation of solid waste during operation of Alternative 1 as well as Cumulative Projects 2, 6, 7, and 8 is anticipated; however, the VA SSPP has a nonhazardous solid waste diversion target of 50 percent by 2015, which is intended to minimize the amount of waste transported to landfills. Further, the anticipated volume of solid waste could be accommodated by landfills located in the region, including Keller Canyon (Pittsburg) with approximately 84 percent remaining capacity and Redwood Sanitary (Novato) with approximately 67 percent remaining capacity. Therefore, there would be a minor cumulative impact related to solid waste and landfill capacity during operation of Alternative 1.

Hazardous Materials

The level of cumulative impacts related to hazardous materials is based on a determination of whether the facilities constructed and operated under Alternative 1 would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and exposing the public to unhealthy levels of hazardous materials.

Construction

As described previously under “Solid Waste,” the construction of eight projects—Cumulative Projects 2, 5, 7, 8, and 9–12—may occur concurrently with Alternative 1. These projects could result in generation of hazardous wastes such as asbestos from friable building materials, lead-based paint on building surfaces, and hazardous wastes from lighting fixtures. In addition, previously unknown contamination, possibly the result of improper disposal or housekeeping activities, may be discovered as structures are demolished. Cumulative development could expose construction workers to health or safety risks through exposure to hazardous materials, although the individual workers potentially affected would vary from project to project. To minimize construction risks associated with hazardous materials exposure, all hazardous materials would be stored, used, transported, and disposed of in strict accordance with all local, State, and federal hazardous waste regulations. Further, the SFVAMC would be required to adhere to the regulations and standards for inspection, abatement, exposure, and

disposal of hazardous building materials, including lead, polychlorinated biphenyls (PCBs), and mercury, identified in Veterans Health Administration (VHA) Specification Section 028333.13, “Lead-Based Paint Removal and Disposal.” Additionally, the construction contractor would be required to submit an environmental protection plan in accordance with VHA Environmental Protection Specifications Section 015719. This plan would describe the BMPs that would be implemented to minimize the risks associated with the use, storage, handling, and transport of hazardous materials and the contingency protocols to be implemented in the event of an accidental release or exposure during construction. Therefore, there would be a minor cumulative impact related to hazardous materials exposure during construction.

Operation

Operation of Alternative 1 and Cumulative Projects 1–12 would not permanently alter the quantity of hazardous materials routinely used, transported, and stored compared to baseline conditions, because operation of cumulative projects would be similar to those under existing conditions. Further, facilities where hazardous materials are used must be operated in compliance with current laws and regulations, which require hazardous materials storage that minimizes exposure to people or the environment and the potential for inadvertent releases. These materials must also be labeled to inform users of potential risks and to instruct them in appropriate storage, handling, and disposal procedures and the use of hazardous materials and generation of wastes would continue to be regulated under the authority of the San Francisco Hazardous Materials Unified Program Agency under a compliance certificate. All potentially foreseeable projects would be required to comply with applicable statutes and regulations, which would ensure that impacts related to the transport, use, storage, and disposal of hazardous materials would not be adverse. Adherence to these regulations would also minimize the risk of upset or accident related to the handling of hazardous materials. For the aforementioned reasons, there would be a minor cumulative impact related to hazardous materials exposure during operation.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Solid Waste

The level of cumulative impacts related to solid waste is based on a determination of whether the facilities constructed and operated under Alternative 1 would be served by a landfill whose permitted capacity would be exceeded by accommodating the project’s solid waste disposal needs.

Construction

The construction of most cumulative projects listed in Table 4-2, except Cumulative Projects 9–16, 19, and 29, may occur concurrently with Alternative 2. The total construction disposal volumes for the cumulative projects are unknown; however, construction activities associated with these projects and Alternative 2 would increase the demand on regional landfill capacity. In accordance with City No. 27-06, the Construction and Demolition Debris Recovery Ordinance, which regulates construction and demolition debris for projects under City jurisdiction, at least 65 percent of waste generated during construction of these projects would be reused or recycled and diverted

from landfills. In addition, in accordance with the VA SSPP, at least 50 percent of waste generated during construction of Alternative 2 would be reused or recycled and diverted from landfills. Further, the landfills located in the region, including Keller Canyon and Redwood Sanitary, both currently have ample capacity and at least 20 years of remaining capacity to receive waste from their service areas. Therefore, there would be a minor cumulative impact related to landfill capacity during construction.

Operation

An increase in the generation of solid waste during operation of Alternative 2 is anticipated; however, the VA SSPP has a nonhazardous solid-waste diversion target intended to minimize the amount of waste transported to landfills. Further, the anticipated volume of solid waste from Alternative 2 and all of the cumulative projects identified in Table 4-2 could be accommodated by landfills located in the region, including Keller Canyon (Pittsburg) with approximately 84 percent remaining capacity and Redwood Sanitary (Novato) with approximately 67 percent remaining capacity. Therefore, there would be a minor cumulative impact related to landfill capacity during operation.

Hazardous Materials

The level of cumulative impacts related to hazardous materials is based on a determination of whether the facilities constructed and operated under Alternative 1 would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and exposing the public to unhealthy levels of hazardous materials.

Construction

The construction of construction of most cumulative projects listed in Table 4-2, except Cumulative Projects 9–16, 19, and 29, may occur concurrently with Alternative 2. These projects could result in generation of hazardous wastes such as asbestos from friable building materials, lead-based paint on building surfaces, and hazardous wastes from lighting fixtures. In addition, previously unknown contamination, possibly the result of improper disposal or housekeeping activities, may be discovered as structures are demolished. Cumulative development could expose construction workers to health or safety risks by exposing them to hazardous materials, although the individual workers potentially affected would vary from project to project.

To minimize construction risks associated with hazardous materials exposure, all hazardous materials would be stored, used, transported, and disposed of in strict accordance with all local, State, and federal hazardous waste regulations. Further, the SFVAMC would be required to adhere to the regulations and standards for inspection, abatement, exposure, and disposal of hazardous building materials, including lead, PCBs, and mercury, identified in VHA Specification Section 028333.13, “Lead-Based Paint Removal and Disposal.” Additionally, the construction contractor would be required to submit an environmental protection plan in accordance with VHA Environmental Protection Specifications Section 015719. This plan would describe the BMPs that would be implemented to minimize the risks associated with the use, storage, handling, and transport of hazardous materials and the contingency protocols to be implemented in the event of an accidental release or exposure during construction. Compliance with this environmental protection plan and applicable federal, State, and local hazardous waste regulations would minimize the project’s cumulative contribution to potential hazardous

materials exposure. Therefore, there would be a minor cumulative impact related to hazardous materials exposure during construction.

Operation

In addition to Alternative 2, several projects, particularly those involving development of medical and research facilities, which include Cumulative Projects 2, 7, 8, 9, 10, 11, 12, 15, 16, and 18, is anticipated to require the routine use of hazardous materials. Facilities where hazardous materials are used must be operated in compliance with current laws and regulations, which require hazardous materials storage that minimizes exposure to people or the environment and the potential for inadvertent releases. These materials must also be labeled to inform users of potential risks and to instruct them in appropriate storage, handling, and disposal procedures and the use of hazardous materials and generation of wastes would continue to be regulated under the authority of the San Francisco Hazardous Materials Unified Program Agency under a compliance certificate. All potentially foreseeable projects would be required to comply with applicable statutes and regulations, which would ensure that impacts related to the transport, use, storage, and disposal of hazardous materials, would not be significant. Adherence to these regulations would also minimize the risk of upset or accident related to the handling of hazardous materials. For the aforementioned reasons, there would be a minor cumulative impact related to hazardous materials exposure during operation.

4.3.13 Transportation and Parking

The cumulative analysis for transportation and parking evaluates conditions in Year 2035, including both near-term (Phase 1) and long-term (Phase 2) projects under Alternatives 1 and 2, planned and proposed future development growth, transportation network changes in the study area, and background growth in travel demand in San Francisco and the region.

Like the near- and long-term analyses, the cumulative analysis assumes a growth rate of 0.5 percent per year for background traffic for all study intersections. San Francisco Municipal Transportation Agency (Muni) ridership growth is calculated using the same methodology discussed under “Assessment Methods” in Section 3.13, “Transportation and Parking.”

The cumulative analysis assumes the same changes to the transportation network assumed under the near- and long-term analyses, discussed in Section 3.13.

Alternative 1

Traffic, Transit, and Parking

Construction

Past, present, and probable future cumulative projects within these geographic and temporal contexts include the construction of most of the cumulative projects listed in Table 4-1. Most of the cumulative projects located within the vicinity of the existing SFVAMC Fort Miley Campus (i.e. 1, 2, 3, 4, 6, and 9–12) are either located within the GGNRA or the existing Campus or involve renovating existing facilities and/or structures. As a result, the potential for cumulative traffic delays or cumulative loss of local on-street parking spaces is considered minimal.

Cumulative Projects 5, 7, and 8 are located more than 4,000 feet from the limits of the existing SFVAMC Fort Miley Campus; based on this distance from the Campus, impacts related to these projects would not be considered cumulative with the construction traffic impacts of Alternative 1. Impacts would be minor.

Operation

Past, present, and probable future cumulative projects within the same geographical and temporal contexts as Alternative 1 include the operation of the cumulative projects listed in Table 4-1. The potential cumulative impacts related to vehicular traffic; the transit, pedestrian, and bicycle networks; parking supply; and site access would also be considered minor.

Growth in traffic as a result of planned development both within and outside of the SFVAMC Fort Miley Campus area was used to develop traffic volumes for 2035 Cumulative Alternative 1 Conditions. The resulting traffic volumes and levels of service (LOS) at the study intersections are summarized in Table 4-5 and illustrated in Figure 4-3.

**Table 4-5: Intersection Levels of Service—2035 Cumulative Alternative 1 Conditions
(Weekday PM Peak Hour)**

	Intersection	Control Type	2035 Cumulative Conditions		2035 Cumulative Alternative 1 Conditions	
			LOS	Delay ¹	LOS	Delay ¹
1	34th Avenue/Clement Street	All-way Stop	B	13.6	C	22.3
2	42nd Avenue/Clement Street	All-way Stop	B	12.3	D	26.7
3	43rd Avenue/Clement Street	All-way Stop	B	13.5	D	34.6
4	42nd Avenue/Point Lobos Avenue	All-way Stop	B	14.6	D	27.1
5	43rd Avenue/Point Lobos Avenue	All-way Stop	C	18.1	D	26.1

Notes:

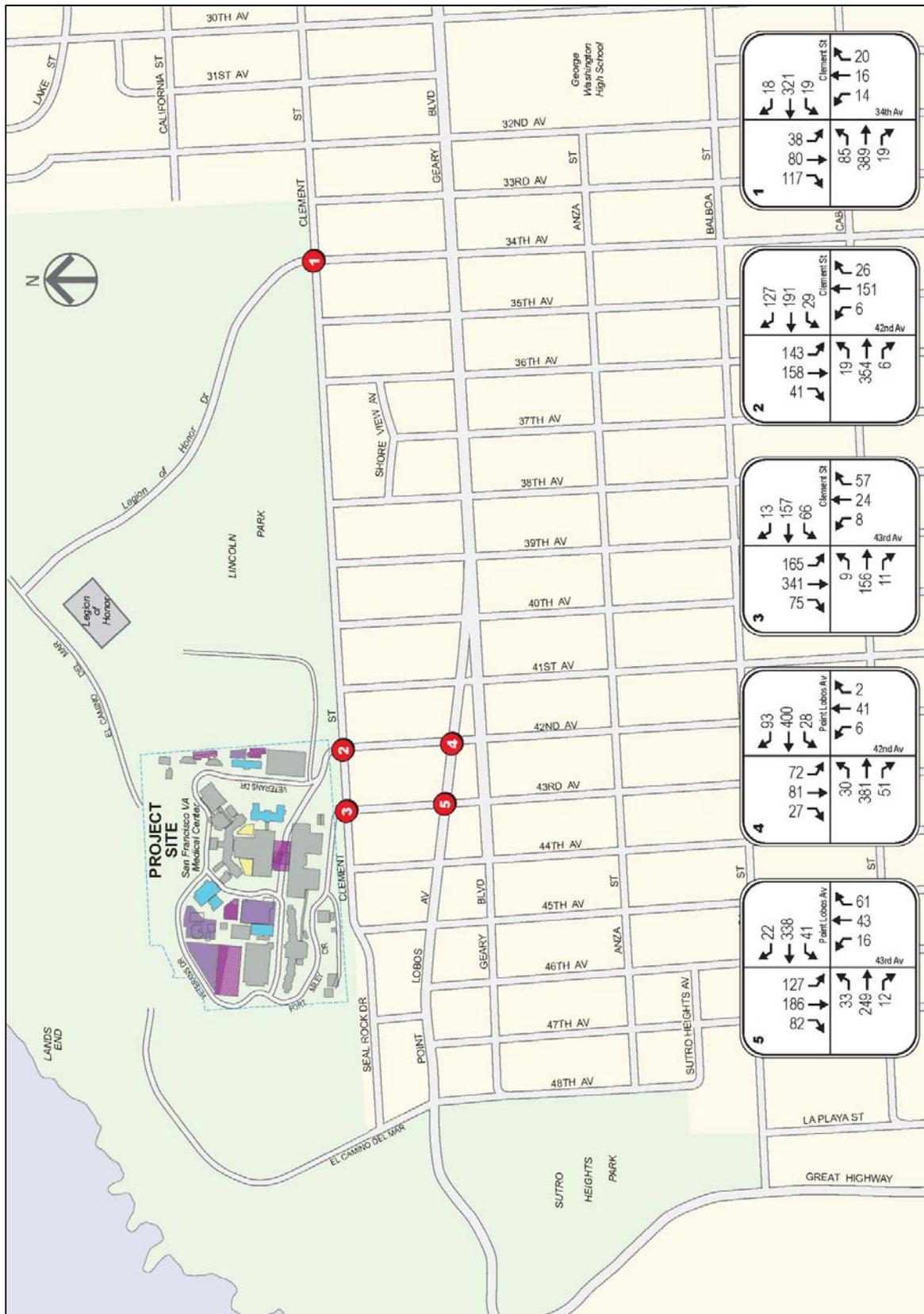
¹ Delay presented in seconds per vehicle.

Source: Data compiled by AECOM in 2012

As shown in Table 4-5, under 2035 Cumulative Alternative 1 Conditions, all five study intersections are projected to operate at acceptable conditions (LOS D or better) during the weekday p.m. peak hour. Thus, implementing Alternative 1 would not result in adverse cumulative impacts on any study intersections.

As shown in Table 3.13-10 in Section 3.13, “Transportation and Parking,” Alternative 1 would generate a total of approximately 158 transit trips (64 inbound to and 94 outbound from the SFVAMC Fort Miley Campus) during the weekday p.m. peak hour. Transit trips to and from the Campus would use the nearby Muni bus lines for local trips, as well as for regional trips (via transfers).

Muni ridership and capacity under 2035 Cumulative Conditions are summarized in Table 4-6. As Muni defines trips with respect to downtown San Francisco, the 64 inbound transit trips to the SFVAMC Fort Miley Campus would generally use Muni service heading in the outbound direction from downtown, while the 94 outbound transit trips from the Campus would generally use Muni service heading in the inbound direction to downtown.



Source: Data compiled by AECOM in 2012

Figure 4-3: Intersection Traffic Volumes—2035 Cumulative Alternative 1 Conditions

Table 4-6: Muni Ridership and Capacity—2035 Cumulative Conditions (Weekday PM Peak Hour)

Line	Direction	Existing Conditions			2035 Cumulative Conditions		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
38	Inbound	487	846	57.6%	701	846	82.8%
	Outbound	675	1,128	59.8%	1,006	1,128	89.2%
38L	Inbound	499	846	59.0%	718	1,128	63.6%
	Outbound	683	846	80.7%	1,018	1,128	90.3%
38AX	Outbound	177	252	70.2%	264	252	104.7%

Note: **Bold** denotes exceedance of capacity utilization policy standard (85% utilization).

Source: AECOM, 2012

Based on the ridership totals presented, sufficient capacity would be available for SFVAMC Fort Miley Campus transit users in the “inbound” direction on both the 38-Geary and 38L-Geary Limited bus lines. Specifically, the 38-Geary bus line can accommodate as many as 18 additional riders before reaching its capacity utilization threshold, while the 38L-Geary Limited bus line can accommodate as many as 241 additional riders before reaching its capacity utilization threshold. Thus, the 94 transit trips away from the Campus could be easily accommodated on Muni service in the vicinity of the Campus.

Although the 38, 38L, and 38AX bus lines would all operate above the 85 percent capacity utilization threshold in the outbound direction, the SFVAMC Fort Miley Campus would only generate 64 total trips in this direction during the weekday p.m. peak hour. In particular, as the 38, 38L, and 38AX bus lines would offer a combined 28 buses per hour, Alternative 1 would be adding slightly more than two additional riders per bus, on average, representing less than 3 percent of the total ridership passing through the maximum load points on these lines in the outbound direction. Given this level of additional transit ridership, Alternative 1 is not expected to result in an adverse cumulative impact on transit capacity.

Parking conditions are expected to be similar to 2023 Long-Term Alternative 1 Conditions, as discussed in Section 3.13, “Transportation and Parking.” Cumulative parking impacts would be minor.

Therefore, the potential cumulative impacts related to vehicular traffic; the transit, pedestrian, and bicycle networks; parking supply; and site access would also be minor.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 short- and long-term projects.

Traffic, Transit, and Parking

Construction

Cumulative impacts related to construction activities under Alternative 2 near- and long-term projects at the existing SFVAMC Fort Miley Campus would be the same as those identified above for Alternative 1.

Because the potential new SFVAMC Mission Bay Campus would be located in the Mission Bay area, which is currently undergoing redevelopment, there may be construction activities around the potential new Campus in the cumulative time frame. Further analysis of construction impacts in the cumulative time frame would be required once a specific location for the potential new Campus has been determined.

Operation

Without knowing where Alternative 2 would occur, it is not possible to determine which cumulative projects listed in Table 4-2 should be evaluated in conjunction with Alternative 2 for cumulative traffic impacts at the potential new SFVAMC Mission Bay Campus. Nonetheless, based on the level of development anticipated under Alternative 2, the potential contribution of project-generated traffic to the local transportation network could be substantial in relation to available capacity. When taken into consideration with the projects listed in Table 4-2, potential decreases in intersection LOS and other traffic-related impacts could be exacerbated. As a result, impacts would be potentially adverse. Because the location of the potential new SFVAMC Mission Bay Campus is currently undetermined, further quantitative analysis would be required once a specific location and site plan for the potential new Campus is identified.

Growth in traffic as a result of planned development both within and outside of the SFVAMC Fort Miley Campus area was used to develop traffic volumes for 2035 Cumulative Alternative 2 Conditions. The resulting traffic volumes and LOS at the study intersections are summarized in Table 4-7 and illustrated in Figure 4-4.

Table 4-7: Intersection Levels of Service—2035 Cumulative Alternative 2 Conditions (Weekday PM Peak Hour)

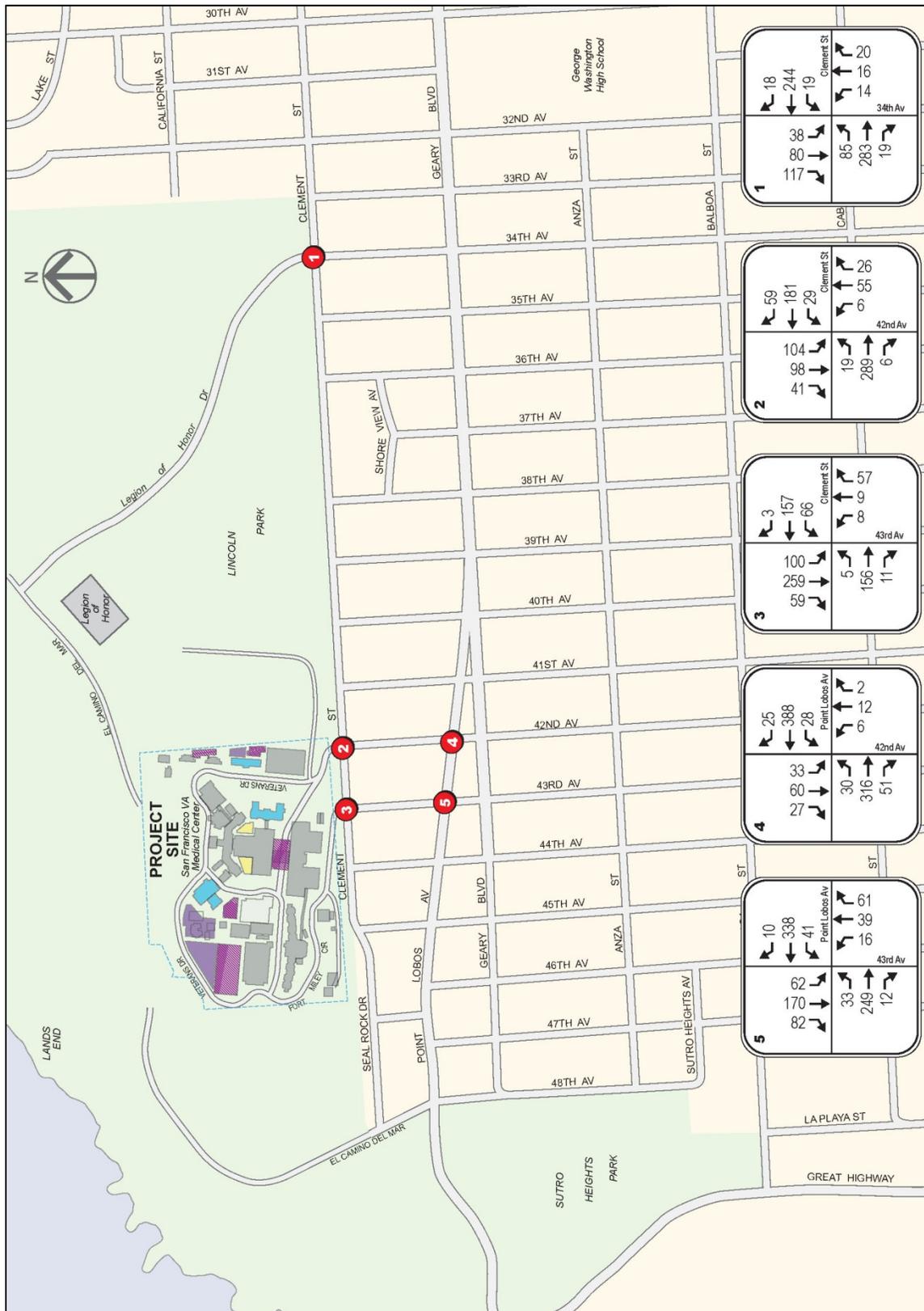
	Intersection	Control Type	2035 Cumulative Conditions		2035 Cumulative Alternative 2 Conditions	
			LOS	Delay ¹	LOS	Delay ¹
1	34th Avenue/Clement Street	All-way Stop	B	13.6	B	14.2
2	42nd Avenue/Clement Street	All-way Stop	B	12.3	B	13.0
3	43rd Avenue/Clement Street	All-way Stop	B	13.5	B	14.6
4	42nd Avenue/Point Lobos Avenue	All-way Stop	B	14.6	C	15.2
5	43rd Avenue/Point Lobos Avenue	All-way Stop	C	18.1	C	18.8

Note:

¹ Delay presented in seconds per vehicle.

Source: Data compiled by AECOM in 2012

As shown in Table 4-7, under 2035 Long-Term Alternative 2 Conditions, all five study intersections are projected to operate at acceptable conditions (LOS D or better) during the weekday p.m. peak hour. Thus, Alternative 2 would not result in adverse cumulative impacts on any study intersections. As discussed above, further analysis of traffic impacts at the potential new SFVAMC Mission Bay Campus would be required once a specific location for the potential new Campus has been determined.



Source: Data compiled by AECOM in 2012

Figure 4-4: Intersection Traffic Volumes—2035 Cumulative Alternative 2 Conditions

As shown in Table 3.13-11 in Section 3.13, “Transportation and Parking,” the existing SFVAMC Fort Miley Campus would generate a total of approximately 42 new transit trips (six inbound to and 36 outbound trips from the Campus) during the weekday p.m. peak hour under Alternative 2, substantially fewer than under Alternative 1. Muni ridership under 2023 Long-Term Conditions is summarized in Table 4-6. As discussed in Section 3.13, impacts on transit operations would be minor under Alternative 1. Because Alternative 2 would generate fewer new transit trips in either direction than Alternative 1, no impacts on transit capacity are expected under Alternative 2. Alternative 2 is not expected to result in an adverse cumulative impact on transit capacity at the Campus. As discussed above, further analysis of transit impacts at the potential new SFVAMC Mission Bay Campus would be required once a specific location for the potential new Campus has been determined.

Parking conditions at the existing SFVAMC Fort Miley Campus are expected to be similar to 2023 Long-Term Alternative 2 Conditions, as discussed in Section 3.13, “Transportation and Parking.” Cumulative parking impacts would be minor at the existing Campus. Further analysis of parking impacts at the potential new SFVAMC Mission Bay Campus would be required once a specific location for the potential new Campus has been determined.

4.3.14 Utilities

Alternative 1

Water Supply

Because the geographic context for analysis of cumulative water supply impacts is the SFPUC service area, water consumption associated with construction and operation of most projects listed in Table 4-1 are considered in this cumulative analysis. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFVAMC Fort Miley Campus would not result in construction-related or operational water consumption. In addition, Cumulative Project 6 would not apply to this analysis because there no construction and no net new operational water consumption would be associated with a change in commercial uses within an existing building.

Construction

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, and 9–12.

Construction activities associated with the identified cumulative projects in conjunction with Alternative 1 would not result in a substantial amount of water consumption. As such, construction of identified cumulative projects in conjunction with Alternative 1 would not require or result in the construction of new water distribution infrastructure or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, no cumulative water supply impacts would occur during construction.

Operation

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, and 9–12.

SFPUC's regional water system provides water to 2.4 million people, as well as to retail and wholesale customers in San Francisco, San Mateo, Santa Clara, Alameda, and Tuolumne Counties. As part of its planning for future water supply needs, SFPUC has conducted comprehensive planning studies to assess water demands through the year 2030. SFPUC has adequate supplies to meet the demand for water within its service area through 2030, and is in the process of identifying future supplies and establishing conservation programs to meet demand in the event of a 3-year drought. In addition, San Francisco's Green Building Ordinance requires new buildings to reduce their water consumption, which also helps address the need to accommodate additional water needs for planned future development. Furthermore, as described in Section 3.14, "Utilities," SFPUC has included Alternative 1 in its update to the 2005 Urban Water Management Plan for San Francisco. As a result of the City's and SFPUC's planning efforts, the implementation of identified cumulative projects in conjunction with Alternative 1 would not require or result in the construction of new water treatment facilities, construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative water supply impact.

Wastewater

Because the geographic context for analysis of cumulative wastewater impacts is the SFPUC service area, wastewater generation associated with construction and operation of most projects listed in Table 4-1 is considered in this cumulative analysis. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the existing SFPVAMC Fort Miley Campus would not result in construction-related or operational wastewater generation. In addition, Cumulative Project 6 would not apply to this analysis because no construction and no net new operational wastewater generation would be associated with a change in commercial uses within an existing building.

Construction

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, and 9–12.

Construction activities associated with the identified cumulative projects in conjunction with Alternative 1 would not result in a substantial amount of wastewater reaching SFPUC's combined wastewater/stormwater system. Therefore, construction of identified projects in conjunction with Alternative 1 would not require or result in the construction of new combined wastewater/stormwater drainage infrastructure or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, there would be no cumulative wastewater impact during construction.

Operation

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, and 9–12.

SFPUC's *San Francisco Sewer System Master Plan* and *Sewer System Improvement Plan* were implemented to accommodate the need for additional sewer system capacity for planned future development through 2030 by implementing capital improvements. In addition, San Francisco's Green Building Ordinance requires new buildings to reduce their water consumption, which in turn reduces wastewater generation associated with planned

future development. Furthermore, as described in Section 3.14, “Utilities,” SFPUC is currently evaluating the implementation of a Sewer System Improvement Program to address issues associated with aging infrastructure and system deficiencies related to climate change, as well as improve operational efficiency and reduce community impacts. As a result of the City’s and SFPUC’s planning efforts, the implementation of identified projects in conjunction with Alternative 1 would not require or result in the construction of new wastewater treatment facilities, construction of new wastewater facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative water supply impact.

Electricity and Natural Gas

Because the geographic context for analysis of cumulative electricity and natural gas supply impacts is Pacific Gas and Electric Company’s (PG&E’s) Area 1 (San Francisco, Peninsula) service area, electricity and natural gas consumption associated with construction and operation of most projects listed in Table 4-1 is considered in this cumulative analysis. Cumulative Project 3 would not apply to this analysis because allowing on-leash dogs on existing NPS GGNRA trails near the SFVAMC Fort Miley Campus would not result in construction-related or operational consumption of electricity and natural gas. In addition, Cumulative Project 6 would not apply to this analysis because no construction and no net new operational electricity or natural gas consumption would be associated with a change in commercial uses within an existing building.

Construction

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, 8, and 9–12.

Construction activities associated with the identified projects in conjunction with Alternative 1 would not result in a substantial amount of electricity consumption, and no natural gas consumption. Thus, construction of identified projects in conjunction with Alternative 1 would not require or result in the construction of new electricity or natural gas generation or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, no cumulative impact would occur during the construction phase.

Operation

For purposes of this analysis, identified projects from Table 4-1 include Cumulative Projects 1, 2, 4, 5, 7, and 8.

San Francisco’s Green Building Ordinance requires new buildings to reduce their energy consumption, which also helps address the need to accommodate additional energy needs for planned future development. In addition, the VA SSPP requires the SFVAMC to incorporate physical features and operational measures that sustain and improve environmental efficiencies through a sustainable design master plan to achieve a 26.6 percent reduction in GHG emissions, which would result in a decrease in electricity and natural gas consumption. Furthermore, as described in Section 3.14, “Utilities,” the existing system at the SFVAMC Fort Miley Campus is being upgraded through the Electrical Systems Upgrades Project. As a result of the City’s and the SFVAMC’s energy efficiency efforts, the implementation of identified cumulative projects in conjunction with Alternative 1 would not require or result in the construction of new electricity or natural gas generation or transmission facilities or expansion of

existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative impact related to electricity consumption and natural gas consumption during the operational phase of the project.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near-term and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

Water Supply

Construction

The geographic context for analysis of cumulative water supply impacts is the SFPUC service area. The construction of most cumulative projects listed in Table 4-2, except Cumulative Projects 9–16, 19, and 29, may occur concurrently with Alternative 2. Construction activities associated with the identified projects in conjunction with Alternative 2 would not result in a substantial amount of water consumption. Thus, construction of identified projects in conjunction with Alternative 2 would not require or result in the construction of new water distribution infrastructure or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, no cumulative water supply impacts would occur during construction.

Operation

Because the geographic context for analysis of cumulative water supply impacts is the SFPUC service area, water consumption associated with operation of most projects listed in Table 4-2 is considered in this cumulative analysis. As described previously under Alternative 1, as part of its planning for future water supply needs, SFPUC has conducted comprehensive planning studies to assess water demands through the year 2030. SFPUC has adequate supplies to meet the demand for water within its service area through 2030, and is in the process of identifying future supplies and establishing conservation programs to meet demand in the event of a 3-year drought. In addition, San Francisco's Green Building Ordinance requires new buildings to reduce their water consumption, which also helps address the need to accommodate additional water needs for planned future development. Alternative 2 would also involve the implementation of the VA SSPP, including a 26 percent reduction target in potable water use. Because of these water conservation measures and as a result of SFPUC's planning efforts, the implementation of identified projects in conjunction with Alternative 2 would not require or result in the construction of new water treatment facilities, construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative water supply impact.

Wastewater

Construction

The construction of most cumulative projects listed in Table 4-2, except Cumulative Projects 9–16, 19, and 29, may occur concurrently with Alternative 2. Construction activities associated with the identified projects in conjunction with Alternative 2 would not result in a substantial amount of wastewater reaching SFPUC’s combined wastewater/stormwater system. Thus, construction of identified projects in conjunction with Alternative 2 would not require or result in the construction of new combined wastewater/stormwater drainage infrastructure or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, no cumulative wastewater impact would occur during construction.

Operation

Because the geographic context for analysis of cumulative wastewater impacts is the SFPUC service area, wastewater generation associated with operation of most projects listed in Table 4-2 is considered in this cumulative analysis. As discussed under Alternative 1, implementation of SFPUC’s *San Francisco Sewer System Master Plan* and *Sewer System Improvement Plan* would accommodate the need for additional sewer system capacity for planned future development through 2030 by implementing capital improvements. In addition, San Francisco’s Green Building Ordinance requires new buildings to reduce their water consumption, which in turn reduces wastewater generation associated with planned future development.

Alternative 2 would also involve the implementation of the VA SSPP, which would provide guidelines and practices regarding sewer improvements. Implementation of these guidelines would reduce the impact of potentially increasing sewer water loads on the existing infrastructure and its limited capacity. As a result of these planning efforts and conservation features, the implementation of identified projects in conjunction with Alternative 1 would not require or result in the construction of new wastewater treatment facilities, construction of new wastewater facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative impact related to wastewater.

Electricity and Natural Gas

Construction

The geographic context for analysis of cumulative electricity and natural gas impacts is PG&E’s Area 1 (San Francisco, Peninsula) service area. The construction of most cumulative projects listed in Table 4-2, except Cumulative Projects 9–16, 19, and 29, may occur concurrently with Alternative 2. Construction activities associated with the identified projects in conjunction with Alternative 2 would not result in a substantial amount of electricity consumption or any natural gas consumption. Construction of identified cumulative projects in conjunction with Alternative 2 would not require or result in the construction of new electricity or natural gas generation or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, no cumulative impact would occur during the construction phase.

Operation

Because the geographic context for analysis of cumulative electricity and natural gas supply impacts is PG&E's Area 1 (San Francisco, Peninsula) service area, electricity and natural gas consumption associated with operation of most projects listed in Table 4-2 is considered in this cumulative analysis. San Francisco's Green Building Ordinance requires new buildings to reduce their energy consumption, which also helps address the need to accommodate additional energy needs for planned future development. In addition, the VA SSPP requires the SFVAMC to incorporate physical features and operational measures that sustain and improve environmental efficiencies through a sustainable design master plan to achieve a 29.6 percent reduction in GHG emissions, which would result in a decrease in electricity and natural gas consumption. As a result of the City's and SFVAMC's energy efficiency efforts, the implementation of identified projects in conjunction with Alternative 2 would not require or result in the construction of new electricity or natural gas generation or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Thus, there would be a minor cumulative impact related to electricity or natural gas consumption during the operational phase.

4.3.15 Wildlife and Habitat

Alternative 1

The geographic context for the analysis of potential cumulative impacts on biological resources includes Lincoln Park and the GGNRA (the area surrounding the existing SFVAMC Fort Miley Campus and Sutro Heights). This local area is where cumulative projects affect the same geographic area containing the same biological resources. Past, present, and probable future cumulative projects within this geographic context include the *USS San Francisco* Memorial Parking Lot Renovation (GGNRA), the Merrie Way Visitor Center (GGNRA), and the GGNRA General Management Plan (Cumulative Projects 1, 2, and 4) (Table 4-1 and Figure 4-1). The time frame for considering cumulative effects is to buildout (2030).

Vegetation/Habitat Types

Construction

The area of the proposed Visitor Center at Merrie Way and Point Lobos Avenue (Cumulative Project 2) does not involve tree removal or other habitat; thus, no cumulative impact is associated with the construction of that project and Alternative 1.

However, cumulative impacts on trees (i.e., removal) could occur during the various construction activities for the preservation and enhancement of historic structures and landscapes, and the improvement of picnicking and group camping facilities in the GGNRA under the NPS GGNRA General Management Plan (Cumulative Project 4) in conjunction with construction under Alternative 1. Landscape and access improvements to East and West Fort Miley undertaken as part of the GGNRA General Management Plan (Cumulative Project 4) could also result in tree removal. It is assumed that portions of the understory also would be removed during tree removal. Much of the area surrounding the existing SFVAMC Fort Miley Campus is covered with nonnative species. Although Monterey pine and Monterey cypress are native species, they were often planted. Eucalyptus is also found in the GGNRA. The selective removal of trees and associated understory would likely occur throughout the planning

horizon of the GGNRA General Management Plan. According to the GGNRA (2009), the evolving preferred alternative for the Fort Miley and Lands End areas emphasizes protection of natural habitat values, including areas used by migrating birds. Thus, it is assumed that the GGNRA would remove trees their lands with the goal of protecting areas used by migratory birds. Thus, although localized cumulative impacts on migratory birds (and bats) could occur during construction, this would be a minor cumulative impact.

Operation

Operation of the Merrie Way Visitor Center (Cumulative Project 2) would not involve tree removal, because operational activities would consist of facility maintenance activities; thus, no cumulative impact on wildlife or habitat would result from the operation of that project and Alternative 1.

For the most part, the GGNRA cumulative projects would have few operational impacts on vegetation or habitat, because operational activities would consist of maintenance activities similar to current activities. Thus, little to no potential exists for cumulative operational impacts on vegetation or habitat.

Federally Listed Plant Species

Construction

The area of the proposed Visitor Center at Merrie Way and Point Lobos Avenue (Cumulative Project 2) does not have habitat for the federally listed plant species that have the potential to occur in the area: Presidio manzanita, Presidio clarkia, beach layia, and San Francisco lessingia; thus, no cumulative impact would result from construction of that project in conjunction with Alternative 1.

Potential habitat for the Presidio manzanita is located outside of the Alternative 1 footprint, and potential habitat may exist on the lands of the GGNRA surrounding the existing SFVAMC Fort Miley Campus.⁵ Other coastal scrub species (such as Presidio clarkia, beach layia, and San Francisco lessingia) have low potential to occur on GGNRA lands as well. Presidio manzanita and Presidio clarkia occur on serpentine outcrops within coastal scrub. Presidio manzanita is known from only one extant native occurrence in the Presidio, while Presidio clarkia is known from only an introduced population in the Presidio. Beach layia is presumed extirpated. San Francisco lessingia is known from only two populations in the Presidio. Projects proposed under the GGNRA General Management Plan (Cumulative Project 4) may have low potential to affect these species if present. As noted in Section 3.15, "Wildlife and Habitat," Alternative 1 does not have the potential for an adverse impact on federally listed plant species during construction activities. Therefore, no cumulative impact on federally listed plant species would occur during construction.

Operation

Operation of the Merrie Way Visitor Center (Cumulative Project 2) would not affect federally listed plant species, because operational activities would consist of facility maintenance activities; thus, no cumulative impact would result from the operation of that project and Alternative 1.

⁵ Only 0.92 acre of serpentine bluff scrub was mapped within an approximately 60.7-acre Coastal Trail corridor area within the GGNRA lands (May & Associates, Inc., 2005)

For the most part, the GGNRA General Management Plan (Cumulative Project 4) would have few operational impacts on federally listed plant species, because operational activities would consist of maintenance activities similar to current activities. However, Alternative 1 is not anticipated to result in a cumulative impact from project operations. Therefore, no impact on federally listed plants would occur.

Federally Listed Wildlife Species

Construction

The area of the proposed Visitor Center at Merrie Way and Point Lobos Avenue (Cumulative Project 2) does not have habitat for the California red-legged frog; thus, no cumulative impact would result from the construction of that project in conjunction with Alternative 1.

The California Natural Diversity Database notes one occurrence of the California red-legged frog within the Lands End area of the GGNRA. GGNRA General Management Plan projects (Cumulative Project 4) may have the potential to affect this species. As noted in Section 3.15, "Wildlife and Habitat," Alternative 1 does not have a potential for an adverse impact on California red-legged frog during construction activities. Thus, little to no potential exists for cumulative operational impacts on those species during construction.

Operation

Operation of the Merrie Way Visitor Center (Cumulative Project 2) would not affect federally listed wildlife species, because operational activities would consist of facility maintenance activities. Thus, no cumulative impact would result from the operation of that project and Alternative 1.

For the most part, the GGNRA cumulative projects would have few operational impacts on California red-legged frog, because operational activities would consist of maintenance activities similar to current activities. Thus, little to no potential exists for cumulative operational impacts on this species.

Other Species of Special Regional Concern

Construction

The area of the proposed Visitor Center at Merrie Way and Point Lobos Avenue (Cumulative Project 2) does not have habitat for the other species of special regional concern; thus, no cumulative impact would result from the construction of that project in conjunction with Alternative 1.

Potentially adverse effects on other species of special regional concern could occur because of vegetation removal associated with projects under the GGNRA General Management Plan (Cumulative Project 4). These effects could affect nesting birds, monarch butterfly, western red bat, hoary bat, and three plants (Franciscan manzanita, San Francisco Bay spineflower, and Franciscan thistle). Therefore, there would be a potentially adverse cumulative impact on species of regional concern.

Section 3.15, "Wildlife and Habitat," evaluates the impacts of Alternative 1 on these other species and proposed mitigation measures, which would reduce this impact to a minor level. Thus, with implementation of the project measures noted in Section 3.15, Alternative 1 would not contribute considerably to cumulative biological resource

impacts noted above. Therefore, there would be a minor cumulative impact on species of special regional concern during construction.

Operation

Operation of the Merrie Way Visitor Center (Cumulative Project 2) would not affect other species of special regional concern because operational activities would consist of facility maintenance activities; thus, no cumulative impact would be associated with the operation of that project and Alternative 1.

For the most part, the GGNRA General Management Plan (Cumulative Project 4) would have few operational impacts on other species of special regional concern, because operational activities would consist of maintenance activities similar to current activities. Thus, little to no potential exists for cumulative operational impacts on those species.

Habitat Linkages and Corridors

Construction

The area of the proposed Visitor Center at Merrie Way and Point Lobos Avenue (Cumulative Project 2) does not provide habitat linkages or corridors; thus, no cumulative impact would result from the construction of that project in conjunction with Alternative 1.

The GGNRA General Management Plan projects (Cumulative Project 4) may have the potential to disrupt further habitat linkages and corridors by removing vegetation and creating greater access to areas currently not accessible. However, as discussed in Section 3.15, "Wildlife and Habitat," Alternative 1 would have no impact on habitat linkages or corridors. Thus, there would be no cumulative impact on habitat linkage and corridors during construction.

Operation

Operation of the Merrie Way Visitor Center (Cumulative Project 2) would not affect other species of special regional concern, because operational activities would consist of facility maintenance activities; thus, no cumulative impact would result from the operation of that project and Alternative 1.

For the most part, the GGNRA General Management Plan (Cumulative Project 4) would have few operational impacts on linkages or corridors because operational activities would consist of maintenance activities similar to current activities. Thus, little to no potential exists for cumulative operational impacts. Therefore, there would be a minor cumulative operational impact on habitat linkages and corridors.

Alternative 2

The discussion below addresses the cumulative impacts of Alternative 2 long-term projects at the potential new SFVAMC Mission Bay Campus. For the analysis of Alternative 2 near- and long-term project impacts at the existing SFVAMC Fort Miley Campus, see the Alternative 1 discussion above.

The geographic context for the analysis of cumulative biological resources impacts includes the Mission Bay area as shown in Figure 4-2. Past, present, and probable future cumulative projects within this geographic context include the projects listed in Table 4-2 and shown in Figure 4-2. The time frame for considering cumulative effects is to buildout (2030).

Vegetation/Habitat Types

Construction

Because of the area's long history of industrial use, the undeveloped portions of Mission Bay provide no vegetation or habitat. Although 45 cumulative projects are listed in Table 4-2, construction of these projects in conjunction with the construction of a potential new 620,000-square-foot SFVAMC Mission Bay Campus in this area would have no impact on vegetation or habitat.

Operation

Operation of the 45 cumulative projects listed in Table 4-2 would not involve tree removal, because operational activities would consist of facility maintenance activities; thus, no cumulative impact would result from the operation of those projects and Alternative 2.

Federally Listed Plant and Wildlife Species and Other Species of Regional Concern

Construction

Because of the area's long history of industrial use, the undeveloped portions of Mission Bay provide no habitat for federally listed plants, federally listed wildlife species, and other species of special regional concern. Although 45 cumulative projects are listed in Table 4-2, construction of these projects in conjunction with the construction of a potential new 620,000-square-foot SFVAMC Mission Bay Campus in this area under Alternative 2 would have no impact on federally listed plants, federally listed wildlife species, and other species of special regional concern.

Operation

Operation of the 45 cumulative projects listed in Table 4-2 would not affect federally listed plants, federally listed wildlife species, and other species of special regional concern because operational activities would consist of facility maintenance activities; thus, no cumulative impact would result from the operation of those projects and Alternative 2.

Habitat Linkages and Corridors

Construction

Because of the area's long history of industrial use, the undeveloped portions of Mission Bay do not provide habitat linkages or corridors. Although 45 cumulative projects are listed in Table 4-2, construction of these projects in conjunction with the construction of a potential new 620,000-square-foot SFVAMC Mission Bay Campus in this area under Alternative 2 would have no impact on habitat linkages or corridors.

Operation

Operation of the 45 cumulative projects listed in Table 4-2 would not affect habitat linkages or corridors, because operational activities associated with these projects would consist of facility maintenance activities. Thus, no cumulative impact would result from the operation of these projects in conjunction with Alternative 2.

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