

CHAPTER 5.0

Cumulative Projects and Impacts

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5.0 CUMULATIVE PROJECTS AND IMPACTS

1 CEQ regulations implementing NEPA require that the cumulative impacts of a proposed action
2 be assessed (40 C.F.R. Parts 1500-1508). A cumulative impact is an "impact on the environment
3 which results from the incremental impact of the action when added to other past, present, and
4 reasonably foreseeable future actions" (40 C.F.R. § 1508.7). Cumulative impacts can result from
5 individually minor but collectively significant actions taking place over a period of time (40
6 C.F.R. § 1508.7).

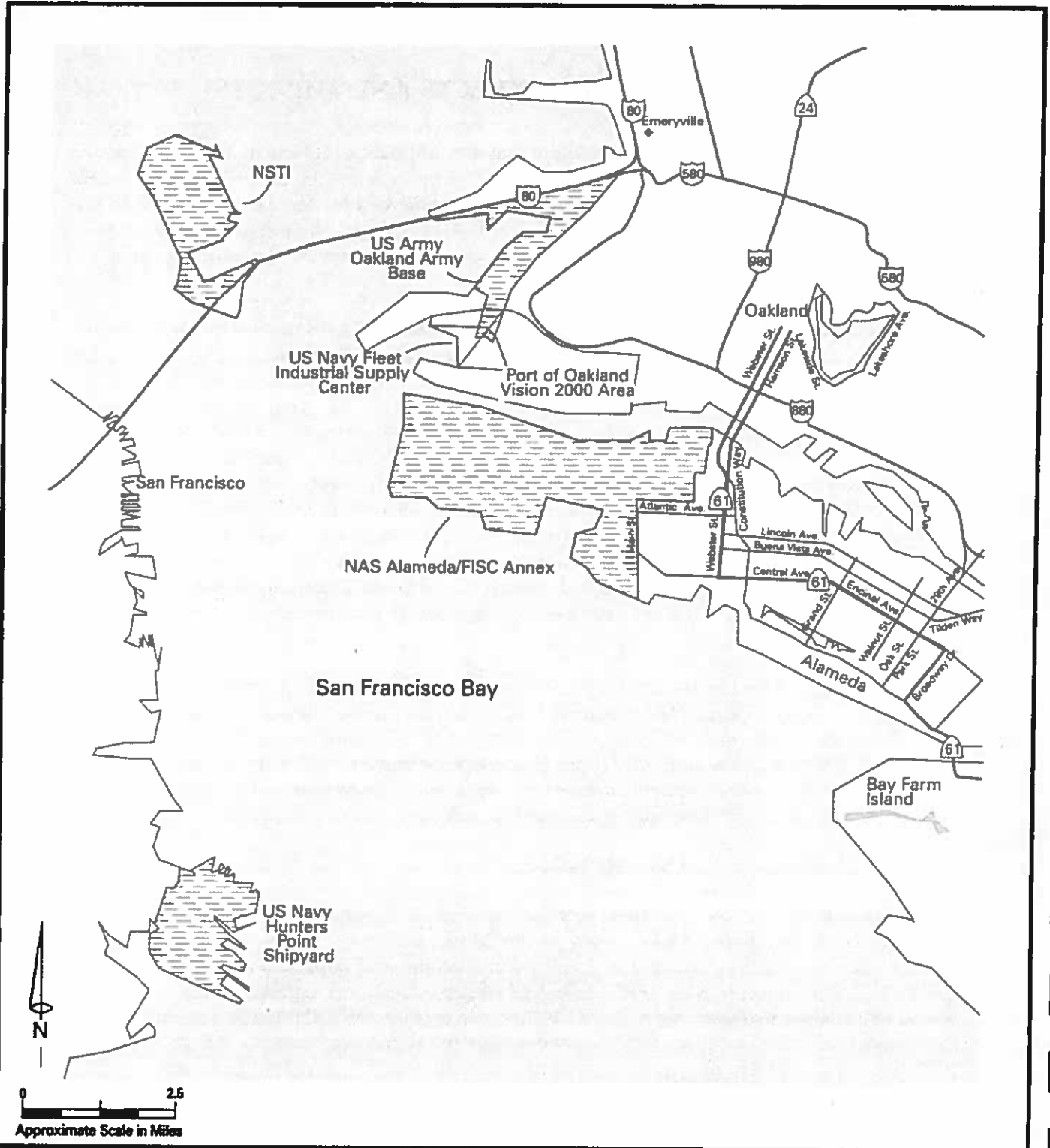
7 CEQ's guidance for considering cumulative effects, states that NEPA documents "should compare
8 the cumulative effects of multiple actions with appropriate national, regional, state, or community
9 goals to determine whether the total effect is significant" (CEQ 1997). In this section, the region of
10 influence for each resource is the same as described in Chapter 4. The area from which potential
11 cumulative projects was drawn is the East and West bays of the San Francisco Bay Area, including
12 Alameda and San Francisco counties. Because NSTI is an island and not immediately adjacent to
13 lands where other projects are likely to occur, the area from which cumulative projects can
14 reasonably be drawn is fairly limited (Alameda County and San Francisco). While it is likely that
15 many other projects may occur in this area (i.e., construction projects, roadway modifications,
16 dredging activities), most such projects would be either too small or too remote to have a
17 meaningful interaction with the proposed action. Cumulative projects considered below are
18 either similar to the proposed action, large enough to have far reaching effects, or in proximity to
19 the proposed action.

20 Other base disposal and reuse activities in Alameda and San Francisco counties are within this
21 area and would be implemented concurrent with the NSTI reuse alternatives. Military bases
22 near NSTI undergoing reuse activities and contributing to the cumulative analysis are shown on
23 Figure 5-1. Other major nonmilitary projects in the more immediate vicinity of the project that
24 could contribute to local cumulative impacts are considered. These nonmilitary projects include
25 replacement of the SFOBB east span and waterfront development in San Francisco.

26 5.1 CUMULATIVE ASSUMPTIONS

27 CEQ's cumulative effects guidance sets out several different methods to determine the
28 significance of cumulative effects, such as checklists, modeling, forecasting, and economic
29 impact assessment where changes in employment, income and population are assessed (CEQ
30 1997). This EIS uses a checklist methodology of resource areas and regional projects within the
31 region of influence to determine cumulative effects on ecosystems and it uses economic analysis
32 and forecasting for determining socioeconomic and infrastructure impacts. *ABAG Projections*
33 *2002* has been used for this cumulative analysis in addition to cumulative impacts analyses
34 reported for other projects in close proximity to NSTI listed in Figure 5-1. *ABAG Projections*
35 *2002* data is presented in section 3.3, Socioeconomics. The cumulative traffic impact analysis
36 was based on the regional MTC transportation model, which included land use forecasts
37 developed by ABAG for year 2010. Year 2010 is a frequently used benchmark established by
38 regional transportation agencies such as the MTC for long-range planning of regional
39 transportation improvements.

40



In addition to NSTI, there are four other Navy bases in the East and West Bay undergoing closure and reuse: NAS Alameda/FISC Annex, Fleet and Industrial Supply Center, Oakland, Oakland Army Base, and Hunters Point Naval Shipyard.

Regional Base Closures and Reuse in the San Francisco Bay Area

Bay Area, California

LEGEND:

 Military Sites Undergoing Civilian Reuse

Figure 5-1

1 5.2 BAY AREA BASE CLOSURES

2 Concurrent ongoing and proposed specific base closures and reuse relatively near NSTI could
3 reasonably contribute to cumulative impacts; these projects are identified in Table 5-1 and their
4 locations are shown on Figure 5-1. A joint Final NEPA/CEQA EIS/EIR was completed for the
5 Fleet and Industrial Supply Center, Oakland (FISCO) in August 1997. A Final EIS/EIR for the
6 Disposal and Reuse of Hunters Point Shipyard in San Francisco was issued in March 2000. A
7 Final EIS for the Naval Air Station (NAS) Alameda/Fleet and Industrial Supply Center (FISC)
8 Annex in Alameda was issued in October 1999. The Draft EIS for the Oakland Army Base was
9 issued in September 1999. Several additional projects have occurred as a result of Bay Area
10 base closure decisions and subsequent property transfer requests. Two of these projects—the
11 Job Corps facility and the US Coast Guard Station expansion—are on Treasure Island and Yerba
12 Buena Island, respectively.

13 Job Corps

14 US Department of Labor uses Buildings 363, 364, 365, and 368 on Treasure Island for its federal
15 Job Corps training facility. US Department of Labor was granted approximately 36 acres (14 ha)
16 of Treasure Island, with improvements thereon, for the continued use of this training facility.
17 The Job Corps trains underprivileged youth to serve local communities. The Job Corps at
18 Treasure Island would provide approximately 300 new jobs and maintain a student enrollment
19 of approximately 850 new students. Approximately 750 new students would reside on
20 Treasure Island but approximately 100 students and all staff are expected to commute (US
21 Department of Labor 1997). Job Corps trainees could provide restaurant service, medical, and
22 technical support services to island uses, employees, visitors, and residents.

23 US Coast Guard

24 The US Coast Guard has been granted approximately 11 acres of dry land (4 ha) on Yerba
25 Buena Island, with improvements thereon, to support its continuing operations. No additional
26 employees or residents are expected as a result of the expansion of the station area. An
27 additional 11 acres (4 ha) of submerged lands was transferred to US Coast Guard in 2002.

28 USFWS Wildlife Refuge

29 As part of the closure of NAS Alameda/FISC Annex, the USFWS was granted 900 acres (362 ha)
30 of dry and submerged land for use as part of the San Francisco Bay National Wildlife Refuge
31 Complex. The refuge provides habitat and nesting for the only substantial colony of California
32 least tern in the San Francisco Bay.

33 5.3 NONMILITARY PROJECTS

34 Two concurrent local nonmilitary developments or plans are considered in this analysis. The
35 first is the seismic upgrade of the SFOBB, including replacing the east span. The second
36 development is implementing the San Francisco Waterfront Land Use Plan. A Final EIR for the
37 Waterfront Land Use Plan was certified in 1996.

38

Table 5-1. Regional Base Closure and Reuse

Project	Proximity to NSTI	Project Size	Historical Uses	Project Description	Completion Date of Planning Document	Projected Project Completion Date	Historical Population	Projected Future Population	Net Population Change
NAS Alameda/FISC Annex	3 to 5 miles	2,842 acres	Military	Reuse property for civilian residential and nonresidential purposes.	October 1999 (Final EIS)	2020	5,736	21,939-28,097	22,361-16,203
FISCO/Port of Oakland, Vision 2000 Program	3 to 5 miles	541 acres of FISC Oakland; additional acres for joint intermodal terminal facility	Port and rail facilities-military and civilian	Change to civilian use and provide major port and rail expansion. Site will become one of the 3 largest port facilities in the western United States.	August 1997 (Final EIS/EUR)	2010	0	0	0
Oakland Army Base	3 to 3.5 miles	422 acres	Military	Currently unknown civilian reuse of base.	September 1999 (Draft EIS)	2010	0	0	0
Hunters Point Naval Shipyard	6 miles	936 acres	Military	Mixed-use	October 1998 (Revised Draft EIS/EUR); March 2000 (Final EIS)	2025	39	1,050-3,900	1,011-3,861

1 SFOBB

2 The SFOBB East Spans Seismic Safety Project involves construction of a new east span and
3 dismantling of the existing east span of the SFOBB. A Final EIS for the SFOBB east span project
4 was published in May 2001 and a ROD was issued on July 11, 2001. Replacement Alternative
5 N-6 with the self-anchored suspension bridge design option was selected as the final
6 replacement alternative (FHWA 2001). The replacement bridge would be located north of the
7 existing east span (see Figure 5-2). This alternative involves constructing a new bridge with two
8 side-by-side decks, each consisting of five lanes. Approximately 1,968 feet (600 m) east of the
9 tunnel on Yerba Buena Island, the alignment would transition from a double-deck viaduct to
10 two parallel structures. The western limit of construction for the selected replacement
11 alternative is the eastern portal of the Yerba Buena Island tunnel; however, the limits of work
12 may extend to the western approach of the west span in San Francisco due to project-related
13 traffic controls and signage. Parts of the Yerba Buena Island east viaduct would be retrofitted,
14 modified, partially demolished, and reconstructed. SFOBB construction is scheduled to be
15 completed in 2007. Most of the reuse improvements on Yerba Buena Island, according to the
16 initial Draft Reuse Plan phasing schedule, is to occur between 2007 and 2011, after the new
17 SFOBB east span is completed. While little or no concurrent construction between the two
18 projects is expected, the effects of constructing the two projects sequentially on Yerba Buena
19 Island may still result in cumulatively significant impacts. Please refer to the EIS for the east
20 spans realignment for discussion of impacts of that project (see [http://www.dot.ca.gov/
21 dist4/sfobb/sfobbfeis.htm](http://www.dot.ca.gov/dist4/sfobb/sfobbfeis.htm)). It is estimated that the project will begin by 2004 and be completed
22 within seven years.

23 San Francisco Waterfront Land Use Plan

24 The San Francisco Waterfront Plan (Waterfront Plan) covers a project area of about 730 acres
25 (296 ha) along approximately 7.5 miles (12 km) of waterfront (April 1996). The overarching goal
26 of the Waterfront Plan is "reuniting the City with its waterfront" through implementation of the
27 Waterfront Plan. Implementing the Waterfront Plan could add as many as 460 persons to the
28 population of San Francisco or less than one percent of the projected city population growth of
29 50,700 in the period 1995 to 2010. As many as 230 new housing units and as many as 6,850 new
30 jobs could be added in the Waterfront Plan project area (San Francisco 1997b). The Waterfront
31 Plan takes into account a number of other projects that are in various stages of development.
32 These projects include:

- 33 • *Mid-Embarcadero Roadway/Terminal Separator Structure:* This project entailed replacing
34 the Embarcadero Freeway with a surface roadway. It was completed in 2000.
- 35 • *Hyde Street Harbor and Pier 45:* This project involved adding berths and constructing
36 support facilities for the fishing community.
- 37 • *Ferry Building Renovation:* The Port is currently restoring the historic Ferry Building,
38 adding retail and offices space.
- 39 • *Downtown Ferry Terminal Improvements:* These improvements would renovate the ferry
40 landings/terminals at Pier ½ and Pier 1.

41

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- 1 • *Cogeneration Facility*: The California Energy Commission has recommended construction
2 of a cogeneration plant.
- 3 • *Rincon Hill Area*: A 450,000 square foot sports and recreation and entertainment facility
4 is being considered for the base of Rincon Hill, South of Market Street.
- 5 • *China Basin Mixed Use Opportunity Area*: The development of the Pacific Bell baseball
6 park for the San Francisco Giants has been completed.
- 7 • *China Basin Channel/Mission Bay*: Development in the Mission Bay and China Basin
8 Channel areas contemplates potential construction of 2000 multi-family residences and
9 up to 400,000 square feet of an urban entertainment retail area. This project is out of the
10 Waterfront Plan area.

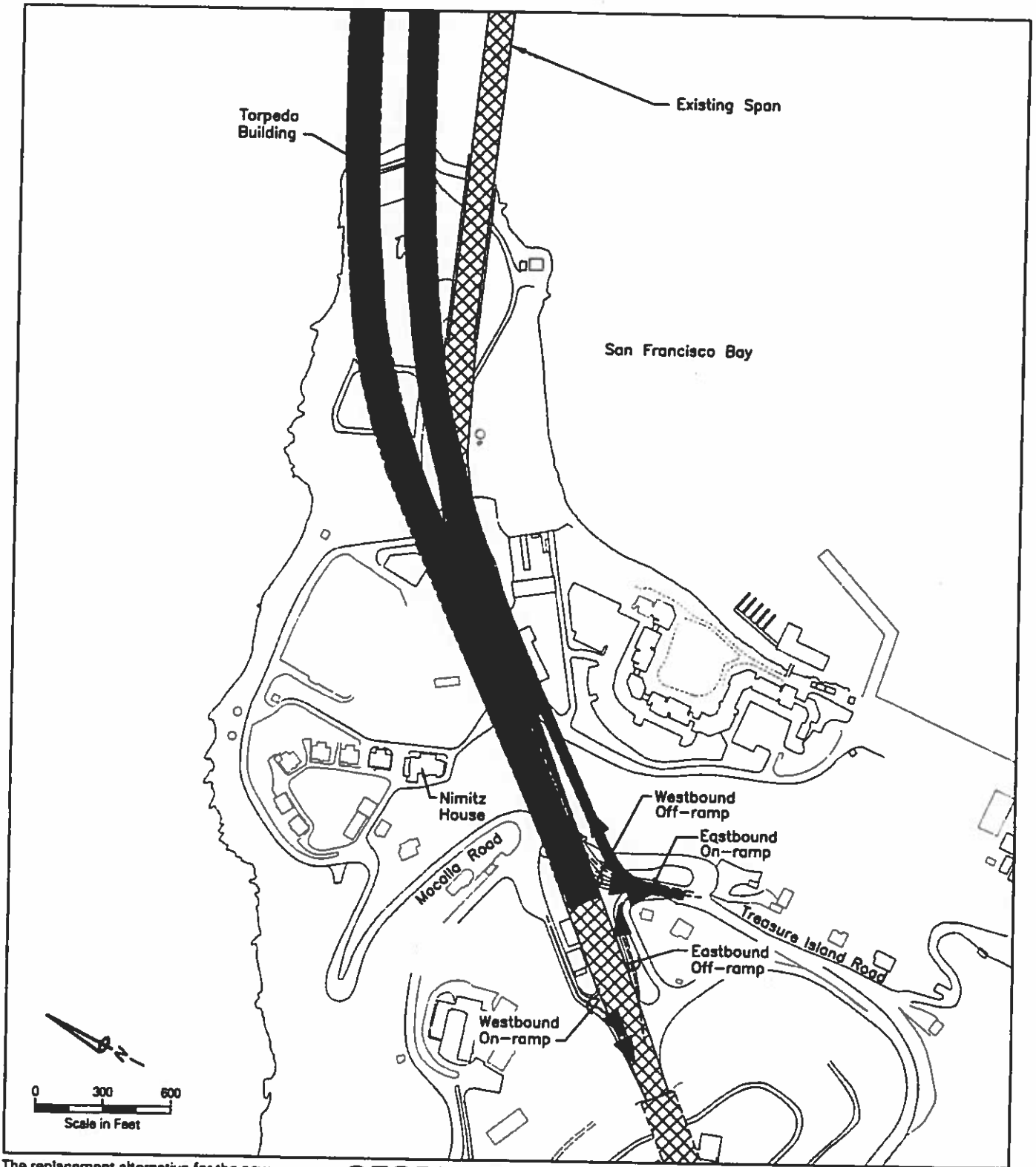
11 5.4 ANALYSIS OF CUMULATIVE IMPACTS

12 The cumulative impacts of these concurrent developments and the Waterfront Plan, as well as
13 the military base closure and reuse projects presented in Table 5-1, are discussed by resource
14 area below. Implementing Navy disposal action, as essentially a transfer of title, would not
15 contribute to any direct cumulative impacts to any of the resources analyzed in this document.
16 Therefore, the discussion of cumulative impacts for each resource does not include further
17 analysis of Navy disposal. Relevant significant and not mitigable, significant and mitigable,
18 and not significant cumulative impacts associated with NSTI reuse are described below.

19 Land Use

20 All three reuse alternatives would result in developing additional urban uses, and all three
21 would entail a significant change in the historic land use of NSTI. The most basic impact is the
22 change from military use to combined residential, public and light industrial. The change in
23 land use is similar in nature to the other base closures in the area, although the reuse
24 alternatives for NSTI have a smaller percentage industrial component. Combined with future
25 regional development, each reuse alternative would contribute to a cumulative increase in
26 urbanization of the area and the region. The increased urbanization process within the region
27 would be required to proceed in accordance with land use plans of the local communities, as
28 each community's General Plan governs all future development within its jurisdictional
29 boundaries. These plans contain policies, implementation measures, and programs designed to
30 ensure that future development would be compatible with existing and planned land uses,
31 would proceed in an orderly fashion, and would contribute to community goals and objectives
32 for land use. After implementation of mitigation to amend the general plans and zoning codes
33 of San Francisco, the inconsistency with local land use plans would be eliminated. Each of the
34 three reuse alternatives would be a component of this region-wide process, and would be
35 implemented in a manner that would not create land use conflicts with existing or future land
36 uses in the area. Therefore, the reuse alternatives' incremental contribution to regional
37 cumulative land use impacts would not be significant.

38 The incremental contribution of implementing the reuse alternatives in combination with
39 reconstructing the SFOBB east span could result in cumulatively significant land use impacts.
40 The selected SFOBB replacement alternative would result in planned land uses for
41



The replacement alternative for the new east span of the SFOBB is north of the existing span. Existing Yerba Buena Island on- and off-ramps are also shown. The redesign of new ramps on Yerba Buena Island is the subject of continuing discussion between Caltrans and the City and County of San Francisco.

SFOBB East Span Seismic Safety Project - Replacement Alternative for New East Span

-  Planned Replacement
-  Existing

Source: Caltrans 1993, 1994

Figure 5-2

1 redevelopment of Yerba Buena Island, in accordance with the Draft Reuse Plan. This is a
2 conceptual plan for NSTI reuse; therefore, the assumption is that the SFOBB construction would
3 not significantly affect implementation of the overall reuse concept on Yerba Buena Island.

4 Construction-generated traffic and noise impacts as a result of reuse activities and SFOBB
5 construction could have adverse localized effects on both the physical desirability and economic
6 viability of land uses on Yerba Buena Island and Treasure Island. For example, construction
7 activities could adversely affect noise-sensitive film industry activities on Treasure Island in
8 Buildings 2 and 3. Planned reuse of Yerba Buena Island would be affected, particularly the
9 planned residential and public development proposed in areas near the new SFOBB alignment
10 and subject to noise and traffic of construction. (Please see the SFOBB east spans realignment
11 EIS at <http://www.dot.ca.gov/dist4/sfobb/sfobbfeis.htm> for a discussion of impacts of the
12 SFOBB project.) These localized cumulative land use impacts, however, would be temporary.
13 In addition, the magnitude of cumulative impact is difficult to predict since it would depend on
14 the timing of construction for reuse and the SFOBB. Separate construction periods for reuse and
15 the SFOBB, as currently planned, would result in a lesser impact at any one time but extended
16 over a longer period, while concurrent construction would result in a greater impact at any one
17 time.

18 Visual Resources

19 The viewsheds of San Francisco Bay consist of a diverse combination of urban development,
20 industrial, military, and natural landscape. In combination with other similar projects, the
21 cumulative visual effect would result in a movement away from a military and industrial theme
22 and toward a mixed use development. Each of the reuse alternatives would result in a change
23 from a military base and associated structures to a mixed-use development. The development
24 would be similar in character to the surrounding development in San Francisco, including reuse
25 of regional Navy bases, converted wharves and warehouses, Ferry terminals and marinas, and
26 would not contribute to significant cumulative effects on visual resources.

27 Development under each of the NSTI reuse alternatives would not substantially alter existing
28 views; however, these changes, in conjunction with replacing the SFOBB, could result in
29 cumulative impacts to the visual character of Yerba Buena Island. The proposed parallel
30 roadway alignment for the SFOBB would result in a much wider bridge footprint and a greater
31 number of support piers (Caltrans and FHWA 2001). The effect of physical changes from reuse
32 and SFOBB construction, as well as changes in shadow and lighting, may substantially alter the
33 visual character of the eastern side of the island from viewpoints on both Treasure and Yerba
34 Buena islands over time.

35 Realignment of the SFOBB east span would also require removing woodland vegetation from
36 Yerba Buena Island, including oak woodland habitat near Macalla Road and eucalyptus groves
37 on the east side of Yerba Buena Island. Future reuse of Yerba Buena Island, which includes
38 reuse in previously developed portions of the island, combined with a new east span structure,
39 could cumulatively alter the visual character of NSTI. According to the SFOBB east spans
40 project EIS, all vegetation removed on Yerba Buena Island would be replanted with native or
41 drought tolerant species (Caltrans and FHWA 2001).

5.0 Cumulative Projects and Impacts

1 Visual impacts from construction activities, such as from construction staging or lighting,
2 would be short-term. These impacts, combined with potential construction impacts from reuse
3 construction, would not be cumulatively significant, following mitigation by project
4 construction requirements.

5 Socioeconomics

6 The three reuse alternatives would contribute to regional employment and population growth.
7 However, housing at NSTI under Alternatives 1 and 3 would be comparable to the projected
8 increase in jobs and therefore would be consistent with San Francisco population and housing
9 growth forecasts. Population and employment increases projected under the three reuse
10 alternatives would be in addition to those provided by the Job Corps (which will add
11 approximately 1,150 trainees and teaching and administrative employees to the local
12 population on Treasure Island). The incremental contribution of NSTI jobs would not have a
13 significant effect on regional housing demand under these two reuse alternatives and would
14 therefore not be cumulatively considerable. While SFOBB construction could temporarily
15 displace occupants of NSTI housing, this impact would be short-term and would not
16 cumulatively add to effects from reuse activities on Yerba Buena Island because these two
17 projects would not be expected to be constructed simultaneously.

18 Under Alternative 2, Treasure Island housing would be eliminated over time. As a result, any
19 employment growth could result in increased long-term housing demand. The need for
20 affordable housing to Bay Area workers is a region-wide policy issue of great importance.
21 However, an imbalance of housing to jobs is not a physical environmental effect, but rather an
22 economic and social issue. The physical impacts of NSTI's housing supply shortfall under
23 Alternative 2 relate primarily to project-induced and cumulative traffic and air quality effects,
24 discussed below.

25 There is a possibility that the uses contemplated for Treasure Island reuse will overlap or
26 compete with proposed developments in the San Francisco waterfront area, such as the Rincon
27 Hill Arena project and proposals for an entertainment retail center in the China Basin/Mission
28 Bay Plan area. However, planning of these entertainment areas will be coordinated by San
29 Francisco and such similar developments are not expected to cause adverse socioeconomic
30 impacts. Similar projects may provide additional jobs to San Francisco residents and any
31 additional housing demand created by Rincon Hill and China Basin entertainment complexes
32 would be covered by potential development of 2,000 multi-family residences in the China Basin
33 project (San Francisco 1997b).

34 Cultural Resources

35 The demolition of historic military properties as part of disposal and reuse of Bay Area Navy
36 installations, including Point Molate, NAS Alameda, Mare Island Naval Shipyard, and Hunters
37 Point Naval Shipyard, could result in a significant cumulative impact to cultural resources.
38 Although transfer of each of these installations has been or will be accompanied by a MOA
39 between Navy and SHPO, as well as other invited signatories, to ensure protection of historic
40 resources, demolition of historic properties may occur at some installations (i.e., Mare Island
41 Naval Shipyard) under certain reuse alternatives. While Alternatives 1 and 3 would preserve
42 historic structures on NSTI and would not contribute to a cumulative impact, Alternative 2

1 would add to the significant cumulative impact through demolition of historic buildings and
2 structures at NSTI.

3 The selected alignment for the SFOBB east span could also adversely affect significant cultural
4 resources on both Navy and non-Navy land on Yerba Buena Island. For example, noise and
5 vibration generated by driving piles and other construction activities, as well as potential
6 interruptions in access and construction staging, could affect historic Yerba Buena Island
7 buildings, such as the Senior Officers Quarters Historic District (see Figure 3-4 in section 3.4).
8 The area east of Quarters 1 may be used for construction staging as part of the SFOBB east span
9 project. Construction activities for the SFOBB would substantially reduce Navy and the reuse
10 entity's ability to maintain these historic properties. Permanent visual, shadow, noise, and
11 vibration effects resulting from construction of the SFOBB alignment also could result in
12 deterioration of historic characteristics of structures on Yerba Buena Island. In addition,
13 physical disturbances, such as possible demolition and adaptation of cultural resources in the
14 area, could result in an irreversible loss of finite resources.

15 Known prehistoric archeological resources are confined to non-Navy land on Yerba Buena
16 Island. Cumulative significant impacts to these resources could occur under all three reuse
17 alternatives in conjunction with the proposed SFOBB east span project if subsurface
18 archeological remains are discovered during reuse implementation (see Figure 3-3 in section
19 3.4).

20 Mitigation for these cumulative impacts would involve prohibiting demolition of significant
21 historic buildings and structures, the adaptive reuse of these properties following the Secretary
22 of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, and
23 the appropriate treatment of historic and prehistoric archeology, should such resources be
24 uncovered. In addition, resources should be documented before destruction in accordance with
25 HABS/HAER standards.

26 Transportation

27 The traffic analysis presented in section 4.5 calculated traffic to be generated by each of the
28 reuse alternatives for NSTI, added it to projected traffic from probable future development,
29 distributed the trips to the transportation network, and then determined the impact. The
30 analysis assumed full build out of the alternatives in year 2010 and 2025. The future conditions
31 in the traffic analysis takes into account both the growth expected at NSTI and the growth
32 forecast for San Francisco and the Bay Area, and is therefore inherently cumulative.

33 Cumulative impacts would occur under the three reuse alternatives related to traffic congestion
34 and an increased demand for parking at ferry terminals that would provide service to and from
35 NSTI. Jack London Square/Alameda Main Street and Golden Gate Fields are outside the San
36 Francisco's jurisdiction. The significance of this cumulative impact at these locations is not
37 known with certainty; it would be a localized impact. Potential specific mitigation measures
38 also cannot be known at this time. Given the lack of specific development projections and the
39 high degree of uncertainty concerning possible effects on the environment, potential cumulative
40 impacts attributable to increased traffic congestion and parking demand at East Bay ferry
41 terminals are considered too speculative to evaluate.

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1 Caltrans has begun construction of a new east span of the SFOBB. The new east span of SFOBB
2 provides for the bridge to use structures separating the double-decked lanes into two parallel
3 structures. The eastbound on-ramp on the east side of the YBI tunnel would be rebuilt to
4 current standards under the SFOBB project; however, the reconstruction and funding for other
5 new ramps on Yerba Buena Island was not included as part of the SFOBB project. Future
6 improvements to the other ramps are possible under a separate project because MTC has made
7 them eligible for future funding in the Regional Transportation Plan. The replacement
8 alternative would maintain existing vehicular capacity and may improve traffic operations, but
9 congestion is unlikely to be effected (Caltrans and FHWA 2001). The SFOBB is projected to be
10 at capacity during peak hours in the future, whether or not reuse occurs. The three reuse
11 alternatives would contribute a small increment to projected traffic volumes, which would be
12 considered cumulatively significant. The contribution to cumulative congestion attributable to
13 the reuse alternatives could be reduced by implementing the TDM measures, proposed ferry
14 services, and transit services identified in section 4.5, Transportation. In addition, a traffic
15 monitoring program was included in the mitigation measure to ensure that additional traffic
16 generated by the proposed action would not negatively impact SFOBB.

17 Construction-related traffic would be noticeable on island roadways and could contribute to
18 localized congestion. Construction of the SFOBB would also require temporary closure of
19 roadways on Yerba Buena Island such as Macalla Road and Southgate Road. The area east of
20 Quarters 1 may be used for construction staging as part of the SFOBB east span project.
21 Cumulative impacts would be reduced to the extent that, as initially planned, the scheduled
22 SFOBB construction and reuse construction activities on Yerba Buena Island would occur at
23 different times. Additional mitigation for this cumulative impact would involve providing
24 alternate routes and regulating on-island roadways with flaggers, particularly along Macalla
25 Road, to ensure there are no conflicts with oversized construction vehicles using these roads.
26 Other measures that could be undertaken include requiring that construction contractors limit
27 the number of vehicles on the islands, provide alternative means of transportation for
28 construction workers, and use car ferries to transport construction workers and materials.
29 Project-specific proposals also should include temporary replacement parking, as necessary.

30 Air Quality

31 The geographic scope of impacts on air quality is the San Francisco Bay Area Air Basin. Falling
32 within the boundaries of the San Francisco Bay Area Air Basin are stationary source emissions
33 within the project boundaries, mobile source emission from people travelling to and from the
34 project site, and power plant emissions from facilities providing power to the project area. All
35 of these affect the concentration of pollutants at locations distant from the site within the basin.
36 Cumulative air quality concerns include potential local carbon monoxide effects due to
37 cumulative traffic congestion and cumulative regional emissions of ozone and PM₁₀ precursors.
38 As indicated in the modeling analysis presented in section 4.6, there is little potential for
39 cumulatively adverse carbon monoxide impacts along the SFOBB, even when traffic volumes
40 reach that facility's capacity limits.

41 Ozone precursor and PM₁₀ precursor emissions associated with NSTI reuse (see Table 4.6-1 in
42 section 4.6) would be added to similar emissions from other sources of regional growth and
43 would contribute to cumulative air pollutant emissions in the Bay Area. Cumulative air quality
44 issues in the San Francisco Bay Area are being addressed through regional air quality plans

1 such as the BAAQMD Bay Area 2001 Ozone Attainment Plan. The projected changes in land use
2 and vehicle travel patterns from the reuse alternatives would not have significant cumulative
3 air quality impacts because projected reuse-generated emissions would not alter existing air
4 quality conditions. Implementing TDM measures discussed in section 4.5, Transportation, can
5 reduce cumulative air quality impacts.

6 NSTI reuse, if undertaken concurrently with the proposed SFOBB east span project, could
7 contribute to significant cumulative construction and demolition air quality impacts from dust
8 and vehicle emissions. The primary emission-generating activities would be new construction,
9 roadway reconstruction, and demolition. This cumulative impact can be mitigated by
10 implementing the dust control measures during construction and demolition activities
11 described in section 4.6, Air Quality.

12 Noise

13 Noise conditions are inherently localized, because noise levels decrease quickly with increasing
14 distance from the noise source. Very few noise sources are audible at distances beyond 2 miles.
15 Cumulative noise effects are limited primarily to local effects of cumulative traffic conditions or
16 combined effects of adjacent development. Isolation from other urban development in the Bay
17 Area limits cumulative noise issues to traffic noise along the SFOBB corridor. The contribution
18 of traffic associated with reuse to this cumulative traffic noise would be inconsequential. The
19 reuse alternatives could, however, introduce new uses to areas near the SFOBB, which could be
20 affected by noise associated with the proposed SFOBB east span project.

21 The EIS for the SFOBB east span project estimates that peak noise levels generated by that
22 project would exceed noise abatement criteria for sensitive land uses but would generally be
23 less than existing traffic noise levels due to use of steel-reinforced concrete and a side-by-side
24 roadway design (rather than stacked decks). Reuse activities in combination with SFOBB
25 construction activities may result in temporary cumulative noise impacts. Reuse construction
26 on Yerba Buena Island is planned to occur following SFOBB construction, which would
27 minimize concurrent cumulative impacts. Cumulative impacts may nevertheless occur as a
28 result of sequential construction noise events. Reuse construction noise would be minimized
29 through limitations on activities, as described in section 4.7. Caltrans will work with the
30 property recipient regarding appropriate noise abatement approaches on Yerba Buena Island to
31 mitigate noise impacts from SFOBB construction (Caltrans and FHWA 2001).

32 Biological Resources

33 NSTI reuse would not combine with other projects to result in cumulatively significant effects
34 on biological resources. Effects on biological resources from reuse of NSTI are limited to
35 disturbance to mudflats and eelgrass habitat at NSTI, dredging for the proposed marina, and
36 potential effects on harbor seals. These NSTI project effects, however, would not incrementally
37 add to effects of other projects to cause significant impacts to wetlands, shoreline, or other
38 marine biological resources.

39 In regard to long-term population growth and secondary impacts on land use and wetlands, the
40 proposed NSTI reuse would not substantially increase urbanization or population pressure in
41 the region of influence and therefore would not contribute to such increases that could cause

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1 alterations of wetland or other sensitive habitats. In regard to the cumulative effects of the
2 reuse of NSTI and those of other Bay Area base closures identified in the region of influence, the
3 disposal and reuse of NAS Alameda/FISC Alameda or the reuse of the Presidio Army Base in
4 San Francisco are expected to have beneficial impacts on marine and biological resources and
5 therefore there would be no significant cumulative adverse effects from the base closures.

6 Implementing either Alternative 1 or 2, in combination with replacing the SFOBB east span,
7 could result in cumulative impacts to mudflat habitat along Yerba Buena Island, including
8 potential impacts to eelgrass beds. Mitigation identified for the reuse alternatives would
9 minimize disturbance to these mudflats. SFOBB replacement would be expected to result in the
10 loss of a small area of eelgrass at the Oakland touchdown. Mitigation proposed for this loss
11 includes a conceptual mitigation plan to replace affected mudflat habitat and eelgrass beds
12 (Caltrans and FHWA 2001). Therefore cumulative impacts from the proposed reuse of NSTI
13 and construction of SFOBB would be minimized and would not be significant.

14 Proposed dredging activity under NSTI reuse could incrementally add to cumulative impacts to
15 marine species and habitats both locally, as a result of the SFOBB east span project, and in other
16 portions of the Bay proposed for dredging, such as the Oakland Inner Harbor as part of the
17 reuse of FISCO. Dredging impacts include the physical modification of benthic habitats and the
18 removal or disturbance of local populations of bottom-dwelling organisms; increased turbidity
19 and the release of contaminants that are contained in the sediments into the water column; and
20 the noise and disturbance caused by dredging operations. Dredged material disposal can have
21 analogous impacts at disposal sites. However, impacts of dredging are generally short-term,
22 limited in area, and mitigable at the source on a project-specific basis through compliance with
23 stringent federal and state regulatory requirements. In addition, cumulative Bay-wide
24 dredging and dredged material disposal impacts, including the small amount of potential
25 dredging at NSTI, are being mitigated through the Bay Area Long Term Management Strategy
26 (LTMS) (COE 2000b). Therefore, the contributions of the reuse alternatives to cumulative
27 impacts to marine species and habitats from dredging would not be significant.

28 Increased boat traffic under Alternatives 1 or 2, in combination with the SFOBB east span
29 replacement (scheduled for completion by 2005) and work at the Richmond-San Rafael Bridge
30 (scheduled for completion by 2004) could result in cumulative impacts to harbor seals at Yerba
31 Buena Island. However, because none of these projects would directly use the haul-out sites
32 during construction activities, the construction phases of these projects would not overlap, and
33 the project activities would be intermittent, cumulative impacts from these projects are not
34 considered to be cumulatively adverse or significant.

35 Geology and Soils

36 NSTI is in an active seismic area subject to periodic earthquakes. Each of the three reuse
37 alternatives, in conjunction with future development at closing Navy bases in the Bay Area and
38 in the region, would expose more persons to earthquake hazards. Other geotechnical
39 constraints, such as liquefaction and lateral spreading, might present hazards in specific areas.
40 In addition, vegetation removal would present potential erosion conditions. Adherence to
41 recommendations contained in site-specific geotechnical reports, building codes, and grading
42 ordinances, and implementation of region-wise erosion control plans would avoid significant

1 cumulative impacts because exposure would not result in risks higher than commonly accepted
2 in northern California.

3 **Water Resources**

4 Possible cumulative impacts from development of structures in coastal areas include impacts to
5 changes in flooding patterns, loss of sand, and loss of near shore areas. Land use and drainage
6 patterns would not be substantially altered and no impacts are expected in these areas. The
7 possible cumulative water resources impacts of NSTI reuse and other projects in the region of
8 influence would be the impacts of dredging and dredge material disposal on the water quality
9 of central San Francisco Bay. Significant cumulative impacts could occur as a result of
10 concurrent dredging activities for NSTI reuse, SFOBB replacement, FISCO reuse, and the Vision
11 2000 program for deepening Oakland Inner Harbor; however, impacts of dredging are
12 generally short-term, limited in area, and mitigable at the source on a project-by-project basis
13 through compliance with applicable regulatory requirements, including the LTMS. The impacts
14 of dredging at NSTI are expected to be consistent with the federal and state established plan for
15 dredged spoils in the San Francisco Bay. Depending on the selected disposal option, dredge
16 material disposal may have cumulatively significant water quality impacts. Compliance with
17 applicable dredge disposal priorities, which favor reusing sediments on land, would minimize
18 this impact to a not significant level.

19 **Utilities**

20 Each of the three reuse alternatives in combination with cumulative regional development
21 would result in increased demand for utilities in San Francisco (potable water and fire
22 protection distribution, wastewater collection and treatment, stormwater collection, electrical
23 and natural gas, telecommunications, and solid waste systems). The increased regional demand
24 could require construction of new and enlarged utility systems and upgrading of existing utility
25 infrastructure. Construction of utility systems and facilities to serve regional growth and
26 development would proceed under the direction of the utility providers. Each of the reuse
27 alternatives would include development of utility systems and facilities that would adequately
28 serve the reuse development without impacting services in the region and therefore would not
29 conflict with general plans of San Francisco or neighboring municipalities. Therefore, there
30 would be no cumulative impact.

31 Realignment of the SFOBB east span, in accordance with the east spans realignment alternative
32 selected by FHWA in its July 11, 2001 ROD, would require demolishing the old east span and
33 would remove a Navy potable water line through which EBMUD provides emergency backup
34 service to NSTI. If this line were not replaced, the site would lose this emergency backup
35 service. This is a significant and mitigable cumulative impact resulting from the SFOBB project.
36 Mitigation would involve replacing the potable water pipeline along the new east span of the
37 SFOBB to provide emergency backup service to Treasure Island and Yerba Buena Island.

38 **Public Services**

39 The three reuse alternatives, in conjunction with other area development on Treasure and Yerba
40 Buena Islands and in the region, would result in a cumulative increase in demand for public
41 services. However, development restrictions would not allow for construction of a reuse

5.0 Cumulative Projects and Impacts

1 alternative until all public services can be provided. Further, reuse of NSTI would not result in
2 the realignment or development of other projects in the region of influence, which may further
3 increase the demand for public services. Therefore, NSTI reuse development under any of the
4 three reuse alternatives would not have an incremental cumulative impact on the ability to
5 provide these services.

6 Hazardous Materials and Waste

7 Similar reuse of contaminated properties (i.e., military base closures) could result in a greater
8 potential for exposure of the public to hazardous substances. Implementing various remedial
9 actions pursuant to CERCLA at each of these sites to remove, manage, or isolate any potentially
10 hazardous substances prior to conveyance would minimize the potential for a significant
11 cumulative impact. Acquiring entities at these installations have been required to comply with
12 Land Use Controls during construction or operations to ensure continued protection of human
13 health and the environment; deeds conveying these properties have, in some cases, contained
14 notices that areas not subject to remediation efforts (such as under foundations) may require
15 additional characterization and possible response actions to appropriate regulatory oversight.

16 Implementation of the three reuse alternatives would result in the use of hazardous materials
17 and the generation of hazardous wastes. Such waste would also be generated by other Navy
18 bases in the Bay Area that are closing, the Job Corps facility on Treasure Island, and possible
19 waterfront development in San Francisco. Future development at NSTI and other installations
20 would be required to comply with all applicable federal, state, and local regulations governing
21 the use, storage, transfer, and disposal of hazardous materials, as well as the measures stated
22 above. Therefore, development at NSTI under any of the three reuse alternatives would not
23 incrementally contribute to a cumulative impact from hazardous materials or waste. In
24 addition, while remediation at NSTI and other Bay Area Navy bases being conducted in
25 accordance with CERCLA is not subject to NEPA, it would nevertheless have a beneficial
26 impact on the region's environment.

27

CHAPTER 6.0

Other Considerations Required by NEPA

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