Chapter 6
Comparison of Alternatives

CHAPTER SUMMARY

This chapter ranks the project alternatives as compared to the proposed Project under CEQA and the NEPA baseline under NEPA. Chapter 6, Comparison of Alternatives, provides the following:

- a summary of the alternatives;
- identification of the significant and unavoidable impacts, impacts that are less than significant with mitigation, and impacts that are less than significant but further reduced with standard conditions of approval for project-level impacts (not cumulative effects); and
- identification of the environmentally preferred and environmentally superior alternatives.

Key Points of Chapter 6:

As discussed in Chapter 3 and summarized in this chapter, the proposed Project and all alternatives would have significant unavoidable impacts in the areas of air quality and meteorology, biological resources, and GHG emissions under CEQA. Under NEPA, the proposed Project and Alternative 3 would have significant unavoidable impacts in the areas of air quality and meteorology and biological resources. Because Alternatives 1 and 2 would involve little or no construction and do not increase the operational throughput capacity of the terminal, impacts under these alternatives would be less severe than those for the proposed Project. However, Alternatives 1 and 2 would not meet the project objectives. Alternative 3 would involve less construction than the proposed Project but would result in the same operational throughput capacity as the proposed Project and would achieve that throughput level less efficiently, requiring more annual vessel calls than the proposed Project. Additionally, Alternative 3 would not fully meet the project objectives.

6.1 Introduction

This chapter presents a comparison of alternatives to the proposed Project. Various alternatives were considered during the preparation of this Draft EIS/EIR. NEPA and CEQA require that an EIS and EIR present a reasonable range of feasible alternatives to the proposed Project. Under NEPA, an EIS must devote "substantial treatment" to each alternative considered in detail, including the proposed Project, so that reviewers are able to evaluate comparative merits (40 CFR 1502.14(b)). Section 15126.6 of the CEQA Guidelines (Consideration and Discussion of Alternatives to the Proposed Project) states, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

Accordingly, the proposed Project and three alternatives (summarized below in Table 6-1) have been analyzed co-equally in this Draft EIS/EIR to provide sufficient information and meaningful detail about the environmental effects of each alternative so that informed decision-making can occur. The three alternatives that were carried through the impact analysis in Chapter 3 are as follows:

- Alternative 1 – No Project
- Alternative 2 – No Federal Action
- Alternative 3 – Reduced Project: Improve Berths 217–220 Only

The project alternatives that were considered but eliminated from further analysis, as described in Section 2.9.2, are as follows:

- Reduced Project: Improve Berths 214–216 Only
- Reduced Project: 12 Operational Cranes
- Proposed Project with Expanded Use of On-Dock Rail

Table 6-1: Summary of Proposed Project and Alternatives at Full Buildout (2026)[a]

Alternative	Annual TEUs (in millions)	Annual Ship Calls	Cranes[b]	Total Dredging (cy)
Proposed Project	1,913,000	206	14	27,000
Alternative 1 – No Project	1,692,000	206	10	0
Alternative 2 – No Federal Action	1,692,000	206	10	0
Alternative 3 – Reduced Project: Improve Berths 217–220 Only	1,913,000	232	14	6,000

[a] This table summarizes the major features of the proposed Project and alternatives.
[b] Represents operating cranes.

6.2 CEQA Evaluation of Alternatives

6.2.1 CEQA Requirements

CEQA requirements for an EIR to evaluate alternatives are described fully in Section 1.6.7. Briefly, Section 15126.6 of the CEQA Guidelines requires that an EIR present a range of reasonable alternatives to a proposed project, or to the location of a project, that could feasibly attain most of the basic project objectives, but would avoid or substantially lessen any significant effects of the project. Section 15126.6 also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that are infeasible, as described in Section 2.8 (Chapter 2, Project Description).

6.2.2 CEQA Alternatives Comparison

Table 6-2 presents the proposed Project and the alternatives and identifies the resource areas where the proposed Project or alternative would result in an unavoidable significant impacts under CEQA, as discussed for the resources analyzed in Chapter 3. Table 6-2 also includes the resource areas that would have significant impacts that can be mitigated to less-than-significant levels. Detailed discussions of the resources with unavoidable significant impacts and significant impacts that can be further reduced through incorporation of mitigation measures are provided in Section 6.4.1 and 6.4.2, respectively.

As shown in Table 6-2, the proposed Project and all alternatives would have significant unavoidable impacts in the areas of air quality and meteorology, biological resources, and GHG emissions. Table 6-3 compares the impacts of the alternatives with those of the proposed Project.

Table 6-2: Summary of CEQA Significance Analysis by Alternative

		Alternative		
Environmental Resource Area	Proposed Project	1	2	3
Air Quality and Meteorology	S	S	S	S
Biological Resources	S	S	S	S
Greenhouse Gas Emissions	S	S	S	S
Groundwater and Soils	M	N	M	M
Noise	M	L	L	L

Notes:
The analysis includes project-level impacts, not cumulative effects.
S = Unavoidable significant impacts
M = Significant but mitigable impact
L = Less than significant impact (not significant)
N = No impact

Table 6-3: Comparison of Alternatives to the Proposed Project

	Alternative[b]		
Environmental Resource Area[a]	1	2	3
Air Quality and Meteorology	-2	-2	+1
Biological Resources	-1	-1	+1
Greenhouse Gas Emissions	-2	-2	+1
Groundwater and Soils	-2	0	0
Noise	-2	-2	-1
Total	**-9**	**-7**	**+2**

Notes:

[a] Only environmental resources with unavoidable significant impacts or significant but mitigable impacts under the proposed Project are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts but not cumulative effects.

[b] Alternatives eliminated from further consideration are not included.

The numbering system below indicates that the impacts, when compared to the proposed Project, are considered to be:

(-2) = Substantially less
(-1) = Somewhat less
(0) = Equal to
(+1) = Somewhat greater
(+2) = Substantially greater

Based on the comparison of the alternatives in Table 6-3 above, Alternative 1 would have the fewest impacts relative to the proposed Project under CEQA, followed by Alternative 2. Alternative 3 would have greater impacts relative to the proposed Project under CEQA. The ranking is based on the significance determinations for the resource areas contained in Table 6-2, as discussed in Chapter 3, and reflects differences in the levels of impacts among alternatives. This ranking also takes into consideration the relative number of significant impacts that would be mitigated to a level below significance, and the number of impacts that would remain significant after mitigation.

For air quality and meteorology, impacts were determined to be significant and unavoidable under the proposed Project and all three alternatives. The significant unavoidable impacts would be related to emissions during construction and operations and health risks associated with proposed project operations. The comparison of impacts in Table 6-3 reflects the amount of construction and operational increases, as well as a mix of operational activities, such as the use of trucks and rail, and number of workers associated with each alternative relative to the proposed Project. Alternative 3 is ranked worse than the proposed Project because while construction impacts would be lower for Alternative 3, it would result in higher overall air and GHG emissions for long-term operations from study year 2020 and beyond. The proposed Project and Alternative 3 would have the same throughput; however, emissions would be higher under Alternative 3 due to a higher number of ship calls required to move the same amount of cargo. Construction and operations emissions would be substantially lower under Alternatives 1 and 2 when compared to the proposed Project.

For biological resources, the significant unavoidable impacts would be related to the potential introduction of invasive species via vessel hulls and ballast water that could disrupt local biological communities. The comparison in Table 6-3 reflects the annual

ship calls associated with each alternative relative to the proposed Project. Alternative 3 would have the most annual ship calls, at 232, and the proposed Project and Alternatives 1 and 2 would have the same amount (206 annual ship calls). Thus, Alternative 3 would result in greater potential for introduction of invasive species during operations. Additionally, construction associated with pile driving for the proposed Project and Alternative 3 would have significant but mitigable impacts, while Alternatives 1 and 2 would have no pile driving impacts to biological resources. Thus, the ranking in Table 6-3 reflects the fewer construction impacts associated with Alternatives 1 and 2 relative to the proposed Project.

For GHG emissions, impacts were determined to be significant and unavoidable under the proposed Project and all three alternatives. The comparison in Table 6-3 reflects the amount of construction and operational increases, as well as a mix of operational activities, such as the use of trucks and rail, and number of workers associated with each alternative relative to the proposed Project. While the proposed Project would have the highest amount of GHG emissions during construction, Alternative 3 is ranked the worst of the alternatives because post-construction GHG emissions would be the highest due to the increased number of vessel calls required to reach the same terminal throughput capacity as the proposed Project. Construction and operations GHG emissions would be substantially lower under Alternatives 1 and 2.

For groundwater and soils, the proposed Project and Alternatives 2 and 3 were determined to result in less-than-significant impacts with the incorporation of mitigation measures. However, the potential for impacts was mostly related to the potential to expose people to toxic substances as a result of grading, excavation, and other construction-related activities that could disturb or expose contaminated soils. Because no backland improvements would occur under Alternative 1, the comparison of impacts in Table 6-3 shows that Alternative 1 would have substantially less of an impact. Backland improvements would occur under Alternatives 2 and 3, similar to the proposed Project. As such, the potential for groundwater and soils impacts under Alternatives 2 and 3 would be equal to those for the proposed Project.

For noise under the proposed Project, the significant impact reduced to a less-than-significant level with incorporation of mitigation is related to temporary noise impacts associated with pile driving. The ranking in Table 6-3 reflects the amount of construction, including pile driving, associated with each alternative relative to the proposed Project. As shown, the proposed Project would have the greatest noise impact, followed by Alternative 3, which would have some pile driving but less than the proposed Project. Alternatives 1 and 2 would not have any pile driving activities, and both are considered to have substantially less impact related to construction noise.

6.3 NEPA Evaluation of Alternatives

6.3.1 NEPA Requirements

NEPA requirements for an EIR to evaluate alternatives are described fully in Chapter 1, Section 1.5.7. In brief, NEPA (40 CFR section 1502.14(a)) requires an EIS to describe a reasonable range of feasible alternatives to a project or to the locations for a project that

could feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant environmental impacts.

In addition, and in accordance with USACE general policies for evaluating permit applications, USACE's decision to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest (33 CFR 320.4(a)). Evaluation of the probable impact that the proposed activity may have on the public interest requires weighing all those factors that become relevant in each particular case. The benefits that reasonably may be expected must be balanced against the reasonably foreseeable detriments. The following criteria are considered by USACE in the evaluation of every permit application:

- The relative extent of the public and private need for the proposed structure or work;
- Where there are unsolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- The extent and permanence of the beneficial and/or detrimental effects that the proposed structure or work is likely to have on the public and private uses to which the area is suited.

USACE also follows special procedures for implementing Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (33 CFR 324.4). Applications for permits for the transportation of dredged material for the purpose of dumping it in ocean waters will be evaluated to determine whether the proposed dumping would unreasonably degrade or endanger human health, welfare, amenities, the marine environment, ecological systems, or economic potentialities. USACE will apply the criteria established by the Administrator of EPA pursuant to Section 102 of the MPRSA in making this evaluation (49 CFR 220–229).

6.3.2 NEPA Alternatives Comparison

Table 6-4 presents a summary of the results of the NEPA significance determinations for resource area and identifies the alternatives that would result in unavoidable significant impacts under NEPA, as discussed in Chapter 3 (the analysis includes project-level impacts, not cumulative effects). However, because NEPA does not require analysis of the CEQA No Project Alternative, which would not involve a federal action, no NEPA analysis is performed for Alternative 1. Alternative 2 is the No Federal Action Alternative, which represents the activities that would occur without federal actions/approvals (i.e., only backlands improvements); therefore, Alternative 2 is included in Table 6-4. Alternative 2 is the same as the NEPA baseline for the proposed Project and, as such, no NEPA impacts would occur under Alternative 2.

A discussion of the resources with unavoidable significant impacts, significant impacts that can be mitigated to less-than-significant levels, and less than significant impacts that can be further reduced is provided in Section 6.4.1, Section 6.4.2, and Section 6.4.3, respectively.

Table 6-4: Summary of NEPA Significance Analysis by Alternative

		Alternative[b]		
Environmental Resource Area[a]	Proposed Project	1	2	3
Air Quality and Meteorology	S	N/A	N	S
Biological Resources	S	N/A	N	S
Groundwater and Soils	M	N/A	N	M
Noise	M	N/A	N	L

Notes:

[a] Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts but not cumulative effects.

[b] Alternatives eliminated from further consideration are not included.

S = Unavoidable significant impacts

M = Significant but mitigable impact

L = Less than significant impact (not significant)

N = No impact

Table 6-5 presents a summary of the impact evaluation of the alternatives compared to the NEPA baseline. Based on the comparison of the alternatives in Table 6-5 above, Alternative 3 would have greater impacts than the proposed Project under NEPA when compared to the NEPA Baseline. Alternative 1 is not applicable under NEPA, and Alternative 2 is equivalent to the NEPA Baseline. The ranking of alternatives is based on the impact determinations under NEPA for the resources where significant unavoidable or mitigable impacts would occur, as discussed in Chapter 3, and ranking reflects differences between the levels of impact among alternatives.

Table 6-5. Comparison of Alternatives[a] to the NEPA Baseline

		Alternative		
Environmental Resource Area	Proposed Project	1	2	3
Air Quality and Meteorology	+2	N/A	0	+2
Biological Resources	+1	N/A	0	+2
Groundwater and Soils	0	N/A	0	0
Noise	+2	N/A	0	+1
Total	+5	**N/A**	**0**	+**5**

Notes:

[a] Alternatives eliminated from further consideration are not included.

The numbering system below indicates that the impacts, when compared to the NEPA baseline, are considered to be:

(-2) = Substantially less

(-1) = Somewhat less

(0) = Equal to

(+1) = Somewhat greater

(+2) = Substantially greater

For air quality and meteorology, significant unavoidable impacts would be related to emissions during construction and operations and to health risks associated with proposed project operations. The comparison in Table 6-5 reflects the amount of construction and operational increases, as well as a mix of operational activities, such as the use of trucks and rail, and number of workers associated with each alternative relative to the NEPA

baseline. While the proposed Project and Alternative 3 would have slightly different construction and operations air quality emissions, when compared to the NEPA baseline, both are considered to be substantially greater than the NEPA Baseline. The proposed Project and Alternative 3 would have the same throughput; however, emissions would be higher under Alternative 3 due to a higher number of ship calls required to move the same amount of cargo.

For biological resources, a significant and unavoidable impact would be related to the potential introduction of invasive species to Harbor waters from foreign vessels for the proposed Project and Alternative 3. The comparison in Table 6-5 ranks Alternative 3 substantially worse than the NEPA baseline because annual ship calls under Alternative 3 are estimated at 232 annual vessel calls, which is substantially more than the 206 calls under the NEPA baseline. Ship calls under the proposed Project would be equal to the NEPA baseline as reflected in the comparison in Table 6-5. However, construction associated with pile driving for the proposed Project and Alternative 3 would have significant but mitigable impacts, while Alternative 2 would have no pile driving impacts to biological resources. The proposed Project would have greater pile driving impacts than the NEPA baseline and Alternative 3. Thus, the comparison in Table 6-5 reflects somewhat greater impacts than the NEPA baseline for the proposed Project, and Alternative 3 would have substantially greater impacts than the NEPA baseline from the combined construction and operational impacts.

For groundwater and soils, impacts related to the potential to expose people to toxic substances as a result of grading, excavation, and other construction-related activities that could disturb or expose contaminated soils were identified under the proposed Project and Alternatives 2 and 3 because all three scenarios would result in backland improvements. Table 6-5 indicates that both the proposed Project and Alternatives 2 and 3 would include the same backland improvements and that their potential for significant impacts would be equal to the NEPA baseline.

For noise under the proposed Project, the significant impact reduced to a less-than-significant level with incorporation of mitigation is related to temporary noise impacts associated with pile driving. The ranking in Table 6-5 reflects the amount of construction, including pile driving, associated with each alternative relative to the NEPA baseline. As shown, the proposed Project would have the greatest noise impact, followed by Alternative 3, which would have a less-than-significant impact related to pile driving. Alternatives 1 and 2 do not involve pile driving.

6.4 Analysis of Impacts of Alternatives

Chapter 3 identifies significant impacts associated with each of the alternatives for each of the 15 environmental resource areas analyzed in this Draft EIS/EIR. Three of the environmental resources evaluated (air quality and meteorology, biological resources, and GHG emissions) would have unavoidable significant impacts for at least one alternative. One of the environmental resources evaluated (groundwater and soils) would have significant impacts that could be mitigated to a less-than-significant level for the proposed Project and Alternatives 2 and 3 under CEQA (Alternative 1 under CEQA does not required mitigation). One of the environmental resources evaluated (noise) would have significant impacts for the proposed Project only that could be mitigated to a less-than-significant level. The remaining environmental resources were determined to have a

less-than-significant impact or no impact on the environment. The discussion below describes the significant and unavoidable impacts (Section 6.4.1) and significant impacts reduced to less-than-significant levels with incorporation of mitigation (Section 6.4.2).

6.4.1 Resources with Significant Unavoidable Impacts

Tables 6-2 and 6-4 identify the alternatives that would result in unavoidable and mitigable significant impacts to the various resource areas, as discussed in Chapter 3. This information is taken from summary tables included at the conclusion of each of the 15 environmental resource sections in Chapter 3.

6.4.1.1 Air Quality and Meteorology

The proposed Project and Alternatives 1 through 3 would have significant impacts on air quality under CEQA, while the proposed Project and Alternative 3 would have significant impacts on air quality under NEPA. As discussed further below, the following significant unavoidable impacts would occur:

- Construction-related emissions would exceed an SCAQMD threshold of significance (Impact AQ-1).
- Construction would result in offsite ambient air pollution concentrations that exceed an SCAQMD threshold of significance (Impact AQ-2).
- Operational emissions would exceed 10 tons per year of VOCs or an SCAQMD threshold of significance (Impact AQ-3).
- Operations would result in offsite ambient air pollutant concentrations that exceed an SCAQMD threshold of significance (Impact AQ-4).
- Sensitive receptors would be exposed to significant levels of TACs (Impact AQ-7).

Construction of the proposed Project and Alternatives 2 and 3 under CEQA and the proposed Project and Alternative 3 under NEPA would result in peak daily construction emissions and overlapping construction and operations that would exceed an SCAQMD threshold of significance (Impact AQ-1). As discussed in Section 3.2, Air Quality and Meteorology, the proposed Project and Alternative 3 would exceed thresholds for five pollutants (VOC, CO, NO_X, $PM_{2.5}$, and PM_{10}) under CEQA and for four pollutants (VOC, CO, NO_X, and $PM_{2.5}$) under NEPA. Alternative 2 would exceed thresholds for two pollutants (VOC and NO_X) under CEQA. Implementation of mitigation measures MM AQ-1 through MM AQ-8 would reduce all identified impacts for $PM_{2.5}$ and PM_{10} (mitigation is not applicable to Alternative 1); however, impacts would remain significant and unavoidable for the proposed Project and Alternatives 2 and 3 under CEQA and the proposed Project and Alternative 3 under NEPA. Alternative 2 would have lower construction emissions than the proposed Project and Alternative 3 because it would involve less construction (only backland improvements). Alternative 3 would have less construction than the proposed Project (deepening only one berth as opposed to two berths) and thus would have lower emissions.

Construction and overlap of construction and operations associated with the proposed Project and Alternatives 2 and 3 under CEQA and the proposed Project and Alternative 3 under NEPA would result in offsite ambient air pollutant concentrations that exceed an SCAQMD threshold of significance (Impact AQ-2). As shown in Section 3.2, Air

Quality and Meteorology, the proposed Project and Alternative 3 would exceed threshold concentrations for three pollutants (NO_2, PM_{10}, and $PM_{2.5}$) under CEQA and NEPA. Alternative 2 would exceed threshold concentrations for two pollutants (NO_2 and PM_{10}) under CEQA only. Implementation of mitigation measures MM AQ-1 through MM AQ-8 would reduce impacts for $PM_{2.5}$ under the proposed Project and Alternative 3 (mitigation is not applicable to Alternative 1); however, impacts would remain significant and unavoidable for the proposed Project and Alternatives 2 and 3 under CEQA and the proposed Project and Alternative 3 under NEPA. Alternative 2 would have lower construction emissions than the proposed Project and Alternative 3 because it would involve less construction (only backland improvements). Alternative 3 would have less construction than the proposed Project (deepening only one berth as opposed to two berths) and thus would have lower emissions.

Operation of the proposed Project and Alternatives 1 through 3 under CEQA and the proposed Project and Alternative 3 under NEPA would exceed 10 tons per year of VOCs or an SCAQMD threshold of significance (Impact AQ-3). Under CEQA, the unmitigated peak daily emissions would exceed SCAQMD thresholds under the proposed Project and Alternative 3 for NO_X, CO, and VOCs. Under NEPA, unmitigated peak daily emissions would exceed SCAQMD thresholds for four pollutants (NO_X, CO, VOC, and $PM_{2.5}$) under Alternative 3 and for two pollutants under the proposed Project (NO_X and VOC). Implementation of mitigation measures MM AQ-9 through MM AQ-10 would reduce impacts; however, impacts would remain significant and unavoidable for the proposed Project and Alternatives 1 and 2 under CEQA and the proposed Project and Alternative 3 for NO_X and VOC under NEPA (mitigation is not applicable to Alternative 1). Impacts on CO and $PM_{2.5}$ would be reduced to less-than-significant levels under the NEPA analysis for Alternative 3. Alternatives 1 and 2 would have lower emissions than Alternative 3 and the proposed Project because they would have lower cargo throughput. The proposed Project and Alternative 3 would have the same throughput; however, emissions would be higher under Alternative 3 due to a higher number of ship calls required to move the same amount of cargo.

Operation of the proposed Project and Alternatives 1 through 3 under CEQA and the proposed Project and Alternative 3 under NEPA would result in offsite ambient air pollutant concentrations that exceed an SCAQMD threshold of significant (Impact AQ-4). Under CEQA, maximum offsite ambient pollutant concentrations would be significant for NO_2 and PM_{10} for the proposed Project and Alternatives 1 through 3. Under NEPA, maximum offsite ambient pollutant concentrations would be significant for NO_2 and PM_{10} for the proposed Project and Alternative 3. Implementation of mitigation measures MM AQ-9 through MM AQ-10 would reduce impacts (mitigation is not applicable to Alternative 1); however, they would remain significant and unavoidable for the proposed Project and Alternatives 1 through 3 under CEQA and the proposed Project and Alternative 3 under NEPA. Alternatives 1 and 2 would have lower emissions than Alternative 3 and the proposed Project because they would have lower cargo throughput. The proposed Project and Alternative 3 would have similar cargo throughput; however, emissions would be higher under Alternative 3 because a higher number of ship calls would be required to move the same amount of cargo.

Operation of the proposed Project and Alternatives 1 through 3 under CEQA would expose sensitive receptors to significant levels of TACs (Impact AQ-7). No impacts were identified under NEPA for the proposed Project or any alternatives. Under CEQA, the cancer risk (future) would be significant for marina residential receptors under the

proposed Project and Alternatives 1 through 3, and the acute hazard index CEQA increment and NEPA increment would be less than significant at residential receptors and occupational receptors for the proposed Project and all alternatives under CEQA and NEPA. Implementation of mitigation measures MM AQ-1 through MM AQ-10 would reduce impacts; however, the baseline cancer risk and future cancer risk would be significant and unavoidable for marina residents and occupational receptors under the proposed Project and Alternatives 1 through 3 under CEQA (mitigation is not applicable to Alternative 1).

6.4.1.2 Biological Resources

The proposed Project and Alternatives 1 through 3 would have significant impacts on biological resources under CEQA, while the proposed Project and Alternative 3 would have significant impacts on biological resources under NEPA. Significant unavoidable impacts would be the result of the possible introduction of nonnative species into the Harbor that could disrupt local biological communities (Impact BIO-5).

This could occur through discharge of ballast water or by transport on vessel hulls. Although unlikely, the potential for the introduction of exotic species via ballast discharge or vessel hulls would be increased in proportion to the increase in number of vessels. Therefore, the potential for the introduction of invasive species represents a significant, unavoidable impact under CEQA for the proposed Project and Alternatives 1 through 3, and for the proposed Project and Alternative 3 under NEPA. Alternatives 1 and 2 would have less cargo throughput than the proposed Project; however, Alternatives 1 and 2 and the proposed Project would have the same number of ship calls and thus the same probability of introduction of invasive species. Alternative 3 would have a higher number of vessel calls than the proposed Project and Alternatives 1 and 2 and therefore a higher probability of introducing invasive species.

Additionally, construction associated with pile driving for the proposed Project and Alternative 3 would have significant but mitigable impacts under both CEQA and NEPA, while Alternatives 1 and 2 would have no pile driving impacts on biological resources. The proposed Project would have greater pile driving impacts than Alternative 3. Implementation of Mitigation Measure MM BIO-1, which requires avoidance of marine mammals, would reduce impacts to less-than-significant levels under both CEQA and NEPA.

6.4.1.3 Greenhouse Gas Emissions

The proposed Project and Alternatives 1 through 3 would have significant impacts on GHG emissions under CEQA only, as GHG impact determinations are not made under NEPA. Significant unavoidable impacts would be the result of the generation of GHG emissions that would exceed SCAQMD thresholds for CO_2e (Impact GHG-1).

Total construction and annual operation CO_2e emissions would exceed the GHG threshold of 10,000 mty in all analysis years under the proposed Project and Alternatives 1 through 3. Mitigation measures MM AQ-1, MM AQ-5, MM AQ-9, and MM AQ-10 and MM GHG-1 through MM GHG-3 would reduce GHG emissions for the proposed Project and Alternatives 2 and 3 (mitigation is not applicable to Alternative 1); however, impacts would remain significant and unavoidable under the proposed Project and Alternatives 1 through 3 under CEQA. No impact determination regarding GHG

emissions is made under NEPA. Alternatives 1 and 2 would have lower CO_2e emission than Alternative 3 because they would have lower cargo throughput and annual vessel calls, and would involve less construction. While the proposed Project and Alternative 3 would have the same amount of throughput, Alternative 3 would have greater CO_2e emissions than the proposed Project due to more annual vessel calls.

6.4.2 Resources with Significant Impacts That Can be Mitigated to Less-than-Significant Levels

6.4.2.1 Groundwater and Soils

Construction of the proposed Project and Alternatives 2 and 3 would potentially uncover contaminated toxic materials or soils (Impact GW-1) under CEQA, as would the proposed Project and Alternative 3 under NEPA; however, this would be less than significant with implementation of mitigation measures MM GW-1 and MM GW-2 under CEQA and NEPA. Alternative 1 would result in no impact under CEQA and is not applicable to NEPA.

6.4.2.2 Noise

Only the proposed Project would result in a significant noise impact from pile driving, which would increase average ambient noise levels at the nearby live-aboard boat area by 6 dB over existing levels under CEQA and NEPA. The impact would be temporary but significant (Impact NOI-1). The construction noise impact under the proposed Project would be mitigated to a less-than-significant level through implementation of mitigation measures MM NOI-1 and MM NOI-2. The three alternatives would involve less construction noise at sensitive receptors compared to the proposed Project and would not result in significant noise impacts under CEQA or NEPA.

6.5 Environmentally Preferred and Superior Alternatives

CEQA requires identification of an environmentally superior alternative. Similarly, NEPA requires that the Record of Decision (ROD) specify the alternative(s) considered to be environmentally preferable.

The environmentally superior and preferable alternatives were determined based on a ranking system that assigned numerical scores comparing the impacts under each resource area for each alternative relative to the proposed Project for CEQA and the NEPA baseline for NEPA. The scoring system ranged from -2 if impacts are considered to be substantially reduced when compared to the CEQA/NEPA baselines, to +2 if impacts are considered to be substantially increased when compared with the CEQA/NEPA baselines. Tables 6-3 and 6-5 present the scoring system and comparisons for each alternative under CEQA and NEPA, respectively.

Under the CEQA analysis, Alternative 1 is identified as having the fewest impacts because no proposed project-related actions would occur. However, CEQA requires that if the environmentally superior alternative is the No Project alternative, another

alternative be identified as environmentally superior. As such, Alternative 2 is identified as environmentally superior because it would not involve dredging activities, would involve minimal construction, and would not increase the throughput capacity of the terminal. Besides Alternative 1, Alternative 2 ranked highest in terms of the least overall environmental impact when compared to the CEQA baseline because it would result in the least impact on air quality and meteorology, GHG emissions, noise, and utilities and service systems. Therefore, in accordance with CEQA, Alternative 2 is deemed to be environmentally superior.

Alternative 1 is not considered under NEPA. Under the NEPA analysis, Alternative 2 is the same as the NEPA baseline. As such, Alternative 2 is environmentally preferable because this alternative would have no impacts compared to the NEPA baseline. Alternative 2 eliminates all of the proposed project elements that would require a federal permit and would only involve implementation of minor backlands improvements related to ground repairs and maintenance activities, slurry sealing, deep cold planing, asphalt concrete overlay, construction, restriping, and removal, relocation, or modification of underground conduits and pipes. This alternative would not include any berth deepening and would not complete the TICTF expansion, add new cranes, or add a crane rail extension due to the size constraints at the existing terminal berths.

Although Alternatives 1 and 2 would result in fewer significant unavoidable impacts or mitigated impacts than the proposed Project or Alternative 3, they would not meet the proposed Project's stated purpose to improve maritime shipping and commerce by upgrading container terminal infrastructure in, over, and under water and on terminal backlands to accommodate the projected fleet mix of larger container ships (up to 13,000 TEU) that are anticipated to call at the YTI Terminal through 2026.

Further, neither Alternative 1 nor Alternative 2 would address the CEQA objectives stated in Section 2.4, which include optimizing the use of existing land at the YTI Terminal and associated waterways consistent with LAHD's public trust obligations, providing sufficient water depth and improving the terminal's ability to accommodate larger container ships of up to 13,000 TEUs anticipated to call at the terminal through 2026, and increasing on-dock rail facilities to accommodate projected daily peak increases in container movement.

Alternative 3 would result in fewer construction-related environmental impacts than the proposed Project because it would result in less dredging (6,000 cy versus 27,000 cy), which would somewhat reduce impacts related to air quality and meteorology and GHG emissions and would eliminate the significant impact related to noise.

Operationally, Alternative 3 would increase the number of annual ship calls relative to the proposed Project, which would result in increased operational air quality, GHG emissions, and biological resource impacts. Given the proposed project purpose, Alternative 3 would not maximize container-handling capacity and efficiency at the proposed project site and would not make the best use of the proposed project site. Alternative 3 would partially fulfill the objective of accommodating larger ships, as it would allow the terminal to service ships up to 11,000 TEUs. However, it would not allow the servicing of ships up to 13,000 TEUs that are projected to call at the terminal. Therefore, the proposed Project would have lower operational impacts than Alternative 3 in the areas of air quality, GHG emissions, and biological resources and would better accomplish the proposed project goals and objectives.

Based on the above, the proposed Project would fulfill the overall proposed project purpose and need as discussed in Chapter 2, and would have significant and unavoidable impacts in the areas of air quality and meteorology, biological resources, and GHG emissions.