Chapter 6
Comparison of Alternatives

CHAPTER SUMMARY

This chapter ranks the Project alternatives as compared to the proposed Project and NEPA baseline.

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 lease measures or standard conditions of approval for project-level impacts (not cumulative effects).
- Identification of the environmentally superior alternative.

Key Points of Chapter 6:

As discussed in Chapter 3 and summarized in this chapter, the proposed Project and Alternatives 3 through 6 under CEQA and NEPA, Alternatives 1 and 2 under CEQA would have significant unavoidable impacts in the areas of Air Quality, Meteorology and Greenhouse Gases and Biological Resources, and Alternative 1 would have significant unavoidable impact in the area of Ground Transportation. The impacts in the areas of Air Quality, Meteorology and Greenhouse Gases and Biological Resources would be least severe under Alternatives 1 and 2; however, Alternatives 1 and 2 would not meet the Project objectives. Alternatives 3 and 4 would have lower impacts than the proposed Project and Alternatives 5 and 6; however, they would not fully meet the Project objectives. The proposed Project and Alternatives 5 and 6 would have similar impacts and meet all of the Project objectives.

6.1 Introduction

This chapter presents a comparison of alternatives to the proposed Project. Various alternatives were considered during preparation of this Draft EIS/EIR. CEQA and NEPA require that an EIR or EIS present a range of reasonable 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 the comparative merits (40 CFR 1502.14[b]). Accordingly, the proposed Project and six alternatives that meet most of the proposed Project objectives and Purpose and Need Statement, as required by CEQA or NEPA (summarized 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 six 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: Four New Cranes;
- Alternative 4 – Reduced Project: No New Wharf;
- Alternative 5 – Reduced Project: No Space Assignment; and
- Alternative 6 – Proposed Project with Expanded On-Dock Railyard.

The Project alternatives that were considered but eliminated from further analysis, as described in Section 2.8.2, are as follows:

1) Use of West Coast Ports Outside Southern California
2) Expansion of Terminals in Southern California but Outside the Los Angeles Harbor District
3) Lightering
4) Liquefied Natural Gas Terminal Facility
5) Off-site Backlands Alternatives
6) Development of New Landfills and Terminals Outside the Berths 302-305 Terminal Area
7) Other Sites in the Los Angeles Harbor District
8) Narrower Wharves
9) Marine Oil Facility
10) Omni Terminal
11) Alternative Container Transport Systems
12) Fully Electrified Container Terminal
13) Expand Rail Lines to Handle Cargo Quicker
14) No Expansion but Increased Technology to Increase Efficiency
15) Expanded On-Dock Railyard and Addition of New Cranes Only
16) Maximization of Habitat Restoration

Table 6-1: Summary of Proposed Project and Alternatives at Full Build-out (2027)

	Terminal Acres	Annual Ship Calls	Annual TEUs (in millions)	Cranes	Total Dredging in Waters of the U.S.	New Wharves	Other
Proposed Project	347	390	3,206,000	12 new cranes 12 existing cranes 24 total	20,000 cy (along Berth 306)	Berth 306 (1,250 linear feet, or 4 acres)	▪ Reefer & Berth 306 AMP • +41 acres ▪ Upland Improvements
Alternative 1 – No Project	291	286	2,153,000	12 existing cranes	No dredging	No new wharf	
Alternative 2 – No Federal Action	291	286	2,153,000	12 existing cranes	No dredging	No new wharf	▪ Reefer
Alternative 3 – Reduced Project: Four New Cranes	291	338	2,583,000	4 new cranes 12 existing cranes 16 total	No dredging	No new wharf	▪ Reefer
Alternative 4 – Reduced Project: No New Wharf	302	338	2,783,000	6 new cranes 12 existing cranes 18 total	No dredging	No new wharf	▪ Reefer • +41 acres • - 30 acres • Upland Improvements except for Main Gate modifications and 9 acres behind Berth 301
Alternative 5 – Reduced Project: No Space Assignment	317	390	3,206,000	12 new cranes 12 existing cranes 24 total	20,000 cy (along Berth 306)	Berth 306 (1,250 linear feet, or 4 acres)	▪ Reefer & Berth 306 AMP • +41 acres ▪ - 30 acres ▪ Upland Improvements
Alternative 6 – Proposed Project with Expanded On-Dock Railyard	347	390	3,206,000	12 new cranes 12 existing cranes 24 total	20,000 cy (along Berth 306)	Berth 306 (1,250 linear feet, or 4 acres)	▪ Reefer & Berth 306 AMP • +41 acres ▪ Upland Improvements ▪ On-dock rail (expanded)

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, the CEQA Guidelines, Section 15126.6, require that an EIR present a range of reasonable alternatives to the proposed Project, or to the location of the 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 impact under CEQA, as discussed in resource analyzes in Chapter 3. Table 6-2 also presents the resource areas that would have significant impacts mitigated to less than significant, and less than significant impacts that are further reduced through incorporation of lease measures or standard conditions of approval. Further detailed discussions of the resources with unavoidable significant impacts, significant impacts that can be mitigated to less than significant, and less than significant impacts that can be further reduced through incorporation of lease measures or standard conditions of approval is provided in Sections 6.4.1, 6.4.2, and 6.4.3 respectively.

As shown on Table 6-2, the proposed Project and Alternatives 1 through 6 have significant unavoidable impacts in the areas of Air Quality, Meteorology and Greenhouse Gases and Biological Resources.

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

Environmental Resource Area*	Proposed Project	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Air Quality, Meteorology, and Greenhouse Gases	S	S	S	S	S	S	S
Biological Resources	S	S	S	S	S	S	S
Cultural Resources	L	N	N	L	L	L	L
Geology	L	L	L	L	L	L	L
Ground Transportation	M	S	M	M	M	M	M
Groundwater and Soils	L	N	L	L	L	L	L
Noise	M	L	L	L	L	M	M
Public Services and Utilities	L	L	L	L	L	L	L

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

Table 6-3 ranks the alternatives based on a comparison of their environmental impacts with those of the proposed Project. 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 impact among alternatives. This ranking also takes into consideration the relative number of significant impacts that are mitigated to a level below significance, and the number of impacts that remain significant after mitigation.

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

Environmental Resource Area*	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Air Quality, Meteorology, and Greenhouse Gases	-2.0	-2.0	-1.5	-1.0	0.5	-0.5
Biological Resources	-2.0	-2.0	-1.5	-1.0	0.0	0.0
Cultural Resources	-2.0	-2.0	-2.0	-1.0	0.0	0.0
Geology	-2.0	-2.0	-1.0	-0.5	0.0	0.0
Ground Transportation	5.0	-2.0	-1.5	-1.0	0.5	-0.5
Groundwater and Soils	-2.0	-2.0	-1.5	-0.5	0.0	0.0
Noise	-2.0	-2.0	-1.5	-1.0	0.0	0.0
Public Services and Utilities	-2.0	-2.0	-1.5	-1.0	0.0	0.0
Total	**-13.5**	**-16**	**-12**	**-7**	**1.0**	**-1.0**
Ranking (best to worst)	**Alt 2**	**Alt 1**	**Alt 3**	**Alt 4**	**Alt 6**	**Alt 5**

Notes:
* Alternatives eliminated from further consideration are not included.
(-2) = Impact considered to be substantially less when compared with the proposed Project.
(-1) = Impact considered to be somewhat less when compared with the proposed Project.
(0) = Impact considered to be equal to the proposed Project.
(1) = Impact considered to be somewhat greater when compared with the proposed Project.
(2) = Impact considered to be substantially greater when compared with the proposed Project.
Where significant unavoidable impacts would occur across numerous alternatives but there are impact intensity differences between those alternatives, decimal points are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level, such as differences in number of impacts or relative intensity).

Under *Air Quality, Meteorology and Greenhouse Gases*, the significant unavoidable impacts would be related to emissions during construction and operations, health risks associated with project operations, and greenhouse gas emissions. The ranking in Table 6-3 reflects the amount of construction and operational increases, as well mix of operational activities (i.e., use of rail versus trucks) and number of workers associated with each alternative relative to the proposed Project. Alternative 5 is ranked highest because, while significant impacts are the same, it would generate slightly more operational emissions than the proposed Project, followed by Alternative 6 which would generate slightly less operational emissions than the proposed Project (although construction emissions may be slightly higher and significant impacts are the same). Construction and operation emissions would be lower under Alternatives 4 and 3, and substantially lower under Alternatives 1 and 2 (which have equivalent emissions).

Under *Biological Resources*, the significant unavoidable impacts would be related to the potential introduction of invasive species to Harbor waters from foreign vessels via vessel hulls. The ranking in Table 6-3 reflects the annual ship calls associated with each alternative relative to the proposed Project. The proposed Project, and Alternatives 5 and 6 would have the most annual ship calls at 390, followed by Alternatives 3 and 4 (338 annual ship calls), and Alternatives 1 and 2 (286 annual ship calls).

Under *Cultural Resources*, the less than significant impacts further reduced by standard conditions of approval would be related to the possibility of encountering previously unknown cultural resources during construction activities. The ranking in Table 6-3 reflects the amount of earthwork associated with each alternative relative to the proposed Project. The proposed Project, and Alternatives 5 and 6 would have the most excavation and dredging activities, followed by Alternative 4 which would include some landside excavation but no dredging, while Alternatives 1 through 3 would not involve dredging or landside excavation activities.

Under *Geology*, the less than significant impacts further reduced by lease measures would be related to exposure of people and structures to substantial risk involving tsunamis and seiches. The proposed Project and Alternatives 3 through 6 are deemed to have the greatest potential seismic risks because of the increased cargo throughput and related commercial activity, including onsite employees. Alternatives 1 and 2 are deemed to have substantially lower risks than the proposed Project and Alternatives 4 through 6, and slightly lower risks than Alternative 3 because they would not include the additional landside structures, additional cranes, or the same level of cargo throughput.

Under *Ground Transportation*, significant impacts related to volume/capacity ratios would occur at the intersection of Navy Way and Reeves Avenue. The ranking in Table 6-3 reflects applicability of mitigation to reduce significant impacts and the traffic generation associated with each alternative. Alternative 1 is ranked highest because, although it would generate less traffic than the proposed Project, it would have a significant and unavoidable impact (mitigation cannot be applied to Alternative 1 as there would be no discretionary actions under CEQA). Following Alternative 1, Alternative 5 is ranked highest because it would generate slightly more trips than the proposed Project, followed by Alternative 6 which would generate slightly fewer trips than the proposed Project, and Alternatives 4, 3,and 2 respectively.

Under *Groundwater and Soils*, impacts primarily relate to the potential to encounter existing subsurface contamination during construction, which would be less than significant with implementation of lease measures. Alternative 6 would have the same size site as the proposed Project (347 acres), while Alternatives 1 through 5 would have smaller size site than the proposed Project as follows: Alternative 5 - 317 acres; Alternative 4 - 302 acres; and Alternatives 1 through 3 - 291 acres. The ranking in Table 6-3 reflects the amount of earthwork associated with each alternative relative to the proposed Project. Alternative 1 would not require subsurface construction and Alternatives 2 and 3 would only require minor improvements within the existing terminal footprint, and are therefore ranked lower than the proposed Project. Alternatives 5 and 6 would include the same upland improvements as the proposed Project, and therefore have the same ranking. Although Alternative 4 would include similar upland improvements, it would not develop the 9 acres of backland behind Berth 301, or construct a new out-gate or new wharf; and therefore, is ranked slightly lower than the proposed Project and Alternatives 5 and 6.

Under *Noise*, the significant impact reduced to less than significant 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. The proposed Project, and Alternatives 5 and 6 would involve the greatest amount of construction, including pile driving, followed by Alternative 4 which would include landside construction activities but no

pile driving, followed by Alternatives 2 and 3 which would involve minimal construction, and Alternative 1 which would not involve construction.

Under *Public Services and Utilities*, potential impacts that are less than significant but further reduced by standard conditions of approval are associated with generation of solid waste and the effects on landfill capacity. The proposed Project and alternatives would generate different levels of solid waste; however, none are expected to exceed landfill capacity beyond 2027. Although construction of the proposed Project and Alternatives 3 through 6 would be expected to result in less than significant impacts to landfill capacity, contingency measures would minimize impacts to the solid waste stream as a result of demolition debris, thus ensuring impacts remain at a less than significant level. The ranking in Table 6-3 reflects the amount solid waste generated during construction for each alternative relative to the proposed Project. The proposed Project and Alternatives 5 and 6 are ranked the highest because they would involve the greatest amount of construction activities, followed by Alternatives 4, 3, 2, and 1 in descending order.

As shown in Table 6-3, Alternative 1 – No Project Alternative, ranks as the environmentally superior alternative. However, the CEQA Guidelines (Section 15126) specify that when the No Project Alternative is the environmentally superior alternative, the EIR also shall identify an environmentally superior alternative among the other alternatives. Alternative 2 is ranked the second highest compared to the No Project Alternative. As such, Alternative 2 would be the environmentally superior alternative; however, this alternative would not achieve the Project objectives.

- Regarding the objectives to optimize the use of existing land at Berths 302-305 and behind the proposed Berth 306, and associated waterways in a manner that is consistent with the LAHD's public trust obligations, Alternative 2 would not accomplish this goal because the APL Terminal would continue to operate as a 291-acre container terminal that would not accommodate projected future TEUs. In addition, Alternative 2 would not include improvements to the existing wharf operations; therefore, it would not optimize the use of waterways.
- Regarding the objective to improve the container terminal at Berths 302-306 to more efficiently accommodate larger ships and to ensure the terminal's ability to accommodate increased numbers and sizes of container ships, Alternative 2 would not improve the terminal efficiency of Berths 302-305 as no improvements would be implemented. Therefore, Alternative 2 would do nothing to optimize or even improve container-handling efficiency in the Port.
- Regarding the objective to increase accommodations for container ship berthing, and provide sufficient backland area and associated improvements for optimized container terminal operations, at Berths 302-306, Alternative 2 would not achieve this objective because it would not accommodate any projected future TEUs by developing additional backlands or improve wharf operations.
- Regarding the objective to incorporate modern backland design efficiencies into improvements to the existing vacant landfill area at Berth 306, Alternative 2 would not fully handle projected future TEUs because no additional backland would be developed; therefore, it would not achieve this objective.
- Regarding the objective to improve the access into and out of the terminal, as well as internal terminal circulation at Berths 302-306 to reduce the time for gate turns and to

increase terminal efficiency, Alternative 2 would not modify or improve the existing gates or construct additional gates; therefore, this objective would not be achieved.

6.3 NEPA Evaluation of Alternatives

6.3.1 NEPA Requirements

NEPA requirements for an EIS 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 alternatives to a project, or to the locations for a project, that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant environmental impacts.

In addition, and accordance with USACE general policies for evaluating permit applications, the 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 which the proposed activity may have on the public interest requires weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected must be balanced against the reasonably foreseeable detriments. The following criteria will be considered by the 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 unresolved 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 which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

The USACE also follows special procedures for implementing Section 103 of the MPRSA (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 endangered human health, welfare, amenities or the marine environment, ecological systems or economic potentialities. The USACE will apply the criteria established by the Administrator of EPA pursuant to Section 102 of the MPRSA in making this evaluation (40 CFR 220-229). Further, when the Regional Administrator, USEPA, advises the USACE in writing the proposed dumping would comply with the criteria, the USACE will complete the evaluation. However, if the Regional Administrator advises the USACE the proposed dumping does not comply with the criteria, the USACE proceeds as follows:

- The USACE will determine whether there is an economically feasible alternative method or site available other than the proposed approved CDF, Cabrillo shallow water habitat and, if needed, an ocean disposal site (i.e., LA-2). If there are other feasible alternative methods or sites available, the SACE will evaluate them in accordance with 33 CFR parts 320, 322, 323, 324 and 325 as appropriate; and

- If the USACE determines there is no economically feasible alternative method or site available, and the proposed project is otherwise found to be not contrary to the public interest, the USACE will so advise the Regional Administrator setting forth the reasons for such determination. If the Regional Administrator has not removed objection within 15 days, the USACE will submit a report of the determination to the Chief of Engineers for further coordination with the Administrator, USEPA, and decision. The report forwarding the case will contain the analysis of whether there are other economically feasible methods or sites available to dispose of the dredged material.

Section 2.5 in Chapter 2 of this Draft EIS/EIR sets forth potential alternatives to the proposed Project, and Chapter 3 evaluates the environmental impacts of each alternative.

6.3.2 Comparison of NEPA Alternatives

Table 6-4 presents a summary of the results of the NEPA significance analysis for each 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., upland improvements but no new cranes, no dredging of Berth 306, and no new wharf construction); therefore, Alternative 2 is included in Table 6-4. Table 6-4 presents a summary of the NEPA level of significance for each alternative related to resources areas that have significant unavoidable impacts, significant impacts mitigated to less than significant, and/or less than significant impacts that are further reduced through incorporation of lease measures or standard conditions of approval. 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, and less than significant impacts that can be reduced to less than significant is provided in Section 6.4.1, Section 6.4.2, and 6.4.3 respectively.

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

Environmental Resource Area*	Proposed Project	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Air Quality, Meteorology, and Greenhouse Gases	S	N/A	N	S	S	S	S
Biological Resources	S	N/A	N	S	S	S	S
Cultural Resources	N	N/A	N	N	L	L	L
Geology	L	N/A	N	L	L	L	L
Ground Transportation	M	N/A	N	M	M	M	M
Groundwater and Soils	L	N/A	N	L	L	L	L
Noise	M	N/A	N	L	L	M	M
Public Services and Utilities	L	N/A	N	L	L	L	L

Notes:
*The analysis includes Project-level impacts, not cumulative effects.
S = Unavoidable significant impact
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. The ranking of the alternatives is based on the impact determinations under NEPA for the resources where significant impacts (unavoidable or mitigable) would occur, as discussed in Chapter 3, and ranking reflects differences between the levels of impact among alternatives. This ranking also takes into consideration the relative number of significant impacts that are mitigated to a less than significant level and the number of impacts that remain significant after mitigation.

Table 6-5: Comparison of Alternatives* to the NEPA Baseline

Environmental Resource Area*	Proposed Project	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Air Quality, Meteorology, and Greenhouse Gases	2.0	N/A	0.0	1.0	1.5	2.2	1.8
Biological Resources	2.0	N/A	0.0	0.5	1.0	2.0	2.0
Cultural Resources	2.0	N/A	0.0	0.0	1.5	2.0	2.0
Geology	2.0	N/A	0.0	0.5	1.5	2.0	2.0
Ground Transportation	2.0	N/A	0.0	0.5	1.0	2.2	1.8
Groundwater and Soils	2.0	N/A	0.0	1.0	1.5	2.0	2.0
Noise	2.0	N/A	0.0	0.5	1.0	2.0	2.0
Public Services and Utilities	2.0	N/A	0.0	0.5	1.0	2.0	2.0
Total	**16.0**	**N/A**	**0**	**4.5**	**10**	**16.4**	**15.6**
Ranking (best to worst)	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 6**	**Proposed Project**		**Alt 5**

Notes:
*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, not cumulative effects.
(-2) = Impact considered to be substantially less when compared with the NEPA baseline.
(-1) = Impact considered to be somewhat less when compared with the NEPA baseline.
(0) = Impact considered to be equal to the NEPA baseline.
(1) = Impact considered to be somewhat greater when compared with the NEPA baseline.
(2) = Impact considered to be substantially greater when compared with the NEPA baseline.
2 points for significant unmitigable impact; 1 point to significant but mitigable or less than significant impacts; and 0 for no impacts. Where significant unavoidable impacts would occur across numerous alternatives but there are impact differences between those alternatives, decimal points are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level such as differences in number of impacts or relative intensity).

Under *Air Quality, Meteorology, and Greenhouse Gases*, the significant unavoidable impacts would be related to emissions during construction and operations, health risks associated with project operations, and greenhouse gas emissions. The ranking in Table 6-5 reflects the amount of construction and operational increases, and a mix of operational activities (i.e., use of rail versus trucks) and number of workers associated with each alternative relative to the NEPA baseline. Alternative 5 is ranked highest because it would generate slightly more operational emissions than the proposed Project, followed by the proposed Project, Alternative 6 which would generate slightly less operational emissions than the proposed Project (although construction emissions may be slightly higher), and Alternatives 4, 3 and 2 in descending order.

Under *Biological Resources*, the significant unavoidable impacts would be related to the potential introduction of invasive species to Harbor waters from foreign vessels. The ranking in Table 6-5 reflects the annual ship calls associated with each alternative relative to the NEPA baseline. The proposed Project and Alternatives 5 and 6 are ranked the highest because they would have the greatest number of annual vessel calls at 390, followed by Alternatives 3 and 4 (338 annual vessel calls) and 2 (286 annual vessel calls).

Under *Cultural Resources,* the less than significant impacts further reduced by standard conditions of approval would be related to the possibility of encountering previously unknown cultural resources during construction. The ranking in Table 6-5 reflects the amount of earthwork associated with each alternative relative to the NEPA baseline. The proposed Project, and Alternatives 5 and 6 would have the most excavation and dredging

activities, followed by Alternative 4 which would include some landside excavation but no dredging, while Alternatives 2 and 3 would not involve dredging or other excavation activities.

Under *Geology*, the significant unavoidable impacts would be related to exposure of people and structures to substantial risk involving tsunamis, and seiches. The proposed Project and Alternatives 3 through 6 are deemed to have the greatest potential seismic risks because of the increased cargo throughput and related commercial activity, including onsite employees. Alternative 2 is deemed to have substantially lower risks than the proposed Project and Alternatives 4 through 6, and slightly lower risks than Alternative 3, because it would not include the additional landside structures, additional cranes, or the same level of cargo throughput. Moreover, Alternative 2 would be equivalent to the NEPA baseline in terms of *Geology*.

Under *Ground Transportation*, significant impacts related to volume/capacity ratios would occur at the intersection of Navy Way and Reeves Avenue. The ranking in Table 6-5 reflects the traffic generation associated with each alternative relative to the NEPA baseline. Alternative 5 is ranked highest because it would generate slightly more trips than the proposed Project, followed by the proposed Project, Alternative 6 which would generate slightly fewer trips than the proposed Project, and Alternatives 4, 3 and 2 in descending order.

Under *Groundwater and Soils*, impacts relate to the potential to encounter existing subsurface contamination during construction, which would be less than significant with implementation of lease measures. Alternative 6 would have the same size site as the proposed Project (347 acres), while Alternatives 2 through 5 would have smaller size site that the proposed Project as follows: Alternative 5 - 317 acres; Alternative 4 -302 acres; and Alternatives 2 and 3 - 291 acres. The ranking in Table 6-3 reflects the amount of earthwork associated with each alternative relative to the proposed Project. Alternatives 2 and 3 would not require subsurface construction within the existing footprint, so they are ranked lower than the proposed Project. Alternatives 5 and 6 would include the same upland improvements as the proposed Project, and therefore have the same ranking. Although Alternative 4 would include similar upland improvements, it would not develop the 9 acres of backland behind Berth 301, or construct a new out-gate or new wharf. Therefore, it would have a slightly lower ranking than the proposed Project and Alternatives 5 and 6.

Under *Noise*, the significant impact reduced to less than significant 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. The proposed Project, and Alternatives 5 and 6 would involve the greatest amount of construction, including pile driving, followed by Alternative 4 which would include landside construction activities but no pile driving, followed by Alternatives 3 and 2 in descending order which would involve minimal construction.

Under *Public Services and Utilities*, the less than significant impacts that would be further reduced through incorporation of standard conditions of approval is associated with the generation of solid waste and effects on landfill capacity. The proposed Project and alternatives would generate different amounts of solid waste; however, none are expected to exceed landfill capacity beyond 2027. Although construction of the proposed

Project and Alternatives 3 through 6 would be expected to result in less than significant impacts to landfill capacity, contingency measures would minimize impacts to the solid waste stream as a result of demolition debris, thus ensuring impacts remain at a less than significant level. The ranking in Table 6-3 reflects the amount solid waste generated during construction for each alternative relative to the proposed Project. The proposed Project and Alternatives 5 and 6 are ranked the highest because they would involve the greatest amount of construction activities, followed by Alternatives 4, 3, and 2, in descending order.

Based on the results shown in Table 6-5, Project alternatives are ranked as follows under NEPA, from the fewest potential environmental impacts to the most:

1) Alternative 2
2) Alternative 3
3) Alternative 4
4) Alternative 6
5) Proposed Project
6) Alternative 5

The alternative with the lowest (i.e. best) ranking relative to the NEPA Baseline (Alternative 2) is Alternative 3. Alternative 5 is ranked highest (i.e. worst) with the most impacts of the alternatives when compared to the NEPA baseline. The proposed Project is ranked slightly lower than Alternative 5. Alternative 6 is ranked slightly lower than the proposed Project, followed by Alternative 4.

6.4 Analysis of Impacts of Alternatives

For each of the 14 environmental resource areas analyzed in this Draft EIS/EIR, Chapter 3 identifies significant impacts associated with each of the alternatives. Three of the environmental resources evaluated (Air Quality, Meteorology, and Greenhouse Gases, Biological Resources, and Ground Transportation [Alternative 1 under CEQA only]) have unavoidable significant impacts for at least one alternative. One of the environmental resources evaluated (Noise) has significant impacts that could be mitigated to a less than significant level for the proposed Project and all of the alternatives. One of the environmental resources evaluated (Ground Transportation) has significant impacts that could be mitigated to a less than significant level for the proposed Project and all of the alternatives with the exception of Alternative 1 under CEQA. Four of the environmental resources evaluated did not result in significant unavoidable impacts (Cultural Resources, Geology, Groundwater and Soils, and Public Services and Utilities); however, lease measures or standard conditions of approval have been recommended to further minimize the less than significant impact level. Standard conditions of approval have also been recommended to further reduce less than significant impacts related to Biological Resources, and lease measures would be implemented to further reduce significant unavoidable impacts associated with Air Quality, Meteorology, and Greenhouse Gases. The remaining environmental resources have no potentially significant impacts associated with any of the alternatives, nor any recommended lease measures or standard conditions. The discussion below describes the significant and unavoidable impacts (Section 6.4.1) significant impacts reduced to less than significant with incorporation of mitigation (Section 6.4.2), and less than significant impacts further

reduced with incorporation of lease measures or standard conditions of approval (Section 6.4.3) for each applicable resource, and identifies to which alternative the impacts apply.

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 well as alternatives with less than significant impacts that would be further reduced by lease measures or standard conditions of approval, as discussed in Chapter 3. This information is taken from summary tables included at the conclusion of each of the 14 environmental resource sections in Chapter 3.

6.4.1.1 Air Quality, Meteorology, and Greenhouse Gases

The proposed Project and Alternatives 1 through 6 would have significant impacts on air quality under CEQA, while the proposed Project and Alternatives 3 through 6 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 off-site ambient air pollutant concentrations that exceed a 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 off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance (Impact AQ-4);
- Sensitive receptors would be exposed to significant levels of TACs (Impact AQ-7); and
- GHG emissions would exceed CEQA and NEPA baseline levels (Impact AQ-9).

Construction of the proposed Project and Alternatives 2 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA would result in peak daily construction emissions that would exceed an SCAQMD threshold of significance (Impact AQ-1). As shown on Table 3.2-43 in Section 3.2, Air Quality, Meteorology, and Greenhouse Gases, the proposed Project and Alternatives 5 and 6 would exceed thresholds for five pollutants (VOC, CO, NO_x, PM_{10}, and $PM_{2.5}$) under CEQA and NEPA; Alternative 4 would exceed thresholds for four pollutants (VOC, NO_x, PM_{10}, and $PM_{2.5}$) under CEQA and NEPA; Alternative 3 would exceed thresholds for three pollutants (VOC, NO_x, and $PM_{2.5}$) under CEQA and NEPA; and, Alternative 2 would exceed thresholds for one pollutant (NO_x) under CEQA. Implementation of mitigation measures **MM AQ-1 through MM AQ-8** would reduce impacts; however, they would remain significant and unavoidable under the proposed Project and Alternatives 2 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA. Alternative 2 would have lower construction emissions than the other alternatives because it would involve less construction. Likewise, Alternatives 3 and 4 have less construction than the proposed Project and Alternatives 5 and 6, and thus would also have lower emissions. The proposed Project and Alternatives 5 and 6 would have similar amount of construction and thus would have the similar levels of emissions, though peak

day emissions could be slightly higher under Alternative 6 depending on the overlap of construction activities.

Construction of the proposed Project and Alternatives 2 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance (Impact AQ-2). As shown on Table 3.2-43 in Section 3.2, Air Quality, Meteorology, and Greenhouse Gases, the proposed Project and Alternatives 4 through 5 would exceed threshold concentrations for three pollutants (NO_2, PM_{10}, and $PM_{2.5}$) under CEQA and NEPA; Alternative 3 would exceed threshold concentrations for one pollutant (NO_2) under CEQA and two pollutants under NEPA ($NO_2$and $PM_{2.5}$); and, Alternative 2 would exceed threshold concentrations for one pollutant (NO_2) under CEQA. Implementation of mitigation measures **MM AQ-1 through MM AQ-8** would reduce impacts; however, they would remain significant and unavoidable under the proposed Project and Alternatives 2 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA. Alternative 2 would have lower construction emissions than the other alternatives because it would involve less construction. Likewise, Alternatives 3 and 4 have less construction than the proposed Project and Alternatives 5 and 6, and thus would also have lower emissions. The proposed Project and Alternatives 5 and 6 would have similar amount of construction and thus would have the similar levels of emissions, though peak day emissions could be slightly higher under Alternative 6 depending on the overlap of construction activities.

Operation of the proposed Project and Alternatives 5 and 6 under CEQA and the proposed Project and Alternatives 3 through 6 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 Alternatives 5 and 6 for VOCs and NO_x. Under NEPA, unmitigated peak daily emissions would exceed SCAQMD thresholds for six pollutants (VOCs, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$) under the proposed Project and Alternative 5 and Alternative 6, and two pollutants (VOCs and NO_x) under Alternatives 3 and 4. Additionally, under NEPA, annual VOC emissions would exceed the 10 tpy threshold under the proposed Project and Alternatives 4 though 6. Implementation of mitigation measures **MM AQ-9 through MM AQ-16** would reduce impacts; however, they would remain significant and unavoidable under the proposed Project and Alternatives 5 and 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA. Alternative 2 would have lower emissions than the other alternatives because it would have lower cargo throughput and annual vessel calls. Likewise, Alternatives 3 and 4 have a lower number of vessel calls and throughput than the proposed Project and Alternatives 5 and 6, and thus would also have lower emissions. The proposed Project and Alternatives 5 and 6 have the same number of throughput and vessel calls and would have similar levels of emissions, though emissions would be slightly higher under Alternative 5 relative to a higher number of workers, equipment, and vehicle trips, and slightly lower under Alternative 6 related to reduced vehicle trips (though rail trips would increase).

Operation of the proposed Project and Alternatives 1 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance (Impact AQ-4). Under CEQA, maximum off-site ambient pollutant concentrations would be significant for NO_2 for the proposed Project and Alternatives 1 through 6. Under

NEPA, maximum off-site ambient pollutant concentrations would be significant for NO_2 under the proposed Project and Alternatives 3 through 6 and $PM_{2.5}$ under the proposed Project and Alternatives 4 through 6. Implementation of mitigation measures **MM AQ-9 through MM AQ-16** would reduce impacts (mitigation is not applicable to Alternative 1); however, they would remain significant and unavoidable under the proposed Project and Alternatives 1 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA. Alternatives 1 and 2 would have lower emissions than the other alternatives because it would have lower cargo throughput and annual vessel calls. Likewise, Alternatives 3 and 4 have a lower number of vessel calls and throughput than the proposed Project and Alternatives 5 and 6, and thus would also have lower emissions. The proposed Project and Alternatives 5 and 6 have the same level of throughput and vessel calls and would have the similar levels of emissions, though emissions would be slightly higher under Alternative 5 relative to a higher number of workers, equipment, and vehicle trips, and slightly lower under Alternative 6 related to reduced vehicle trips (though rail trips would increase).

Operation of the proposed Project and Alternatives 1 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA would expose sensitive receptors to significant levels of TACs (Impact AQ-7). Under CEQA, the cancer risk (future) would be significant for residential receptors under the proposed Project and Alternatives 1 through 6 under CEQA, the cancer risk (future) would be significant for occupation receptors under the proposed Project and Alternatives 3 through 6 under CEQA, the acute hazard index CEQA increment and NEPA increment would be significant at residential receptors and occupational receptors for the proposed Project and Alternatives 3 through 6. Implementation of mitigation measures **MM AQ-9 through MM AQ-16** and lease measures **LM AQ-1** and **LM AQ-2** would reduce impacts associated with acute risk at residential receptors to less than significant mitigation is not applicable to Alternative 1). However, the maximum acute risk at occupational receptors remains significant and unavoidable under the proposed Project and Alternatives 3 through 6 under CEQA and NEPA, the cancer risk (future) for residential receptors (liveaboards at Anchorage Road) remains significant and unavoidable under the proposed Project and Alternatives 1 through 6 under CEQA. The cancer risk (future) for occupational receptors remains significant and unavoidable under the proposed Project and Alternatives 4 through 6 under CEQA .

Total construction and annual operational CO_2e emission would exceed CEQA baseline construction emissions (which are zero for construction) under the proposed Project and Alternatives 1 through 6 under CEQA. Mitigation measures **MM AQ-2** through **MM AQ-4, MM AQ-9**, **MM AQ-10**, **MM AQ-16**, and **MM AQ-17 through MM AQ-20** would reduce GHG emissions for proposed Project and Alternatives 2 through 6 (mitigation is not applicable to Alternative 1), however, impacts would remain significant and unavoidable under the proposed Project and Alternatives 1 through 6 under CEQA. No impact determination regarding GHG emissions is made under NEPA. Alternatives 1 and 2 would have lower CO_2e emissions than the other alternatives because they would have lower cargo throughput and annual vessel calls, and would involve less construction. Likewise, Alternatives 3 and 4 have a lower number of vessel calls and less construction than the proposed Project and Alternatives 5 and 6, and thus would also have lower CO_2e emissions. The proposed Project and Alternatives 5 and 6 have the same amount of throughput and vessel calls and similar amounts of construction (though emissions associated with Alternative 6 may be slightly higher); however, emissions would be slightly higher under Alternative 5 relative to a higher number of workers, equipment,

and vehicle trips, and slightly lower under Alternative 6 related to reduced vehicle trips (though rail trips would increase).

6.4.1.2 Biological Resources

The proposed Project and Alternatives 1 through 6 would have significant impacts on biological resources under CEQA, while the proposed Project and Alternatives 3 through 6 would have significant impacts on biological resources under NEPA. Significant unavoidable impacts are the result of the possible introduction of non-native species into the Harbor that could disrupt local biological communities (Impact BIO-4c).

Operation of the proposed Project and Alternatives 1 through 6 would increase the potential to introduce non-native species into the Harbor that could disrupt local biological communities under CEQA. The same significant impact would occur for the proposed Project and Alternatives 3 through 6 under NEPA. This would be unlikely to occur via ballast water due to current ballast water regulations, but the potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. While given existing regulations, use of antifouling paints and vessel hull cleaning there is a low potential to increase the introduction of non-native species into the Harbor, the potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels and the potential for the introduction of invasive species represents a significant, unavoidable impact under CEQA for the proposed Project and Alternatives 1 through 6, and the proposed Project and Alternatives 3 through 6 under NEPA. From a biological perspective, Alternatives 1 and 2 are environmentally superior to the other alternatives because they would have less potential to introduce invasive species due to their lower cargo throughput and annual ship calls. Alternatives 3 and 4 have a lower number of vessel calls than the proposed Project and Alternatives 5 and 6 and thus would also have a lower probability of introduction of an exotic species than the proposed Project and Alternatives 5 and 6. The proposed Project and Alternatives 5 and 6 have the same number of vessel calls and thus have the same probability of introduction of an exotic species occurring.

6.4.1.3 Ground Transportation

Alternative 1 would result in a significant impact under CEQA related to long-term vehicular traffic impacting volume/capacity ratios or level of service at Navy Way and Reeves Avenue (Impact TRANS-2). Mitigation is not applicable to Alternative 1 because there would be no discretionary actions subject to CEQA, and therefore, the significant unavoidable impact would remain. As in Section 6.4.2.2, this impact would be reduced to less than significant for the proposed Project and Alternatives 2 through 6 (no impact would occur for Alternative 2 under NEPA) with the application of mitigation.

6.4.2 Resources with Significant Impacts that Can be Mitigated to Less than Significant

6.4.2.1 Biological Resources

The proposed Project and Alternatives 4 through 6 would result in significant impacts (Impact BIO-1a) under CEQA and NEPA if elegant or Caspian terns use the 41-acre undeveloped area for nesting. Potential impacts to nesting avian species would be fully mitigated by conducting nesting bird surveys at the 41-acre backlands if construction

occurs between February 15 and September 1 to avoid impacts to nesting birds (mitigation measure **MM BIO-1**).

Also under Impact BIO-1a, concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations under the Proposed Project and Alternatives 5 and 6 under CEQA and NEPA. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1** which would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected.

6.4.2.2 Ground Transportation

The proposed Project and Alternatives 2 through 6 would result in a significant impact under CEQA and the proposed Project and Alternatives 2 through 6 would result in a significant impact under NEPA related to long-term vehicular traffic impacting volume/capacity ratios or level of service at Navy Way and Reeves Avenue (Impact TRANS-2). The greatest impact would occur under the proposed Project and Alternatives 5 and 6 (mid-day peak hour in 2020, A.M. and mid-day peak hours in 2025, and A.M., and mid-day peak hours in 2027), as compared to Alternatives 2 and 3 (mid-day peak hour in 2027) and Alternative 4 (mid-day peak hour in 2025 and 2027). This impact would be slightly greater under Alternative 5 and slightly lower under Alternative 6 as compared to the proposed Project. The impact for the proposed Project and Alternatives 2 through 6 would be reduced to less than significant with implementation of mitigation measure **MM TRANS-1**.

6.4.2.3 Noise

The proposed Project and Alternatives 5 and 6 under CEQA and NEPA would result a significant noise impact from pile driving during wharf construction that would increase average ambient noise levels at Reservation Point by 5 dBA over existing levels. The impact would be temporary, but significant (Impact NOI-1). The construction noise impact under the proposed Project and Alternatives 5 and 6 are similar and would be mitigated to a less than significant level through the implementation of mitigation measures **MM NOI-1** and **MM NOI-2**.

6.4.3 Resources with Less than Significant Impacts that Can be Further Reduced by Lease Measures or Standard Conditions of Approval

6.4.3.1 Biological Resources

The sound pressure waves from pile-driving could result in temporary avoidance of the construction areas as well as cause mortality of fish in the Coastal Pelagics FMP (Impact BIO-3a). While this would be a less than significant impact under the proposed Project and Alternatives 5 and 6 under CEQA and NEPA, implementation of standard condition of approval **SC BIO-1**, would reduce potential impacts by requiring that the pile-driving initiates with a soft start, which would minimize potential impacts to fish, as they would leave the area.

Construction activities, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving under the proposed Project and Alternatives 5 and 6 under CEQA and NEPA (Impact BIO-4a). No substantial disruption of biological communities would result from construction, and this would be a less than significant impact under the proposed Project and Alternatives 5 and 6. Implementation of standard condition of approval **SC BIO-1** would further reduce potential impacts by requiring that the pile-driving initiates with a soft start.

Increased vessel activity from the proposed Project and Alternatives 1 through 6 would result in increased likelihood of a vessel collision with a marine mammal or sea turtle, which could result in injury or mortality (Impact BIO-1b). This would be a less than significant impact under the proposed Project and Alternatives 1 through 6 under CEQA and the proposed Project and Alternatives 3 through 6 under NEPA because of the low probability of vessel strikes. Even though impacts due to vessel strikes are considered less than significant, implementation of mitigation measure **MM AQ-10** would further reduce the potential for vessel collision with marine mammals by requiring reduced vessel speeds.

6.4.3.2 Cultural Resources

The majority of the proposed Project site is underlain with imported/modern fill (i.e., dredged material) and is paved or highly disturbed and no known archaeological and ethnographic resources exist in the proposed Project Area; consequently, construction of the proposed Project and Alternatives 4 through 6 would have a low potential to disturb, damage, or degrade unknown archaeological and ethnographic resources (Impact CR-1 under CEQA and Impact CR-3 under NEPA) and are expected to result in a less than significant impact under both CEQA and NEPA. However, standard condition of approval **SC CR-1,** has been added for unanticipated discoveries and to ensure that potential impacts remain at a less than significant level.

Implementation of standard condition of approval, **SC CR-1** would ensure potential impacts remain at a less than significant level under CEQA and NEPA. In the unlikely event that artifacts or an unusual amount of bone, shell, or non-native stone is encountered during construction, work would be immediately stopped and relocated to another area to prevent exposure of such finds until a qualified archaeologist could be retained by the Port to evaluate the find (see 36 CFR 800.11.1, 33 CFR 325 Appendix C, and pertinent CEQA regulations). If the resources are found to be significant, they would be avoided or would be mitigated consistent with Section 106 of the National Historic Preservation Act, the USACE implementing regulations, and the CEQA Guidelines. Additional steps would be undertaken should resources be encountered, as described in Section 3.4.

As discussed in Section 3.4, impacts to cultural resources under CEQA and NEPA would be the same as the proposed Project for Alternatives 5 and 6, and somewhat reduced under Alternative 4 as less excavation and no dredging would occur, followed by Alternatives 1 and 2 (i.e., Not applicable or No impact, respectively, under NEPA) and Alternative 3 given that no excavation or dredging would occur.

6.4.3.3 Geology

The proposed Project site's elevation is approximately 15 ft above MLLW; and therefore, no substantial risk of flooding from tsunamis and seiches are likely at the proposed Project site. However, lease measure **LM GEO-1** has been added to improve the on-site emergency response should a tsunami occur. From a geological perspective, Alternatives 1 and 2 are the environmentally preferred alternatives because they would minimize the activities, structures, and/or people that could potentially be subjected to tsunamis and seiches. The proposed Project and Alternatives 5 and 6 introduce additional risk because they involve the greatest amount of cargo throughput and improvements, including backland improvements and wharf construction. Alternatives 3 and 4 are ranked similar to the proposed Project because they would include similar improvements; however, Alternative 3 and 4 would have lower throughput, less acreage, and fewer structures (i.e. no new wharf and fewer cranes) than the proposed Project and Alternatives 5 and 6 and thus risks would be proportionately lower.

6.4.3.4 Groundwater and Soils

Construction of the proposed Project and Alternatives 4 through 6 would potentially uncover contaminated toxic materials or soils (Impact GW-1) under both CEQA and NEPA; however, this would be a less than significant impact with implementation of lease measures **LM GW-1** and **LM GW-2**. Additionally, Alternatives 2 and 3 would result in a less than significant impact (Impact GW-1) under CEQA with implementation of lease measures **LM GW-1** and **LM GW-2** and no impact under NEPA. Alternative 1 would result in no impact under CEQA, and is not applicable to NEPA.

6.4.3.5 Public Services and Utilities

Construction of the proposed Project and Alternatives 4 through 6 is expected to result in less than significant impacts to solid waste generation and landfill capacity under both CEQA and NEPA. However, standard conditions of approval **SC PS-1** and **SC PS-2** have been recommended to further minimize solid waste generation as a result of demolition debris by requiring recycling of construction debris and use of material with recycled content to the degree feasible. With these standard conditions of approval, potential impacts would remain less than significant as identified in Section 3.13. Impacts under Alternatives 1 and 3 under CEQA and Alternative 3 under NEPA would also be less than significant; however, standard conditions of approval **SC PS-1** and **SC PS-2** would not apply given no demolition would occur.

Construction and operation of the proposed Project and Alternatives 4 through 6 would generate minor increases in energy demands (Impact PS-5), resulting in a less than significant impact under CEQA and NEPA. Further, energy demands during construction activities would be short-term and temporary; they are not anticipated to result in substantial waste or inefficient use of energy, because energy-efficiency and conservation strategies would be implemented throughout all construction stages. The proposed Project and Alternatives would incorporate energy conservation measures in compliance with California Building Standards Code (CCR, Title 24).

The minor increase would not require the construction of new offsite energy supply facilities or distribution infrastructure to support improvements; however, mitigation measure **MM AQ-18** and **MM AQ-19** would be implemented to reduce energy demand and overall GHG emissions associated with the proposed Project and Alternatives 4

through 6, and thus ensure impacts would remain at a less than significant level. These mitigation measures are explained in more detail in Section 3.2 of this EIS/EIR and above.

As discussed in Section 3.13, impacts on public services and utilities relative to construction debris under CEQA and NEPA would be similar as the proposed Project for Alternatives 5 and 6, and slightly reduced under Alternative 4. Impacts for Alternatives 1 through 3 are substantially less when compared to the proposed Project (and not applicable for Alternative 1 and no impact for Alternative 2 under NEPA), as no demolition would be required.

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 CEQA and NEPA baselines. 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 rankings for each alternative under CEQA and NEPA, respectively.

Under the CEQA analysis, Alternative 2 – No Federal Action is the environmentally superior alternative because it would involve only small amounts of new construction, and growth in operations would be greatly reduced as compared to the proposed Project and Alternatives 3 through 6, and the significant traffic impact at Navy Way and Reeves Avenue would be mitigated to less than significant (as opposed to Alternative 1, which would have a significant unavoidable impact). Alternative 2 ranked first in terms of the least overall environmental impact when compared to the CEQA baseline (Table 6-3) because it would result in the least impact on air quality, meteorology, and greenhouse gases, biological resources, cultural resources, geology, ground transportation, groundwater and soils, noise, and public services and utilities when compared to all other alternatives. Therefore, in accordance with CEQA, Alternative 2 is deemed to be Environmentally Superior.

Under the NEPA analysis, Alternative 2 – No Federal Action is environmentally preferable because as the NEPA baseline this alternative would have no impacts related to a federal permit (Table 6-5). Alternative 2 eliminates all of the project elements that would require a federal permit and would only involve implementation of minor terminal improvements in the upland such as conversion of a portion of the dry container storage area to reefers and installation of utility infrastructure. This alternative would not include any Berth 306 dredging, new wharf construction, or new cranes.

Alternative 1 would result in fewer significant unavoidable impacts than the proposed Project; however, it would result in one significant and unavoidable ground transportation impact at the intersection of Navy Way and Reeves Avenue that would not occur under the proposed Project. Although it would generate less traffic than the proposed Project, Alternative 1 would have a significant and unavoidable impact because mitigation cannot be applied as there would be no discretionary action under CEQA.

Although Alternatives 1 and 2 would result in fewer significant unavoidable impacts or mitigated impacts than the proposed Project or Alternatives 3 through 6, they would not meet the Project's stated purpose to optimize and expand the cargo-handling capacity at the APL Terminal to accommodate the increased throughput demand expected at the Port by APL in the long-term, while also maintaining consistency with established Port policies pertaining to the environment (see Section 2.3.2).

Further, neither Alternative 1 nor Alternative 2 would address the CEQA objectives stated in 2.3.3 which include optimizing the use of existing land and waterways consistent with LAHD's public trust obligations, improving the terminal's efficiency and ability to accommodate increased numbers and sizes of vessels, increasing accommodations for container ship berthing and optimizing container terminal operations, incorporating modern backland design efficiencies into improvements on vacant land area at Berth 306, and improving terminal access and internal circulation. Therefore, Alternatives 1 and 2 are not considered to be viable Project Alternatives that could achieve the Project objectives. It should be noted that even if terminal capacity were maximized throughout the Port, there would continue to be insufficient capacity to meet future throughput demand beyond 2035.

Alternative 3 (Reduced Project: Four New Cranes) would result in fewer environmental impacts than the proposed Project because its operational capacity and its level of capital development would be lower. Alternative 3 would include fewer upland improvements, such as the number of cranes (16 versus 24), number of berths (4 versus 5), a smaller site area (291 versus 347 acres), and a substantially lower annual throughput (2,583,000 annual TEUs compared to 3,206,000 annual TEUs). Alternative 3 also would not include 1,250 lf of additional wharf (to create Berth 306) or impacts associated with pile installation and wharf construction (shade).

Operationally, Alternative 3 would increase the number of vessel calls relative to the NEPA baseline by 52 annual ship calls but would result in fewer ship calls compared to the 390 annual ship calls of the proposed Project. Given the Project purpose, Alternative 3 would not support the projected increase in throughput demand, would not maximize container-handling capacity and efficiency in the Pier 300 Channel and at the Project site, and would not make the best use of the Project site as a water-dependent use. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 3.

Alternative 4 (Reduced Project: No New Wharf) would result in fewer environmental impacts than the proposed Project because its operational capacity and its level of capital development would be lower. Alternative 4 would include fewer upland improvements, such as the number of cranes (20 versus 24), number of berths (4 versus 5), a smaller terminal area (302 versus 347 acres), and a lower annual throughput (2,783,000 annual TEUs compared to 3,206,000 annual TEUs). Alternative 4 would not include 1,250 lf of

additional wharf (to create Berth 306) or impacts associated with pile installation and wharf construction (shade).

Operationally, Alternative 4 would increase the number of vessel calls relative to the NEPA baseline by 52 annual ship calls but would result in fewer ship calls compared to the 390 annual ship calls of the proposed Project. Given the Project purpose, Alternative 4 would not support the projected increase in throughput demand, would not maximize container-handling capacity and efficiency in the Pier 300 Channel and at the Project site, and would not make the best use of the Project site as a water-dependent use. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 4.

Alternative 5 (Reduced Project: No Space Assignment) would result in similar environmental impacts as the proposed Project because its operational capacity and its level of capital development would be approximately the same. Alternative 5 would include identical upland improvements as the proposed Project, except that EMS would relinquish 30 acres of backlands under space assignment resulting in a smaller terminal area of 317 acres, compared to 347 acres under the proposed Project. Further, this alternative would result in 30 acres of developed terminal land and existing infrastructure being converted to vacant and under-developed land.

Operationally, Alternative 5 would increase the number of vessel calls relative to the NEPA baseline by 104 annual ship calls, which is the same number of ship calls under the proposed Project. Alternative 5 is expected to handle the same level of cargo throughput as the proposed Project, 3.2 million, by year 2027. However, given that Alternative 5 has a smaller acreage but equivalent cargo throughput as the proposed Project, Alternative 5 would require a slightly higher number of workers, equipment, and truck trips to efficiently process the throughput. This would result in slightly greater air emissions and ground transportation impacts than the proposed Project, though these impacts would be significant and unavoidable under both Alternative 5 and the proposed Project. Given the Project purpose and objectives, Alternative 5 would support the projected increase in throughput demand as efficiently as the proposed Project, and would also make efficient use of the terminal area. As a result, the Project objectives could be accomplished by Alternative 5 as with the proposed Project.

Alternative 6 (Proposed Project with Expanded On-Dock Railyard) would result in approximately the same environmental impacts as the proposed Project because its operational capacity and its level of capital development would be similar. However, the existing on-dock railyard would be redeveloped and expanded. Alternative 6 would result in the same operational throughput as with the proposed Project, but would also potentially improve the flow of containers in and out of the terminal use given the increased use of the expanded on-dock railyard. While this could result in slightly greater peak day emissions during the construction period and a greater number of rail trips, it would result in fewer truck trips during operations. The reduction in truck trips as compared to the proposed Project contributes to slightly lower operational air emissions and fewer traffic impacts overall although the air quality impacts would still be significant and unavoidable, as with the proposed Project.

Operationally, Alternative 6 would increase the number of vessel calls relative to the NEPA baseline by 104 annual ship calls and would result in the same 390 annual ship calls of the proposed Project. Consistent with the Project purpose, Alternative 6 would

support the projected increase in throughput demand, maximize container-handling capacity and efficiency in the Pier 300 Channel and at the proposed Project site, and meet the use requirements of the Project site as a water-dependent use. Alternative 6 would support the same container throughput as the proposed Project, while resulting in the same or slightly greater operational efficiencies. Therefore, Project objectives could be accomplished by Alternative 6 as with the proposed Project.

Based on the above, the proposed Project, and Alternatives 5 and 6 would each fulfill the overall Project purpose and need as discussed in Chapter 2, and each would have similar significant and unavoidable impacts in the areas of air quality and biological resources.