

City of Marina

Marina Downtown Vitalization Specific Plan

Working Draft
**Environmental
Impact Report**

SCH #2009121078



March 2011

Working Draft

**Marina Downtown Vitalization Specific Plan
Environmental Impact Report**

State Clearinghouse No. 2009121078

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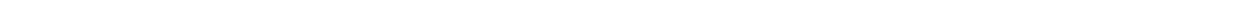


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Appendix G: Greenhouse Gas Emissions
Appendix H: Marina Downtown Vision
Appendix I: Downtown Design Guidelines
Appendix J: Baseline Conditions Report

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EXECUTIVE SUMMARY

This section summarizes the proposed project components and objectives, environmental impacts, and mitigation measures associated with the proposed Marina Downtown Vitalization Specific Plan. This section also summarizes the alternatives to the project that were considered in the EIR.

PROJECT SYNOPSIS

Specific Plan Applicant/Sponsor

The applicant for the Marina Downtown Vitalization Specific Plan is:

City of Marina
211 Hillcrest Avenue
Marina, California 93933

Contact: Luke Connolly, Project Manager
831-384-7324

Project Description

The proposed project, the *Marina Downtown Vitalization Specific Plan*, hereafter referred to as the Specific Plan, is a land use regulatory tool intended to guide physical development in the Downtown area. The Specific Plan encourages a mix of new residential development, commercial development (including retail and office) and civic uses intended to create a vibrant, thriving downtown.

The downtown area is already developed, and there is very little vacant land in the urban core of the City. As determined by the Baseline Conditions Report (Appendix J), approximately 21 acres (7%) of the 295-acre Specific Plan area is either vacant or substantially underutilized. Substantially underutilized lots are defined as those that do not meet at least half of the minimum FAR for the given land use designation, which excludes much of the development in the plan area. In order to achieve the land use goals established in the Specific Plan, existing development will need to be redeveloped with more intensive uses. It also applies development standards and guidelines for parking, building heights, landscaping, and other urban design features. The intent is for the Specific Plan to incentivize more intense urban development through increased intensities and predictable urban design standards.

The following table summarizes the existing development within the Specific Plan area, and compares it to the planned buildout under the Specific Plan. Please refer to Section 2.4.4 in Section 2.0, *Project Description*, for a discussion of the background analyses and assumptions inherent in the table.



**Table ES-1. Full Buildout in the Downtown Vitalization Specific Plan Area:
 Distributed by Land Use Designation**

Land Use Designation	Proposed Acres in Designation	Buildout Potential ¹	
		Square feet	Dwelling Units
Multiple Use	61.5	778,000 ²	520 ³
Office/Research	7.2	109,000 ⁴	-
Retail/Service	21.5	299,000 ⁵	-
Visitor Serving	0.0	0	-
Industrial	0.0	0	-
Public Facilities – Civic	10.6	95,000 ⁶	-
Public Facilities – Education	7.9	32,000	-
Multi-Family Residential	110.7	-	3,440 ⁷
Single-Family Residential	19.0	-	70 ⁸
TOTAL	295¹⁰	1,313,150⁹	4,030⁹

1. After full buildout under the proposed Specific Plan; anticipated to take approximately 30 years. Square footage rounded to the nearest 1,000. Dwelling units rounded to the nearest 10.
1. Commercial square footage only (does not include square footage of dwelling units). Based on approximately 40 percent of the maximum FAR of 0.9 and the assumption that half the total square footage would be used for residential.
2. Assumes 50 percent of square footage is commercial and 50 percent is residential, and that average residence is 1,500 square feet.
3. Based on approximately 40 percent of the maximum FAR of 0.6.
4. Based on approximately 40 percent of the maximum FAR of 0.55.
5. No FAR exists for this Land Use; buildout based on an increase of 112 percent in land use area.
6. Based on approximately 25 percent of the maximum density of 40 units per acre.
7. Based on approximately 25 percent the maximum of 5 single family homes per acre.
8. Subtotals may not add due to rounding.
9. Remaining 56.1 acres in plan area are roadways.

PROJECT OBJECTIVES

The objectives of the Downtown Vitalization Specific Plan are as follows:

1. Establish central Marina as a vital destination center, or Downtown, that accommodates a mix of commercial, retail, dining, entertainment and residential uses served by an improved transportation network.
2. Maximize the City's ability to capture the future economic opportunities that otherwise might be lost to neighboring, competing jurisdictions.
3. Promote the vision of the Marina Downtown Vitalization Specific Plan by encouraging a mix of new uses to create a vibrant, thriving Downtown.

ALTERNATIVES

Three alternatives to the proposed Specific Plan were analyzed in the EIR:

- *Alternative 1: No Project/No Development*
- *Alternative 2: No Project/Existing General Plan*
- *Alternative 3: Reduced Housing Alternative*



The No Project/No Development Alternative (Alternative 1) would be considered environmentally superior overall, since no development that could result in significant environmental impacts would occur. It should be noted, however, that this alternative would not foster the revitalization of the downtown core of the City, and would not meet any of the project objectives (outlined in Section 2.5 of Section 2.0, *Project Description*). The No Project/Existing General Plan Alternative (Alternative 2) can also be considered environmentally superior to the proposed Specific Plan. However, this alternative would similarly fail to foster the revitalization of the downtown core of the City, and would also not meet any of the project objectives (outlined in Section 2.5 of Section 2.0, *Project Description*). This alternative would reduce population-oriented impacts, including impacts to police and fire protection, public schools, noise, traffic, water and wastewater, solid waste, libraries, and parkland. In addition, this alternative would reduce vehicle miles traveled and associated air emissions, as well as emissions associated with development. However, this alternative would result in higher greenhouse gas emissions per service population.

The Reduced Project Alternative (Alternative 3) would also be considered environmentally superior to the proposed Specific Plan for certain impacts, which include impacts to air quality, noise, geology and soils, cultural and historic resources, public services and infrastructure, and greenhouse gas emissions. In addition, Alternative 3 would be considered environmentally superior because it would be consistent with and facilitate implementation of the *Downtown Vision*, *Downtown Design Guidelines*, and the *Pedestrian and Bicycle Master Plan* and would meet some of the project objectives outlined in Section 2.5 of Section 2.0, *Project Description*. However, it would not facilitate the buildout level called for in the Specific Plan, which is supported by the *Retail Leakage Analysis* and directed by the Marina City Council.

AREAS OF CONCERN

Pursuant to State CEQA Guidelines § 15123(b)(2), this EIR acknowledges the areas of controversy and issues to be resolved which are known to the City of Marina or were raised during the scoping process. A Notice of Preparation (NOP) was prepared and circulated for a 30-day public review period that began on December 28, 2009 and ended January 26, 2010. An EIR scoping meeting was held on March 11, 2010, at which the NOP comment period was extended to March 26, 2010. The NOP, responses to the NOP, and comments collected in a public scoping meeting held March 11, 2010 are presented in Appendix A of this report.

The issues addressed in this EIR include:

- *Land Use, Population, and Housing*
- *Transportation*
- *Air Quality*
- *Noise*
- *Geology and Soils*
- *Cultural and Historic Resources*
- *Aesthetics and Community Design*
- *Drainage and Water Quality*
- *Biological Resources*
- *Public Services and Infrastructure*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*

This EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including site-specific and cumulative effects of the Specific Plan in accordance with the provisions set forth in the CEQA Guidelines. In addition, the EIR



recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 identifies Specific Plan environmental impacts, proposed mitigation measures, and residual impacts. Impacts are organized by classes. Each residual impact discussion contains a statement of the significance determination for the environmental impact as follows:

Class I. Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.

Class II. Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.

Class III. Not Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

Class IV. Beneficial: An effect that would reduce existing environmental problems or hazards.

Additional effects found not to be significant through the scoping process for the proposed Specific Plan are addressed in the Initial Study for the project (refer to Appendix A). Issue areas with effects found not to be significant include: aesthetics (impacts to scenic vistas and resources within a state scenic highway); agricultural resources; air quality (odor generation); biological resources (wetlands, wildlife movement, and compliance with Habitat Conservation Plans); geology and soils (soils capable of supporting septic tanks); public safety (exposing people to safety risks associated with private air strips, increasing fire hazard risk); land use and planning (physically divide an established community); mineral resources; noise (exposure to noise from a private air strip); and transportation and traffic (result in changes to air traffic patterns).

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The proposed Downtown Vitalization Specific Plan would result in four Class I, *significant and unavoidable*, impacts. As discussed in Section 4.2, *Transportation*, buildout of the proposed Specific Plan would cause several intersections to operate at unacceptable levels of service. Impacts for the Reservation Road Two-Lane Option would be Class I, *significant and unavoidable*, under both Existing plus Project and Cumulative plus Project Scenarios. Impacts to freeway segments would also be Class I, *significant and unavoidable*, for both Reservation Road options under both Existing plus Project and Cumulative plus Project scenarios. As discussed in Section 4.3, *Air Quality*, operational emissions associated with the proposed Specific Plan would exceed MBUAPCD thresholds for ROG and NO_x and impacts would Class I, *significant and unavoidable*.



Lastly, as described in Section 4.4, *Noise*, construction activities could intermittently generate noise levels above City standards at locations on and adjacent to construction sites. This would be a short term Class I, *significant and unavoidable*, impact.

Impacts are discussed in greater detail in Section 4.0 of this EIR and are summarized in Table ES-1 below.

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**Table ES-2. Summary of Marina Downtown Vitalization Specific Plan
 Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Residual Impacts
LAND USE, POPULATION, AND HOUSING		
<p>Impact LU-1 The proposed Specific Plan would generally support the goals and policies of the Marina General Plan and other planning documents applicable to the downtown area. However, the proposed Land Use Plan would conflict with the existing General Plan Land Use Map, and would require General Plan amendments to resolve the conflict. Pursuant to approval of General Plan amendments, impacts would be Class III, less than significant.</p>	<p>No mitigation measures are required, beyond adherence to goals, policies, and design guidelines contained in the Specific Plan.</p>	<p>Impacts would be less than significant pursuant to approval of identified General Plan amendments.</p>
<p>Impact LU-2 Buildout of the Specific Plan would support an increase in Marina’s residential population. Anticipated population growth would not exceed AMBAG forecasts for the City, and would therefore be a Class III, <i>less than significant</i>, impact.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.</p>
<p>Impact LU-3 The Specific Plan would accommodate more housing units than would be displaced as a result of redevelopment. Impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.</p>
<p>Impact LU-4 Buildout of the Specific Plan would not create an imbalance of jobs and housing in the City of Marina or Monterey County. Impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.</p>
<p>Impact LU-5 New development and redevelopment facilitated by the proposed Specific Plan could result in conflicts with adjacent uses. However, conflicts would be</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
addressed on a project-by-project basis and are anticipated to be Class III, <i>less than significant</i> .		
TRANSPORTATION		
<p>Impact T-1 When compared to Existing Conditions, buildout of the proposed Specific Plan would cause six intersections to operate at unacceptable levels of service under the Reservation Road Four-Lane option, and eight intersections to operate at unacceptable levels of service under the Reservation Road Two-Lane option. Impacts would be Class II, significant but mitigable for the Four-Lane option and Class I, significant unavoidable for the Two-Lane option. Impacts to freeway segments would also be Class I, <i>significant and unavoidable</i>, for both Reservation Road options.</p>	<p>Mitigation measures are required for both the Reservation Road Four-Lane and Two-Lane options. Mitigation measures for each scenario are described below.</p> <p>It should also be noted that both the Four-Lane Option and Two-Lane Option Scenarios would degrade the level of service from acceptable to unacceptable at the segment of SR 1 between Del Monte Boulevard and Imjin Parkway Northbound and Southbound. Mitigating this impact would require an additional travel lane on SR 1 along this segment. However, the addition of a lane in this location would not improve operations on the SR 1 corridor above identified thresholds, and would therefore not be recommended.</p> <p><i>Reservation Road Four-Lane Option.</i> Mitigation measure T-1(a) is required for the Reservation Road Four-Lane option.</p> <p>T-1(a) Intersection Signalization Four-Lane Option. Signals shall be installed at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 1: Reservation Road/SR 1 Southbound Ramps • Intersection 14: Carmel Avenue/Del Monte Boulevard • Intersection 16: Imjin Parkway/SR 1 Southbound Ramps <p>All of these intersections are currently identified in the City of Marina Capital Improvement Program (CIP) and Impact Fee (TIF) Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.</p> <p>It should be noted that the above analysis also indicated that a signal would be warranted at Intersection 10 (Reservation Road/California Avenue). However, since completion of the traffic counts, field observation, and analysis in the TIF, a signal has been installed at this intersection. It has therefore been excluded from mitigation measure T-1(a).</p> <p><i>Reservation Road Two-Lane Option.</i> Mitigation measure T-1(b) is required for the Reservation Road Two-Lane option. The Reservation Road/Vista Del Camino and Reservation Road/De Forest Road intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. Similarly, mitigating the impact to the Reservation Road/Seacrest Avenue intersection would require the installation of additional lanes, which is not feasible under the Reservation Road Two-</p>	<p>Installing signals at the locations identified in mitigation measures T-1(a) and T-1(b) would result in acceptable operations at these intersections during both the AM and PM peak hours, under both the Existing plus Two-Lane Option and the Existing plus Four-Lane Option Conditions and impacts would be Class II significant but mitigable. However, the Two-Lane Option would degrade LOS at the Reservation Road/Vista Del Camino Intersection Roundabout and the Reservation Road/De Forest Road Roundabout to unacceptable levels. Because these intersections would be roundabouts, signalization is not feasible and therefore impacts would be Class I significant and unavoidable. Mitigation for impacts to freeway segments would require one additional travel lane on SR 1 in both directions. However, these improvements alone would not improve the overall operations on the SR 1 corridor without additional physical improvements to upstream/downstream segments to accommodate the added capacity. Because the expanded improvements would be regional in nature and beyond the scope of a single development project, no physical mitigation is considered feasible, and this impact is considered Class I, significant and unavoidable.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
	<p>Lane option. Mitigation for these three intersections is therefore not feasible.</p> <p>T-1(b) Intersection Signalization Two-Lane Option. Signals shall be installed at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 1: Reservation Road/SR 1 Southbound Ramps • Intersection 16: Imjin Parkway/SR 1 Southbound Ramps <p>Both of these intersections are currently identified in the City of Marina Capital Improvement Program (CIP) and Impact Fee (TIF) Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.</p> <p>It should be noted that the above analysis also indicated that a signal would be warranted at Intersection 10 (Reservation Road/California Avenue). However, since completion of the traffic counts, field observation, and analysis in the TIF, a signal has been installed at this intersection. It has therefore been excluded from mitigation measure T-1(b).</p>	<p>It should be noted that to partially mitigate the Specific Plan's impact on SR 1, the City should consider implementation of a Transportation Demand Management (TDM) plan to reduce the overall vehicle trip generation in the downtown area. A TDM plan is a set of strategies, measures and incentives to encourage people to walk, bicycle, use public transportation, carpool, or use other alternatives to driving alone. As a result, the amount of traffic generated by land uses and their associated impacts could be reduced. TDM measures produce more mobility using existing transportation systems, boost economic efficiency of the current transportation infrastructure, improve air quality, save energy, and reduce traffic congestion. Examples of TDM measures that new development in the downtown area may include in their TDM plans or programs are:</p> <ul style="list-style-type: none"> • Subsidized transit passes • Car sharing / Van pool program • Free trolley bus or shuttle • Preferential carpool parking • Parking cash-out programs <p>TDM measures are usually implemented through the formation of a Transportation Management Association (TMA) that coordinates programs and is responsible for obtaining funding through member contributions and grants. Members can include businesses, homeowner's associations, public agencies and</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
		<p>other stakeholders. Because TDM measures are not required as part of the Specific Plan and to provide a reasonable worst-case scenario, this analysis does not take into account a reduction in automobile trips that would be attributable to the implementation of TDM strategies.</p>
<p>Impact T-2 When compared to Cumulative No Project Condition, full buildout of the proposed Specific Plan would cause eight intersections to operate at unacceptable levels of service under the Reservation Road Four-Lane option, and 11 intersections to operate at unacceptable levels of service under the Reservation Road Two-Lane option. Impacts would be Class II, significant but mitigable for the Four-Lane option and Class I, significant unavoidable for the Two-Lane option.. Impacts to freeway segments would also be Class I, <i>significant and unavoidable</i>, for both Reservation Road options.</p>	<p>Mitigation measure T-1(a) (Intersection Signalization for the Four-Lane Option) requires the installation of signals at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 1: Reservation Road/SR 1 Southbound Ramps • Intersection 14: Carmel Avenue/Del Monte Boulevard • Intersection 16: Imjin Parkway/SR 1 Southbound Ramps <p>Mitigation measure T-1(b) (Intersection Signalization for the Two-Lane Option) requires the installation of signals at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 1: Reservation Road/SR 1 Southbound Ramps • Intersection 16: Imjin Parkway/SR 1 Southbound Ramps <p>It should also be noted that both the Cumulative plus Four-Lane Option and Cumulative plus Two-Lane Option Scenarios would degrade the level of service from acceptable to unacceptable at the segment of SR 1 between Lightfighter Drive and Imjin Parkway (northbound during the PM peak-hour and southbound during the AM peak-hour). Mitigating this impact would require an additional travel lane on SR 1 along this segment. However, the addition of a lane in this location would likely not improve operations on the SR 1 corridor above identified thresholds, and would therefore not be recommended.</p> <p>Additional mitigation measures required for both the Reservation Road Four-Lane and Reservation Two-Lane options under the Cumulative Scenario are described below.</p> <p>Reservation Road Four-Lane Option. In addition to the improvements identified in mitigation measure T-1(a), the following is required for the Four-Lane Option.</p> <p>T-2(a) Cumulative Intersection Signalization for the Four-Lane Option. Signals shall be installed at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 6: Reservation Road/Eucalyptus Street. This signal shall be coordinated with the signal at Reservation Road/Seacrest Avenue due to the proximity of the two intersections. 	<p>Implementation of mitigation measures T-2(a) and T-2(b) [in addition to mitigation measure T-1(a)] would result in acceptable operations at the mitigated intersections during the AM and PM peak hours, under the Four-Lane Option. Impacts to these intersections under the Four-Lane Option would be Class II, significant but mitigable.</p> <p>Mitigation measures T-2(c) through T-2(e) would result in acceptable operations at these applicable intersections under the Two-Lane Option. Impacts to these intersections would be Class II, significant but mitigable. However, the Two-Lane option would result in potentially significant impacts to Reservation Road/Vista Del Camino and Reservation Road/De Forest Road. Both of these intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. In addition, to operate at acceptable LOS, Reservation Road/Seacrest Avenue would require additional lanes, which is in direct conflict with the goals of the Two-Lane Option. Therefore, mitigation for this intersection under the Two-Lane Option is infeasible and impacts to these intersections would</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
	<ul style="list-style-type: none"> • Intersection 22: Golf Boulevard/Del Monte Boulevard (future intersection). • Intersection 23: Patton Parkway/2nd Avenue (future intersection). <p>Two of these intersections (Golf Boulevard/Del Monte Boulevard, and Patton Parkway/2nd Avenue) are currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City’s traffic impact fee to mitigate the impact at these locations.</p> <p>If the City of Marina adds the remaining intersection (Reservation Road/Eucalyptus Street) to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.</p> <p>T-2(b) Mortimer Lane/Del Monte Boulevard Left Turn Restriction. The westbound turn from Mortimer Lane to Del Monte Boulevard shall be restricted.</p> <p>This improvement is not identified in the CIP or TIR. If the City of Marina adds this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.</p> <p>Reservation Road Two-Lane Option. In addition to the improvements identified in mitigation measure T-1(a), the following is required for the Two-Lane Option.</p> <p>T-2(c) Cumulative Intersection Signalization for the Four-Lane Option. Signals shall be installed at the following intersections:</p> <ul style="list-style-type: none"> • Intersection 6: Reservation Road/Eucalyptus Street • Intersection 14: Carmel Avenue/Del Monte Boulevard • Intersection 22: Golf Boulevard/Del Monte Boulevard (future intersection) • Intersection 23: Patton Parkway/2nd Avenue (future intersection) <p>Three of these intersections (Carmel Avenue/Del Monte Boulevard, Golf Boulevard/Del Monte Boulevard, and Patton Parkway/2nd Avenue) are currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City’s traffic impact fee to mitigate the impact at these locations.</p>	<p>be Class I, significant and unavoidable.</p> <p>Mitigation for impacts to freeway segments would require one additional travel lane on SR 1 in both directions for the Four-Lane and Two-Lane Options. However, these improvements alone would not improve the overall operations on the SR 1 corridor without additional physical improvements to upstream/downstream segments to accommodate the added capacity. Because the expanded improvements would be regional in nature and beyond the scope of a single development project, no physical mitigation is considered feasible, and this impact is considered Class I, significant and unavoidable.</p> <p>It should be noted that to partially mitigate the Specific Plan’s impact on SR 1, the City should consider implementation of a Transportation Demand Management (TDM) plan to reduce the overall vehicle trip generation in the downtown area, as described under Impact T-1.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
	<p>If the City of Marina adds the remaining intersection (Reservation Road/Eucalyptus Street) to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.</p> <p>T-2(d) Geometry Improvements to Imjin Parkway/2nd Avenue. Imjin Parkway east of 2nd Avenue shall be widened from four lanes to six lanes.</p> <p>The widening of Imjin Parkway from four to six lanes between 2nd Avenue and Imjin Road is currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.</p> <p>T-2(e) Mortimer lane/Del Monte Boulevard Left Turn Restriction. The westbound turn from Mortimer Lane to Del Monte Boulevard shall be restricted.</p> <p>This improvement is not identified in the CIP or TIR. If the City of Marina adds this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.</p> <p>The Two-Lane option would result in potentially significant impacts to two additional intersections: Reservation Road/Vista Del Camino and Reservation Road/De Forest Road. Both of these intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. In addition, to operate at acceptable LOS, Reservation Road/Seacrest Avenue would require additional lanes, which is in direct conflict with the goals of the Two-Lane Option. Therefore, mitigation for this intersection under the Two-Lane Option is infeasible.</p>	
<p>Impact T-3 Future development anticipated under the proposed Specific Plan would increase demand for alternative transportation modes, such as walking, bicycling, and public transit. Implementation of the Plan</p>	<p>No mitigation is required.</p>	<p>Impacts would be beneficial.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>would improve availability of sidewalks, bicycle routes, and transit opportunities, thereby meeting anticipated demand. Impacts would be Class IV, <i>beneficial</i>.</p>		
AIR QUALITY		
<p>Impact AQ-1 Buildout of the Downtown Vitalization Specific Plan would support an increase in Marina’s population. Anticipated population growth would not exceed AMBAG forecasts for the City, and would therefore be consistent with the MBUAPCD’s 2008 Air Quality Management Plan. This would be a Class III, <i>less than significant</i>, impact.</p>	<p>No mitigation is required.</p>	<p>Both the four-lane and two-lane Reservation Road options would be consistent with the AQMP, and impacts are less than significant without mitigation.</p>
<p>Impact AQ-2 Future development under the Specific Plan would increase long-term operational air pollutant emissions within the Monterey County portion of the North Central Coast Air Basin. These emissions would exceed recommended thresholds for ROG and NOX. Impacts would be Class I, <i>significant and unavoidable</i>.</p>	<p>AQ-2(a) MBUAPCD Recommended Mitigation Measures. Future development in the Specific Plan area shall apply MBUAPCD recommended mitigation measures for commercial, industrial, and institutional (civic) land uses (listed in Table 8-5 of the MBUAPCD 2008 CEQA Guidelines) to the extent appropriate for the specific land uses proposed. These measures may include:</p> <ul style="list-style-type: none"> • Provide preferential carpool/vanpool parking spaces in office uses. • Provide bicycle storage/parking facilities and shower/locker facilities. • Provide onsite child care centers. • Provide transit design features within development. • Develop park-and-ride lots. • Employ a transportation/rideshare coordinator. • Implement a rideshare program. • Provide incentives to employees to rideshare or take public transportation. • Implement compressed work schedules. • Implement telecommuting program. • Implement a parking surcharge for single occupant vehicles. • Provide for shuttle/mini bus service if demand warrants. 	<p>Emissions associated with the proposed Specific Plan project would be reduced through implementation of required mitigation at commercial, industrial, and civic land uses developed under the Specific Plan. However, due to the substantial exceedance of MBUAPCD thresholds, emissions would remain above thresholds of significance for criteria pollutant emissions, and no additional mitigation is feasible. Consequently, the Specific Plan would have a Class I, <i>significant and unavoidable</i> impact.</p>
<p>Impact AQ-3 Future development projects under the Specific Plan would generate demolition- and construction-related emissions. Although temporary in nature,</p>	<p>AQ-3(a) Specific Plan Construction/Demolition Performance Standard and Emissions Reduction Measures. Construction/demolition activity within the Specific Plan area should be limited to 8.1 acres per day with minimal earthmoving, or 2.2 acres per day with demolition or grading/excavation, consistent with the screening-level thresholds in the MBUAPCD’s 2008 CEQA Air Quality Guidelines, or consistent with</p>	<p>With application of mitigation measure AQ-3(a), construction-related PM10 emissions would be reduced below the MBUAPCD’s thresholds of significance for both the four-lane and</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>construction activities would contribute to the current exceedances of the state standard for PM10. This would be a Class II, <i>significant but mitigable</i>, impact.</p>	<p>any updated air quality guidelines approved by the MBUAPCD. Any individual construction project that would exceed these screening-level area-based limits shall implement the following emissions reduction measures:</p> <ul style="list-style-type: none"> • Application of Standard Best Available Control Technology for Construction Equipment (CBACT). Best available control technology for construction equipment (CBACT) shall be applied to the piece of construction equipment estimated to cause the highest level of combustion emissions during any proposed construction. CBACT technology may include the following: fuel injection timing retard of two degrees; installation of high pressure injectors; coating of internal combustion surfaces (cylinder head, pistons, and valves); and/or use of reformulated diesel. • Dust Control. The following measures shall be implemented to reduce PM10 emissions during project construction/demolition: <ul style="list-style-type: none"> ○ Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Water shall be applied depending on conditions. Reclaimed (non-potable) water should be used whenever possible. ○ All dirt-stock-pile areas shall be sprayed daily and/or covered as needed. ○ Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast-germinating native grass seed and watered until vegetation is established. ○ All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the MBUAPCD. ○ Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. ○ All trucks hauling dirt, sand, soil or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114. ○ Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. ○ Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible. ○ The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in 	<p>two-lane Reservation Road options.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
	<p>progress. The name and telephone number of such persons shall be provided to MBUAPCD prior to land use clearance for map recordation and land use clearance for finish grading for the structure.</p> <p>The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress.</p>	
<p>Impact AQ-4 The proposed Specific Plan could increase localized carbon monoxide (CO) levels above federal or state ambient air quality standards, creating CO “hotspots.” This would be a Class III, <i>less than significant</i>, impact.</p>	<p>No mitigation is required.</p>	<p>Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.</p>
NOISE		
<p>Impact N-1 Construction activities in the Specific Plan area could intermittently generate noise levels above City standards at locations on and adjacent to construction sites, some of which may be near residences or other noise-sensitive facilities. Impacts would be Class I, <i>significant and unavoidable</i>.</p>	<p>N-1(a) Construction Equipment. Stationary construction equipment that generates noise that exceeds 60 dBA Ldn at the boundaries of adjacent residential properties shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.</p> <p>N-1(b) Construction Timing. The City shall ensure that notes for grading plans and/or site improvement plans clearly state the noise limitation requirements of Municipal Code Section 15.04.055.</p> <p>N-1(c) Pre-Drilling. Pre-drilling shall be required prior to any pile-driving.</p>	<p>Implementation of the above mitigation measures would reduce the noise impact of construction activity, except for pile-driving, to less than significant levels for both the Reservation Road Four-Lane and Reservation Road Two-Lane Option. Pile-driving noise would be reduced as well, but this noise would still be significant if occurring in close proximity to noise-sensitive receptors. Consequently, potential noise exposure from pile-driving would remain a <i>significant and unavoidable</i> impact.</p>
<p>Impact N-2 Construction activities in the Specific Plan area could intermittently generate groundborne vibration, which can result in structural damage to existing buildings. This impact would be Class II, <i>significant but mitigable</i>.</p>	<p>Mitigation measure N-1(c) would reduce this impact to a less than significant level by reducing the extent and duration of installing driven piles, which would reduce the risk of vibration-generated structural damage.</p>	<p>The distance at which pile-driving produces potentially significant groundborne vibration impacts is substantially lower than the corresponding distance for noise impacts (refer to Impact N-1). Therefore, implementation of mitigation measure N-1(c) would reduce this impact to a less than</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>Impact N-3 Development facilitated by the Specific Plan would increase traffic and associated noise levels along roadways in the Specific Plan vicinity, thereby exposing existing land uses to increased noise levels. However, receptors along the affected roadways would not experience a noise level increase that exceeds the applicable threshold. Impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation is required.</p>	<p>significant level. Impacts would be less than significant without mitigation.</p>
<p>Impact N-4 Development facilitated by the Specific Plan could locate new residences or other noise-sensitive land uses in existing roadway noise corridors exposed to noise levels exceeding the City's "acceptable" noise level standards. However, none of the affected roadways would experience a noise level increase that exceeds the City's "conditionally acceptable" noise level standards. Traffic-related roadway noise impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation is required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact N-5 Development facilitated by the Specific Plan would include multiple use development that may locate residences or other noise-sensitive land uses in close proximity with noise-generating land uses. Nuisance noise associated with multiple use developments would be Class III, <i>less than significant</i>.</p>	<p>No mitigation is required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact N-6 Aircraft from the Marina Municipal Airport would fly</p>	<p>No mitigation is required.</p>	<p>Both the Four-Lane and Two-Lane Reservation Road Options would be</p>

**Table ES-2. Summary of Marina Downtown Vitalization Specific Plan
 Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Residual Impacts
over portions of the Specific Plan area. The Specific Plan would not expose sensitive receptors to aircraft noise in excess of normally acceptable levels, or conflict with the Marina Municipal Airport Comprehensive Land Use Plan. Impacts would be Class III, <i>less than significant</i> .		located outside of the airport 65 and 60 CNEL noise contour. Impacts would be less than significant without mitigation.
GEOLOGY AND SOILS		
Impact GEO-1 Future seismic events could result in surface rupture and/or produce groundshaking that could damage structures and create adverse health and safety effects. However, compliance with required building codes and implementation of General Plan policies would ensure Class III, <i>less than significant</i> , impacts.	No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.	It is impossible to reduce the probability of a powerful earthquake with high ground acceleration to zero. Any structure built in California is susceptible to failure due to seismic activity. However, the potential for structural failure due to seismic ground shaking would be Class III, <i>less than significant</i> through implementation of the most recent industry standards (CBC) for structural design.
Impact GEO-2 Liquefaction potential in the proposed Specific Plan area is low. In addition, the compliance of future development projects with the CBC would result in Class III, <i>less than significant</i> , impacts.	No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.	Impacts would be less than significant without mitigation.
Impact GEO-3 Development facilitated by the proposed Specific Plan could occur on soils that have the potential to present hazards to structures and roadways. However, compliance of future development projects with the building codes and adopted General Plan policies would ensure that impacts remain Class III, <i>less than significant</i> .	No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.	Properly designed and constructed foundations would adequately mitigate the potential for structural problems caused by soil-related hazards, thereby reducing impacts to a less than significant level.

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>Impact GEO-4 Risk of landslide hazard within the Plan area is low. Compliance with the building codes would result in Class III, <i>less than significant</i>, impacts.</p>	<p>No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>CULTURAL AND HISTORIC RESOURCES</p>		
<p>Impact CR-1 Development accommodated or encouraged pursuant to the Specific Plan may affect the integrity of identified and potential historical structures in the Plan area, depending on the location and type of development proposed within the downtown area. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>CR-1(a) Compliance with the Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties. If a building or structure within the Specific Plan area that is more than 45 years of age is proposed for removal or alteration, the applicant shall obtain an analysis from a qualified architectural historian to determine if the structure or structures should be considered state or local historic resources. If the finding is positive and a structure is found to be historic, it shall be recorded on Office of Historic Preservation DPR 523 historic resource recordation forms. As part of this process, the architectural historian shall recommend and the applicant shall implement mitigation in compliance with the <i>Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties</i> (36 CFR 68), as outlined in Section 4.6.2(a).</p> <p>CR-1(b) Specific Plan Historic Resource Design Guidelines. The following design guidelines shall be added to the proposed Specific Plan:</p> <ul style="list-style-type: none"> • <i>Existing structures that are found to be considered historic resources should be incorporated into future projects through adaptive reuse techniques whenever possible, as determined by the community development director, the planning commission, or the city council.</i> • <i>New structures constructed adjacent to identified historic structures should be reviewed by the community development director, the planning commission, or the city council for compatibility.</i> 	<p>CEQA provides guidelines for mitigating impacts to historical resources in Section 15126.4. For buildings and structures, maintenance, repair, restoration, preservation, conservation, or reconstruction consistent with the <i>Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties</i> is considered mitigation of impacts to a less than significant level (14 CCR 15126.4(b)(1)). Therefore, with implementation of the required mitigation measures, as well as local General Plan direction, impacts would be reduced to a less than significant level.</p>
<p>Impact CR-2 Although no prehistoric resources have been identified in the downtown area, ground disturbance associated with new construction could uncover previously unknown buried archeological deposits and/or human remains. This is a Class II, <i>significant but mitigable</i>, impact.</p>	<p>CR-2(a) Undiscovered Cultural Resources. The Redevelopment Agency shall be notified immediately if any prehistoric, archaeological, or paleontological artifact is uncovered during construction associated with proposed development. All construction must stop and an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action.</p> <p>CR-2(b) Undiscovered Human Remains. All construction must stop and the authorities notified if any human remains are uncovered. The County Coroner must be notified according to Section 7050.5 of California’s Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed.</p>	<p>With implementation of the required mitigation measures, as well as local General Plan direction, impacts would be reduced to a less than significant level.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
AESTHETICS AND COMMUNITY DESIGN		
<p>Impact AES-1 Buildout of the proposed Specific Plan would result in an intensification of development that would alter the existing visual character of the Downtown area. Implementation of Specific Plan policies and design guidelines would potentially improve the urban design character of the plan area. Impacts would be therefore be considered Class III, <i>less than significant</i>.</p>	<p>Impact AES-1 Buildout of the proposed Specific Plan would result in an intensification of development that would alter the existing visual character of the Downtown area. Implementation of Specific Plan policies and design guidelines would potentially improve the urban design character of the plan area. Impacts would be therefore be considered Class III, <i>less than significant</i>.</p>	<p>Impact AES-1 Buildout of the proposed Specific Plan would result in an intensification of development that would alter the existing visual character of the Downtown area. Implementation of Specific Plan policies and design guidelines would potentially improve the urban design character of the plan area. Impacts would be therefore be considered Class III, <i>less than significant</i>.</p>
<p>Impact AES-2 Development pursuant to the Specific Plan would create new sources of nighttime lighting and daytime glare. However, dark-sky friendly lighting required in design guidelines would likely reduce adverse lighting impacts from current conditions. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>Impact AES-2 Development pursuant to the Specific Plan would create new sources of nighttime lighting and daytime glare. However, dark-sky friendly lighting required in design guidelines would likely reduce adverse lighting impacts from current conditions. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>Impact AES-2 Development pursuant to the Specific Plan would create new sources of nighttime lighting and daytime glare. However, dark-sky friendly lighting required in design guidelines would likely reduce adverse lighting impacts from current conditions. Therefore, impacts would be Class III, <i>less than significant</i>.</p>
DRAINAGE AND WATER QUALITY		
<p>Impact DWQ-1 Construction activities in the Specific Plan area could degrade water quality through increased rates of erosion and sedimentation. However, preparation of Stormwater Pollution Prevention Plans and conformance with City standards would result in Class III, <i>less than significant</i>, impacts.</p>	<p>Impact DWQ-1 Construction activities in the Specific Plan area could degrade water quality through increased rates of erosion and sedimentation. However, preparation of Stormwater Pollution Prevention Plans and conformance with City standards would result in Class III, <i>less than significant</i>, impacts.</p>	<p>Impact DWQ-1 Construction activities in the Specific Plan area could degrade water quality through increased rates of erosion and sedimentation. However, preparation of Stormwater Pollution Prevention Plans and conformance with City standards would result in Class III, <i>less than significant</i>, impacts.</p>
<p>Impact DWQ-2 The Specific Plan area is an existing urban environment with existing stormwater conveyance facilities, which adequately convey</p>	<p>Impact DWQ-2 The Specific Plan area is an existing urban environment with existing stormwater conveyance facilities, which adequately convey stormwater runoff. However, approximately 21 acres of impervious surfaces that would convey water contaminants and increase peak runoff flow rates would be added to the Specific Plan area. Compliance with existing General Plan policies and City Specifications would</p>	<p>Impact DWQ-2 The Specific Plan area is an existing urban environment with existing stormwater conveyance facilities, which adequately convey stormwater</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
stormwater runoff. However, approximately 21 acres of impervious surfaces that would convey water contaminants and increase peak runoff flow rates would be added to the Specific Plan area. Compliance with existing General Plan policies and City Specifications would ensure that impacts remain Class III, <i>less than significant</i> .	ensure that impacts remain Class III, <i>less than significant</i> .	runoff. However, approximately 21 acres of impervious surfaces that would convey water contaminants and increase peak runoff flow rates would be added to the Specific Plan area. Compliance with existing General Plan policies and City Specifications would ensure that impacts remain Class III, <i>less than significant</i> .
Impact DWQ-3 Portions of the proposed Specific Plan area are designated as 100-year flood zones. However, existing General Plan policies would result in Class III, <i>less than significant</i> , impacts.	Impact DWQ-3 Portions of the proposed Specific Plan area are designated as 100-year flood zones. However, existing General Plan policies would result in Class III, <i>less than significant</i> , impacts.	Impact DWQ-3 Portions of the proposed Specific Plan area are designated as 100-year flood zones. However, existing General Plan policies would result in Class III, <i>less than significant</i> , impacts.
BIOLOGICAL RESOURCES		
Impact BIO-1 Development under the proposed Specific Plan would result in the conversion of ruderal/disturbed habitat to urban uses. This is a Class III, <i>less than significant</i> impact.	No mitigation measures are required.	As ruderal/disturbed habitat is not sensitive, impacts to this habitat type would be less than significant without mitigation.
Impact BIO-2 Development allowed under the Specific Plan could remove trees protected by the City of Marina Zoning Ordinance. However, compliance with the City's tree preservation ordinance would make this a Class III, <i>less than significant</i> impact.	No mitigation measures are required beyond adherence to Specific Plan design guidelines and City Ordinance 17.51L.	Pursuant to compliance with Specific Plan design guidelines and City Ordinance 17.51L, impacts to City-protected trees would be less than significant.
Impact BIO-3 Development in accordance with the Specific Plan could potentially impact special status plant species. This would be a Class II, <i>significant but mitigable</i> impact.	BIO-3(a) Project-Specific Special Status Plant Species Mitigation. Applicants for future development of vacant, undeveloped parcels shall hire a qualified biologist to determine if special status plant species are present on-site. If found, mitigation for special status plant species shall be prescribed and implemented. Such mitigation may include redesign of the project to avoid impacts and/or restoration at a minimum ratio of 2:1 (area or individuals restored per area or individuals lost) either on-site or at an approved off-site location. Restoration shall be accompanied with a restoration	Compliance with mitigation measure BIO-3(a) would ensure that impacts of future development within the Specific Plan area are mitigated to a less than significant level.

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>Impact BIO-4 Development in accordance with the Specific Plan could potentially impact special status animal species. This would be a Class II, <i>significant but mitigable</i> impact.</p>	<p>BIO-4(a) Project-Specific Special Status Animal Species Mitigation. Applicants for future development of vacant, undeveloped parcels shall hire a qualified biologist to determine if special status animal species are present on-site. If found, and it is determined that impacts to on-site special status animal species could occur, mitigation shall be prescribed and implemented. Depending on the species found on-site, mitigation may include avoidance of habitat during reproductive periods (e.g., nests), species-specific habitat assessments and protocol surveys, pre-construction surveys, on-site biological monitoring, and/or consultations with the USFWS and CDFG.</p>	<p>Compliance with mitigation measure BIO-4(a) would ensure that impacts of future development with the Specific Plan area are mitigated to a less than significant level.</p>
PUBLIC SERVICES AND INFRASTRUCTURE		
<p>Impact PS-1 Development facilitated by the Downtown Vitalization Specific Plan would increase demand for fire protection services. However, all development in the plan area would be located within the five minute response zone of the Fire Department and adequate fire protection would be provided without the construction of new or expanded fire protection facilities. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact PS-2 Development facilitated by the Downtown Vitalization Specific Plan would increase demand for police services, such that increases in staffing would be necessary. However, this impact would be offset by the collection of impact mitigation fees pursuant to the City of Marina’s developer fee schedule. No new police facilities would be required. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact PS-3 Development facilitated by the Downtown</p>	<p>No mitigation measures are required beyond payment of developer impact fees in accordance with the MPUSD developer fee schedule.</p>	<p>Impacts would be less than significant without mitigation.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>Vitalization Specific Plan would increase student enrollment such that new or expanded school facilities would be needed at Marina Vista Elementary and J.C. Crumpton Elementary. However, the payment of developer impact fees is deemed full mitigation by the State of California. Therefore, impacts to schools would be Class III, <i>less than significant</i>.</p>		
<p>Impact PS-4 Development facilitated by the Downtown Vitalization Specific Plan would increase the population of Marina and proportionately increase demand for parkland. Currently available parkland would be adequate to support the population increase attributable to Downtown Vitalization Specific Plan. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact PS-5 Development facilitated by the Downtown Vitalization Specific Plan would increase demand for library services. However, currently available library space would be adequate to support the population increase attributable to the Specific Plan. Therefore, impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact PS-6 Buildout of the Downtown Vitalization Specific Plan would demand approximately 650 AFY. The City of Marina will have a surplus of 928 AFY in the year 2030. Therefore, adequate supply</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>would be available to accommodate buildout. Necessary water infrastructure upgrades would occur on an as needed basis and would not result in significant secondary environmental impacts. Therefore, impacts to water supply and water supply infrastructure would be Class III, <i>less than significant</i>.</p>		
<p>Impact PS-7 Buildout of the Downtown Vitalization Specific Plan would generate approximately 0.5 million gallons of wastewater per day (MGD). The MRWPCA regional wastewater treatment facility has the capacity to accommodate an additional 9.6 MGD. Therefore, adequate capacity exists to accommodate buildout of the proposed Specific Plan and impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact PS-8 Buildout of the Downtown Vitalization Specific Plan would generate approximately 5.75 tons of solid waste per day. The existing MRWMD landfill has a surplus capacity of 2,900 tons of waste per day. Therefore, adequate capacity exists to serve the Specific Plan and impacts would be Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>GREENHOUSE GAS EMISSIONS</p>		
<p>Impact GHG-1 Buildout of the proposed Specific Plan would accommodate new residences, businesses, and other uses that</p>	<p>As noted in Section 4.11, <i>Greenhouse Gas Emissions</i>, the proposed Specific Plan would reduce the generation of GHGs through a variety of land use and circulation strategies, including a mix of general office and commercial land uses, and multiple use development, which reduces trip lengths and VMT by allowing residents to live</p>	<p>Impacts would be less than significant without mitigation.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
<p>would generate greenhouse gas emissions and incrementally contribute to climate change. However, the Specific Plan's GHG emissions would be lower than the plan-level "efficiency" threshold. This would be a Class III, <i>less than significant</i>, impact.</p>	<p>closer to places of employment and shopping opportunities. In addition, the Specific Plan incorporates the fundamental concepts contained in the Pedestrian and Bicycle Master Plan, and includes provisions for bikeways, pedestrian walkways, and transit circulation that will reduce the need for vehicle transportation and therefore reduce the total volume of GHG emissions.</p> <p>In addition, mitigation measures AQ-2(a) (MBUAPCD recommended mitigation measures for commercial, industrial, and institutional land uses) and AQ-3(a) (construction and demolition performance standards and associated emissions reduction measures) in Section 4.3, Air Quality, would reduce GHG emissions from buildout under the Specific Plan. No additional mitigation measures would be required to reduce GHG emissions from the proposed Specific Plan area.</p>	
HAZARDS AND HAZARDOUS MATERIALS		
<p>Impact HAZ-1 Potential development that could be facilitated near known hazardous material users, or construction in areas with existing hazardous materials, could expose individuals to health risks due to soil/groundwater contamination or emission of hazardous materials into the air. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, <i>less than significant</i>.</p>	<p>As individual development projects are considered for construction, separate environmental review may be required, which could result in the implementation of project-specific mitigation measures for hazardous materials. In addition, compliance with federal, state, and local regulations, in combination with the General Plan policies, would reduce impacts to a less than significant level.</p>	<p>Compliance with federal, state, and local regulations, in combination with applicable General Plan policies, would reduce potential hazardous materials impacts to less than significant level.</p>
<p>Impact HAZ-2 Redevelopment within the Specific Plan area may require demolition of existing structures, which, depending on their age, may contain asbestos and/or lead-based paint. If not properly handled and disposed of, this could pose a potential health risk to people. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>HAZ-1(a) Asbestos Sampling. Prior to demolition work of buildings constructed prior to 1980, areas of the on-site structures shall be sampled as part of an asbestos survey in compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP). If asbestos is found in any building, asbestos-related work, including demolition, involving 100 square feet or more of asbestos containing materials (ACMs) shall be performed by a licensed asbestos abatement contractor under the supervision of a certified asbestos consultant and asbestos shall be removed and disposed of in compliance with applicable State laws. Regardless of whether asbestos is identified in any building, prior to demolition of existing structures the MBUAPCD shall be notified and an MBUAPCD Notification of Demolition and Renovation Checklist shall be submitted to both MBUAPCD and the City.</p> <p>HAZ-1(b) Paint Waste Evaluation. If paint is separated from the building material</p>	<p>Compliance with federal, state, and local regulations, in combination with mitigation measures HAZ-1(a) and HAZ-1(b), would reduce potential impacts from asbestos and lead-based paint to a less than significant level for both the four-lane and two-lane Reservation Road options.</p>

Table ES-2. Summary of Marina Downtown Vitalization Specific Plan Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
	<p>(e.g. chemically or physically) during demolition of the existing buildings, the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations. According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.</p>	
<p>Impact HAZ-3 The transportation of hazardous materials could potentially create a public safety hazard for new development that could be accommodated along major transportation corridors under the proposed Specific Plan. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, <i>less than significant</i>.</p>	<p>Compliance with existing hazardous materials transportation regulations as well as continuing participation and maintenance of the city and countywide emergency-preparedness plans would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact HAZ-4 Aircraft from the Marina Municipal Airport would fly over portions of the Specific Plan area, which may result in a safety hazard for people residing or working in these areas. Impacts would be Class III, <i>less than significant</i>.</p>	<p>Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.</p>	<p>Impacts would be less than significant without mitigation.</p>

1.0 INTRODUCTION

This document is an Environmental Impact Report (EIR) for the Marina Downtown Vitalization Specific Plan (Specific Plan). The Specific Plan would guide the future development and redevelopment of the Marina downtown area. The Specific Plan area encompasses approximately 295 acres of central Marina, primarily east of the intersection of Del Monte Boulevard and Reservation Road. The Specific Plan would become the primary policy and regulatory tool for the City of Marina to guide land use development and redevelopment in the Downtown over a 30-year timeframe.

The Specific Plan process was initiated by the City of Marina and included numerous opportunities for public involvement. The Specific Plan intends to provide a blueprint for the physical revitalization of the Downtown area of Marina through:

- *A clearly stated vision for the future;*
- *Clearly articulated land uses and development standards;*
- *Appropriate design guidelines and regulations;*
- *Strategies to encourage desired redevelopment and economic development; and,*
- *An implementation program identifying action steps, organizations and resources.*

For the purpose of this EIR, “project” refers to all aspects and phases of the proposed Specific Plan, including its policy framework and well as subsequent development that could occur as a result of these policies. Additional detail regarding the project components can be found in Section 2.0, *Project Description*.

1.1 PURPOSE AND LEGAL AUTHORITY

This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), and the State CEQA Guidelines. In accordance with Section 15121(a) of the State CEQA Guidelines, the purpose of this EIR is to serve as an informational document that:

"...will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project..."

This document is a Program EIR. Section 15168(a) of the CEQA Guidelines outlines the Program EIR process as follows:

- "(A) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:*
- (1) Geographically;*
 - (2) As logical parts in a chain of contemplated actions;*
 - (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or*
 - (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.*



- (B) *Advantages. Use of a program EIR can provide the following advantages. The program EIR can:*
- (1) *Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,*
 - (2) *Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,*
 - (3) *Avoid duplicative reconsideration of basic policy considerations,*
 - (4) *Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and*
 - (5) *Allow reduction in paperwork.*
- (C) *Use with Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.*
- (1) *If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.*
 - (2) *If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.*
 - (3) *An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.*
 - (4) *Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.*
 - (5) *A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required."*

This EIR is an informational document for use by the public and City decision-makers to inform them as they deliberate the merits of the proposed Specific Plan. The process will culminate with Planning Commission and City Council hearings to consider certification of a Final EIR and a decision whether to approve the proposed Specific Plan. Their action could include modifications stemming from proposed mitigation measures included in this EIR.

This EIR presents environmental impact information based on a reasonable projection of the level of development that would likely occur in the foreseeable future in accordance with the proposed Specific Plan. Where inconsistencies exist between the Specific Plan and the General Plan, the General Plan will be amended by the City Council at the time of the Specific Plan's adoption (refer to Section 2.4.3 of this EIR). The Downtown Vitalization Specific Plan includes standards and policy direction to encourage intensification through redevelopment and vitalize the Downtown Area.



This EIR is intended to serve as the primary CEQA document to address impacts of future development and redevelopment within the downtown area. It presents reasonable assumptions relative to the timing, intensity, and location of land development and notes the conditions under which future development and redevelopment within the Specific Plan area are envisioned to occur. It also notes under what conditions future (re)development may require subsequent environmental review. Thus, this EIR is a working tool for City staff and land use administrators since it sets forth criteria to evaluate future projects within the area.

1.2 SCOPE AND CONTENT

In accordance with the State CEQA Guidelines, a Notice of Preparation (NOP) was distributed for review by affected agencies and the public. The NOP, responses to the NOP, and comments collected in a public scoping meeting held March 11, 2010 are presented in Appendix A of this report.

This EIR addresses the issues determined to be potentially significant by the responses to the NOP, and scoping discussions among the public, consulting staff, and the City. The issues addressed in detail in this EIR include:

- *Land Use, Population, and Housing*
- *Transportation*
- *Air Quality*
- *Noise*
- *Geology and Soils*
- *Cultural and Historic Resources*
- *Aesthetics and Community Design*
- *Drainage and Water Quality*
- *Biological Resources*
- *Public Services and Infrastructure*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*

This EIR identifies potentially significant environmental impacts, including site-specific and cumulative effects of the proposed Specific Plan, in accordance with the provisions set forth in the State CEQA Guidelines. In addition, the EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

In preparing the EIR, the analysis accounts for applicable policies and standards and from City-approved regulatory documents and other documents in general use by the City, including other existing EIRs. A full reference list is contained in Section 8.0, *References and Preparers*, of this EIR.

The Alternatives section of the EIR (Section 7.0) was prepared in accordance with Section 15126(d) of the State CEQA Guidelines and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the proposed Specific Plan while feasibly attaining most of the basic objectives of the Specific Plan. In addition, the EIR identifies the 'environmentally superior' alternative from the alternatives assessed. The alternatives evaluated include:

- *Alternative 1: No Project/No Development*
- *Alternative 2: No Project/Existing General Plan*
- *Alternative 3: Reduced Project Alternative*



The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. The State CEQA Guidelines provide the standard of adequacy on which this document is based. The State CEQA Guidelines state:

“An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but, the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.” (Section 15151)

1.2.1 Baseline Conditions

In this EIR, impact analyses are based on comparison of post-project conditions with the physical conditions of the Specific Plan area and vicinity existing as of December 28, 2009, the date which the Notice of Preparation for the EIR was published.

1.3 LEAD, RESPONSIBLE AND TRUSTEE AGENCIES

The State CEQA Guidelines define “lead,” “responsible” and “trustee” agencies. As defined in Section 21067 of the State CEQA Guidelines, “lead agency” means the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect on the environment. The lead agency for the Downtown Vitalization Specific Plan is the City of Marina.

A “responsible agency” refers to a public agency other than the “lead agency” that has discretionary approval over the project (State CEQA Guidelines Section 21069). Since the proposed Specific Plan is a City planning document and does not specifically address a proposed development plan, there are no other regulatory agencies that have discretionary authority over the plan. Subsequent development projects will be subject to discretionary approval of the City as well as potentially several other public agencies. For example, the Central Coast Regional Water Quality Control Board (RWQCB) may need to issue a Section 401 permit for possible discharges to surface waters. The California Department of Fish and Game (CDFG) has jurisdiction over biological resources that may be affected by future development within the downtown area. Therefore, RWQCB and CDFG will likely be responsible agencies for future projects within the Marina downtown area.

A “trustee agency” refers to a state agency having jurisdiction by law over natural resources affected by a project (State CEQA Guidelines Section 21070). Similar to the discussion above for responsible agencies, the proposed Specific Plan is a planning document and does not involve specific development at this time. Therefore, there are no trustee agencies that have direct discretionary authority over the Specific Plan. As mentioned above, the CDFG has jurisdiction over biological resources that may be affected by future development within the downtown area. Therefore, CDFG may be a trustee agency for future development projects within the project area.



1.4 ENVIRONMENTAL IMPACT REVIEW PROCESS

The environmental impact review process, as required under CEQA, is outlined below. The steps are presented in sequential order.

1. **NOP.** Immediately after deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to “responsible,” “trustee,” and involved federal agencies; to the State Clearinghouse, if one or more state agencies is a responsible or trustee agency; and to parties previously requesting notice in writing (State CEQA Guidelines Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the City Clerk's office for 30 days. A scoping meeting to solicit public input on the issues to be assessed in the EIR is not required, but may be conducted by the lead agency. The NOP for the Specific Plan was released on December 28, 2009 and a scoping meeting was held on March 11, 2010. The NOP, NOP response letters, and comments received at the scoping meeting are all included as Appendix A to this EIR.
2. **Draft EIR (DEIR).** The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) alternatives; g) mitigation measures; and, h) irreversible changes.
3. **Public Notice and Review.** A lead agency must prepare a Public Notice of Availability (NOA) of an EIR. The NOA must be placed in the City Clerk's office for 30 days (Public Resources Code Section 21092). The lead agency must send a copy of its NOA to anyone requesting it (State CEQA Guidelines Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must consult with and request comments on the DEIR from responsible and trustee agencies, and adjacent cities and counties (Public Resources Code Sections 21104 and 21253). The minimum public review period for a DEIR is 30 days. When a DEIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless a shorter period is approved by the Clearinghouse (Public Resources Code 21091). Distribution of the DEIR may be required through the State Clearinghouse (*CEQA Guidelines* Section 15305).
4. **Notice of Completion (NOC).** A lead agency must file an NOC with the State Clearinghouse as soon as it completes a DEIR.
5. **Final EIR (FEIR).** A FEIR must include: a) the DEIR; b) copies of comments received during public review; c) list of persons and entities commenting; and, d) responses to comments.
6. **Certification of FEIR.** The lead agency shall certify: a) the FEIR has been completed in compliance with CEQA; b) the FEIR was presented to the decision-making body of the lead agency; and, c) the decision-making body reviewed and considered the information in the FEIR prior to approving a project (State CEQA Guidelines Section 15090).



7. **Lead Agency Project Decision.** A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or, c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (State CEQA Guidelines Sections 15042 and 15043).
8. **Findings/Statement of Overriding Considerations.** When acting upon a project for which an EIR has been prepared and within which significant impacts were identified, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or, c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (State CEQA Guidelines Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that set forth the specific social, economic or other reasons supporting the agency's decision.
9. **Mitigation Monitoring/Reporting Program.** When an agency acts upon a project for which an EIR has been prepared and within which mitigation measures were identified to mitigate significant impacts, the agency must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
10. **Notice of Determination (NOD).** An agency must file an NOD after approving a project for which an EIR is prepared (State CEQA Guidelines Section 15094). A local agency must file the NOD with the City Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA challenges (Public Resources Code Section 21167[c]).

1.5 AVAILABILITY OF THE ENVIRONMENTAL IMPACT REPORT

The EIR for the proposed Downtown Vitalization Specific Plan is being distributed to numerous agencies, organizations and interested groups and individuals for comment during the required public review period for the Draft EIR. The Draft EIR is available for review at the following location:

Mr. Luke Connolly, Project Manager
Development Services Department, City of Marina
3056 Del Monte Boulevard, Suite 205
Marina, California 93933
831-384-7324



2.0 PROJECT DESCRIPTION

The proposed project, the *Marina Downtown Vitalization Specific Plan*, hereafter referred to as the Specific Plan, is a land use regulatory tool intended to guide physical development and redevelopment in the Downtown area. The Specific Plan aims to provide a land use and transportation regulatory framework that will generate economic and social vitality in Downtown Marina through:

- *A clearly stated physical development vision for the future;*
- *Articulated land uses and development standards;*
- *Appropriate design guidelines and regulations;*
- *Strategies to encourage desired redevelopment and business; and,*
- *An implementation program identifying action steps, organizations and resources.*

The Specific Plan builds on the goals and objectives from the City of Marina General Plan, as well as the standards and regulations from the City of Marina Municipal Code. However, amendments to the General Plan would be required. These amendments are described in Section 2.4.3(a).

The proposed project also incorporates recommendations from the City's *Downtown Vision*, *Downtown Design Guidelines*, and *Pedestrian and Bicycle Master Plan*.

2.1 PROJECT APPLICANT / SPONSOR

City of Marina
211 Hillcrest Avenue
Marina, California 93933

2.2 PROJECT LOCATION

The City of Marina is situated in western Monterey County along State Route 1 and adjacent to the Monterey Bay, approximately eight miles north of the City of Monterey (refer to Figure 2-1). Incorporated in 1975, the City has grown to a community of 19,445 residents (2010). The City encompasses approximately 14 square miles and extends for five miles along the Pacific Ocean, from the City of Seaside on the south to the Salinas River on the north, and inland for four miles along the river to the municipal airfield. The former Fort Ord Army Base, which was closed in 1994, is located in the southern portion of the city. At the time of closure, the City of Marina population was approximately 27,000 residents.


The Specific Plan area encompasses central Marina, which includes approximately 295 acres of urban land area. This is the heart of the incorporated area and the only portion of the City of Marina that is almost entirely built out. As shown in Figure 2-2, the Plan Area is generally bounded:

- *On the north by the northern rear property line of parcels along the north side of Reservation Road;*





Source: US Department of the Census, TIGER Data, 2000.
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 Specific Plan Boundary

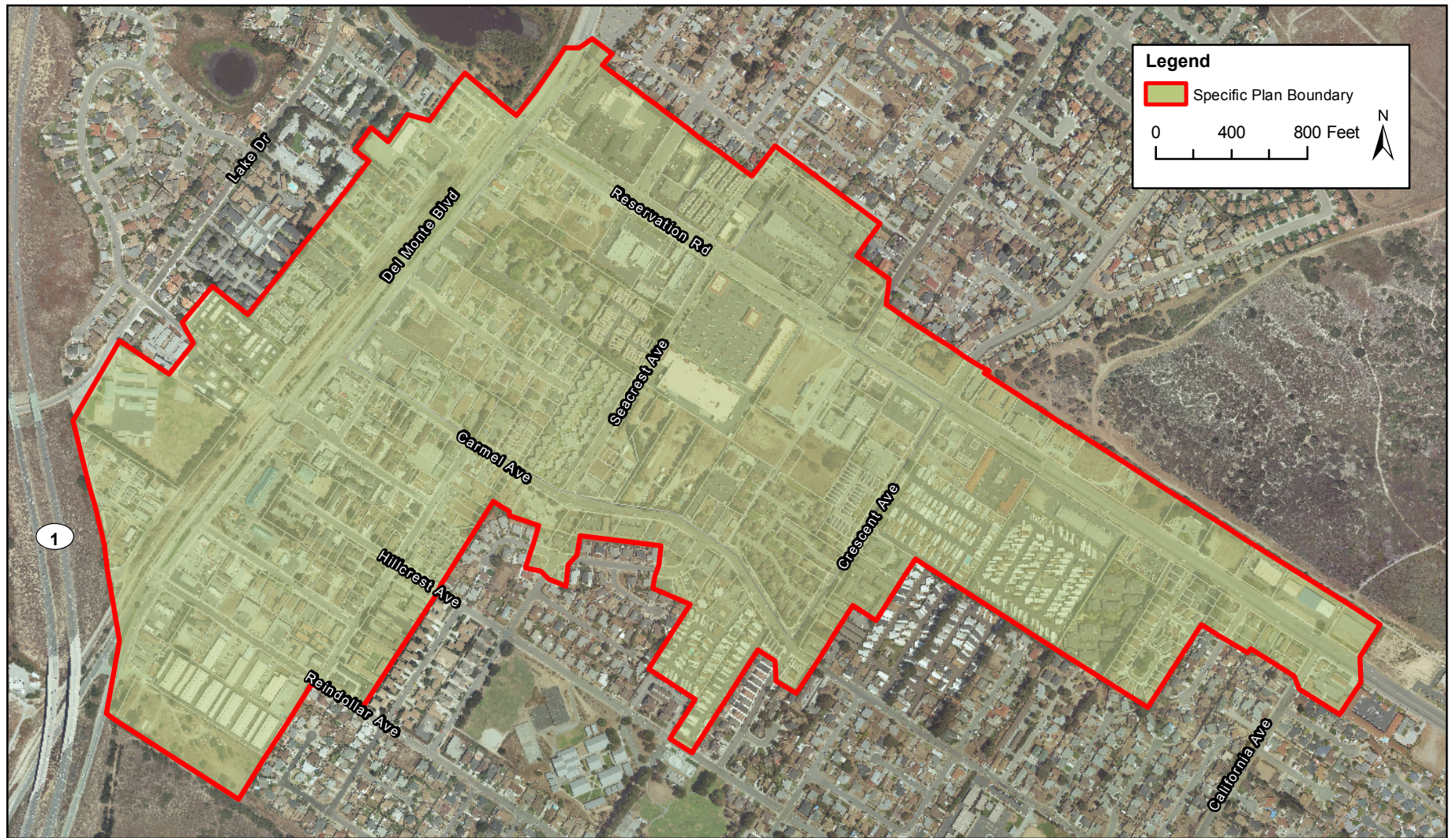


0 1.5 3 Miles

Specific Plan Regional Location

Figure 2-1
City of Marina





Base map source: City of Marina, 2010.

Specific Plan Boundary

Figure 2-2
City of Marina



- *On the west by the properties generally west of, and fronting, Del Monte Boulevard;*
- *On the south by Reindollar Avenue, then easterly to Sunset Avenue to Carmel Street, then east on Crescent Avenue and north along Crescent to the southerly property line of the El Rancho Shopping Center and abutting commercial properties along Reservation Road; and*
- *On the east by California Avenue extending one parcel north of Reservation Road.*

2.3 EXISTING SITE CHARACTERISTICS

2.3.1 General Site Characteristics

The Specific Plan area is entirely developed with urban land uses that are considered suburban in scale and intensity. Land uses are characterized by a mixture of single-story, commercial and office buildings, single family homes, and one- to two-story multifamily residential units. There are some two story commercial structures as well. The existing retail and office commercial uses are located primarily along Reservation Road and Del Monte Boulevard, and are predominantly oriented in a strip configuration with the buildings positioned at the back of large surface parking lots.

2.3.2 Surrounding Land Uses

The proposed Specific Plan is surrounded by residential uses to the north and south, open space to the east, and Del Monte Boulevard (State Business Route 1) to the west. The Marina Municipal Airport is located approximately one mile east of the Specific Plan's easternmost boundary.

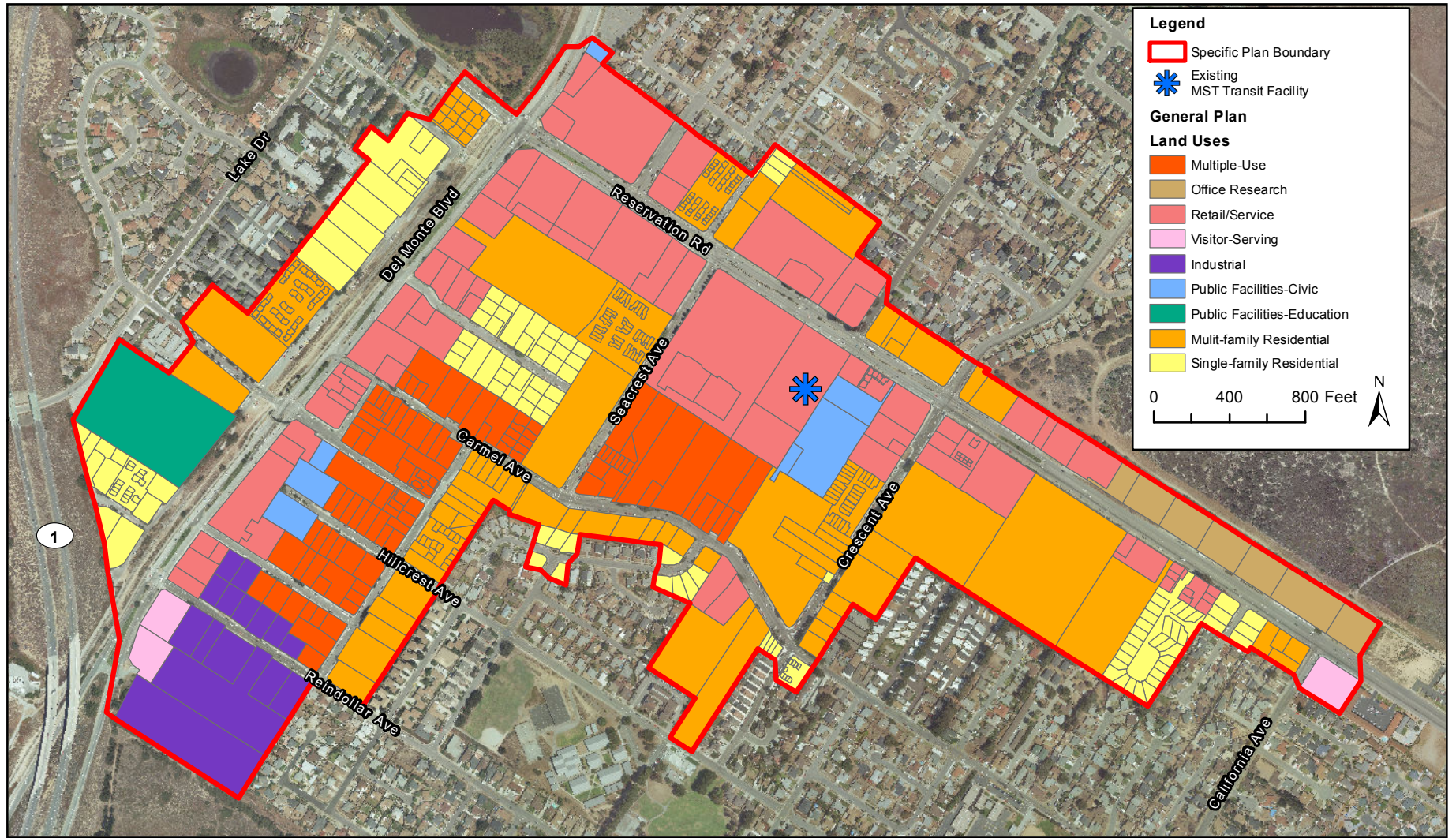
2.3.3 Existing General Plan Land Use Designations and Zoning

a. General Plan Land Use Designations. Existing General Plan designations within the Downtown Vitalization Specific Plan area are shown in Figure 2-3. Existing development in the Specific Plan area includes approximately 933,000 square feet of commercial, office, industrial and public facilities uses and 1,630 dwelling units. Existing development is further described in Section 2.4.4(b) (Specific Plan Buildout Potential) and Table 2-2 therein.

Existing commercial areas are generally located along Reservation Road and Del Monte Boulevard, with Retail/Service on the southeast side of Del Monte Boulevard and Retail/Service along both sides of Reservation Road, intermixed with Multi-Family Residential. Commercial development along these corridors generally consists of strip mall style shopping centers in the Retail/Service land use designation. Residential uses generally radiate outward from these commercial areas, including south of Del Monte Boulevard and Reservation Road and along the northwestern side of Del Monte Boulevard.

The industrial designation is concentrated at the southernmost portion of the Specific Plan area. Public facilities are located in four distinct, separate areas of the Specific Plan: at the northernmost portion of the plan area (a portion of the Monterey Superior Traffic Court parking lot); at the westernmost portion of the plan area (Marina Del Mar Elementary School); in the western portion of the plan area at Hillcrest Avenue (City Offices); and in the eastern portion of the plan area along De Forest Road, south of Reservation Road (Marina Post Office).

Section 2.0 Project Description



Base map source: City of Marina, 2010.

Existing General Plan Land Use Designations

Figure 2-3
City of Marina

b. Zoning. The Specific Plan Area includes the following existing zoning categories, consistent with the existing General Plan land use designations:

- C-R, Commercial/Multiple Family Residential District
- C-1, Retail Business District
- C-2, General Commercial District
- PC, Planned Commercial District
- SP/MST, Specific Plan/Industrial/Special Treatment District
- PF, Public Facility District
- R-1, Single Family Residential District
- R-4, Multiple Family Residential District

2.4 PROJECT CHARACTERISTICS

2.4.1 Specific Plan Legal Requirements

a. Specific Plan Authority. State law authorizes cities and counties with complete general plans to prepare and adopt specific plans (Government Code Sections 65450 et seq.). These plans have developed as a bridge between the local general plan and individual development proposals, and contain both planning policies and regulations. They often combine zoning regulations, capital improvement programs, detailed development standards, and other regulatory schemes into one document which can be tailored to meet the needs of the specific area.

California Government Code Section 65451 defines the required contents of a specific plan as follows:

- a) A specific plan shall include a text and a diagram or diagrams which specify all of the following in detail:*
- 1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.*
 - 2) The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.*
 - 3) Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.*
 - 4) A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).*
- b) The specific plan shall include a statement of the relationship of the specific plan to the general plan.*

The Specific Plan includes the goals, policies, development standards and implementation measures that would guide future development of the downtown area, in accordance with state law. Background documents incorporated into the Plan as well as the Specific Plan's relationship to the City of Marina General Plan, *Housing Element*, and *Pedestrian and Bicycle Master Plan* are discussed below.

2.4.2 Specific Plan Background Documents

From the late 1970s through the 1990s, numerous surveys, workshops, and studies were conducted in an attempt to revitalize the City of Marina's existing commercial areas, especially after the closure of Fort Ord. Vitalization of Marina's commercial area along Del Monte Boulevard and Reservation Road was identified by the Marina City Council in 2001 as one of several strategic issues. In the Council's Strategic Issues Report, they recognized that the creation of an attractive pedestrian-friendly and visitor-serving commercial district was key to Marina's long-term success.

Vitalization would be facilitated through the establishment of a Downtown District encompassing the corridor running from the intersection at Del Monte Boulevard down both sides of Reservation Road to De Forest Avenue, including the Marina Main Post Office and Monterey Salinas Transit (MST) station. The Downtown District boundaries were determined from the 2002 Ad Hoc Marina Downtown Committee Report, which was comprised of Marina citizens, planning commissioners, as well as business and property owners. It was determined that in order to fulfill the City's downtown vision, future development within the Downtown District should be guided by a Specific Plan, which would include land uses, goals, policies and implementation strategies.

a. Marina Downtown Vision. The *Downtown Vision* was adopted by the City Council in July 2005 to supplement the General Plan by identifying the City's expectations for any potential development proposed in the downtown area. The intent of the *Vision* is to establish a direction for the physical design of downtown Marina and to ensure that new development meets or exceeds the City's policies, standards and expectations. Issues addressed include community identity, fiscal health, infrastructure, safety and security, services, design and sources of funding. The underlying intent of the *Vision* has been incorporated into the Downtown Vitalization Specific Plan and will be implemented by the various goals, implementing actions and design standards set forth by the Specific Plan.

b. Downtown Design Guidelines. The *Downtown Design Guidelines* were developed as a follow-up to the *Marina Downtown Vision* and adopted by the City Council in July 2005. The guidelines provide greater detail of how the vision can be implemented. The guidelines also provide a proactive means of encouraging development that is consistent with the Downtown Vision. The Design Guidelines have been incorporated into the Downtown Vitalization Specific Plan.

c. Retail Sales Leakage Analysis. A Retail Sales Leakage Analysis was prepared in August 2007 by Applied Development Economics (ADE) to help the City of Marina determine the appropriate amounts of commercial and retail development in the downtown area. As part of the analysis, ADE delineated a market area from which the City of Marina and downtown retailers can reasonably expect shoppers to come. The market area includes the City of Marina, census tracts



north of Marina up to and including Castroville, and, to the east, census tracts halfway between Marina and Salinas. The City of Seaside is also in the market area.

The report found that 2,400 new housing units would support 125,125 building square feet of retail and select services. In addition, the current leakage in the market area would support 101,166 square feet of retail in the downtown area. The report also shows that, over the next twenty (20) years, additional leakage would occur that could support 208,747 square feet of new incremental retail building space. Thus, the report concludes by indicating that there is enough support in the market area for up to 480,800 square feet of retail space in the downtown area.

d. Proposed Land Use Concept Analysis. Based on the findings of the Retail Sales Leakage Analysis, the City Council developed and studied a Proposed Land Use Concept, which would be consistent with the Downtown Vision objectives. This Proposed Land Use Concept included:

- A mixed-use and retail core focused along Reservation Road, between Del Monte Boulevard and Crescent Avenue;
- High density residential uses surrounding the mixed-use and retail core;
- Retail service land uses focused along Del Monte Boulevard;
- A mix of retail service and office uses in the eastern portions of the Plan Area along Reservation Road;
- Narrowing Reservation Road from four to two lanes to provide for pedestrian and bicycle routes;
- A greater number of alternate through traffic routes for cross-town auto trips;
- A civic center site near the intersection of Del Monte Avenue and Reservation Road; and
- A centrally located parking structure.

The proposed Land Use Concept was intended to support the development of 2,400 new residential dwelling units and 380,150 square feet of commercial retail space.

Upon examination of the Proposed Land Use Concept, the City Council found that implementation may require a General Plan Amendment. However, the proposed mix of retail and residential square footage would help to achieve a specific targeted balance of population, housing, and commercial square footage necessary to create a vital downtown.

e. Initial Traffic Analysis. An Initial Traffic Analysis was prepared to determine the feasibility of the proposed land use changes and narrowing of Reservation Road as proposed in the Downtown Vision. The analysis focused on determining the operations of Reservation Road with the proposed project and potential impacts to the capacity of the local collector and arterial street network. The traffic consultant used the sub-regional traffic model to evaluate the traffic operations of key proposed land use concept features, which would:

- Allow the addition of approximately 380,150 square feet of commercial space and 2,400 residential units to the downtown core area;
- Implement a new circulation pattern that facilitates pedestrian and bicycle access to the shopping core;



- Provide a greater number of alternate through traffic routes for cross-town auto trips; and,
- Narrow Reservation Road from four to two lanes.

Three scenarios were assessed to determine the effects the proposed plan may have on the citywide transportation system, including:

- Scenario 1: Reservation Road as two lanes with roundabouts.
- Scenario 2: Reservation Road as two lanes with signals.
- Scenario 3: Reservation Road as four lanes with signals.

Based on the projected traffic volumes in this area, the first two scenarios would require the widening of Imjin Parkway to six lanes and the construction of Golf Drive between Del Monte Boulevard and Blanco Road to provide capacity that would be lost with the narrowing of Reservation Road. Scenario 3 would handle projected capacity without requiring improvements to the citywide arterial network.

f. Council Recommendations. Studies in support of the proposed Downtown Vitalization Specific Plan (including the Retail Sales Leakage Analysis, Proposed Land Use Concept Analysis, and the Initial Traffic Analysis discussed above) were presented to City Council on September 25, 2007. After receiving the presentation, the City Council adopted Resolution No. 2007-226(a), directing staff to prepare a Specific Plan with the new development targets of 2,400 dwelling units and 380,150 square feet of commercial uses.

g. Baseline Conditions Report. In conjunction with the preparation of the Downtown Vitalization Specific Plan, an evaluation of baseline conditions within the Plan Area was conducted in two parts. The first part consisted of a market evaluation, which explored existing Plan Area characteristics and examined the consistency between the proposed land use concept and the findings of the Retail Leakage Study. This evaluation determined that:

- The Plan Area is largely built out and has relatively few vacant or underutilized lots;
- The identified "Opportunity Sites" within the Plan Area would require substantial redevelopment to achieve the plan's development targets of 380,150 square feet of commercial and 2,400 dwelling units;
- Development within the Opportunity Sites could fulfill the commercial goals set forth in the Retail Leakage Study, but cannot fulfill the residential goals without modification of the proposed land use pattern;
- Providing adequate parking will be challenging and would reduce space available for planned residential and commercial uses; and
- Narrowing Reservation Road to two lanes may result in traffic diversions that could cause land use conflicts on the perimeter of the Downtown area.

The second part of the Baseline Conditions Analysis included an infrastructure evaluation, which assessed the existing utility infrastructure, streets and drainage, in order to determine the existence of any deficiencies that might deter future development in the Plan Area. This evaluation found that:

- Existing water and sewer infrastructure is adequate to accommodate existing levels of development in the downtown area;
- It is uncertain whether existing infrastructure is adequate to accommodate planned uses of the intensity envisioned (currently being investigated);
- Current permitted sewer treatment capacity is 29.6 million gallons per day (mgd). This is about eight to nine mgd more than current demands based on existing development;
- Existing groundwater supplies will need to be supplemented by other sources, including reclaimed water, and possibly desalinated sea water;
- Existing drainage infrastructure in the downtown area appears adequate for existing development;
- Primary existing drainage problem is seasonal flooding at the sag point along Marina Drive near Marina del Mar Elementary School; and
- The City currently requires that runoff be retained onsite with individual developments; this may present a challenge for the intensity of development envisioned under the Specific Plan.

There are several possible approaches to addressing the constraints listed above, which include the following:

- Replace some of the existing and proposed commercial space with residential uses, or expand Multiple Use areas;
- Encourage three story buildings in what would be the downtown core (the areas along Reservation Road designated for Multiple Use);
- Designate some of the existing Office and Research uses on Reservation Road to Multiple Use;
- Use strategically located multiple-story parking structures, or subsurface parking to accommodate parking demand and to encourage pedestrian use of the downtown area; and
- Possible upgrades to water, wastewater, and drainage infrastructure may be needed

h. Proposed Downtown Vitalization Specific Plan. The proposed Downtown Vitalization Specific Plan, as analyzed in this EIR, is the culmination of the background documents and City Council recommendations outlined above. The relationship of the Specific Plan with other planning documents is discussed below in Section 2.4.3. The current proposed Land Use Plan and anticipated buildout by land use type are discussed in greater detail in Section 2.4.4.

2.4.3 Relationship to Other Planning Documents

a. City of Marina General Plan. The General Plan serves as the long-term policy guide for the physical, economic and environmental growth of Marina. The Specific Plan provides a bridge between the City's General Plan and detailed plans for development and will direct all facets of future development within the Specific Plan area including:

- *Designation of land uses;*
- *Designation of required access and circulation elements;*
- *Location and sizing of infrastructure;*



- *Financing methods for public improvements; and*
- *Establishing standards of development.*

The Specific Plan is designed to implement the goals and policies of the City of Marina General Plan. However, in some cases amendments to the General Plan would be required. These amendments would primarily augment existing goals and policies by providing specific direction to reflect conditions unique to the downtown area. Anticipated General Plan amendments include the following:

• **REQUIRED GENERAL PLAN AMENDMENTS TO BE DETERMINED**

c. City of Marina Housing Element. The City of Marina Final Housing Element 2008-2014 was adopted on September 1, 2009 by the Marina City Council and certified by the Department of Housing and Community Development (HCD) December 16, 2009. Program 1.1 directly relates to the Specific Plan Area:

Program 1.1 Rezone Within Downtown Specific Plan Area. The City of Marina shall complete planning and re-zoning within the Downtown Specific Plan (DSP) area. Parcel specific planning for the DSP will include a thorough evaluation of all vacant and underutilized parcels within the planning area boundary. The capacity estimate shall identify site constraints and consider the square footage of existing uses, height limits, site coverage, required parking, open space, and other land use controls and site development standards, as well as parameters such as context and fiscal considerations, to estimate how much housing can realistically be developed on each parcel. The DSP will contain specific incentives to encourage and facilitate lot consolidation, by development of administrative procedures (see Program 1.6).

An inventory of developable units in each income category will be prepared in conjunction with the land use plan, infrastructure and public facilities assessment, design guidelines and development standards for downtown Marina. In accordance with Government Code Section 65583.2(h), the rezoning within the Downtown Specific Plan should allow owner-occupied and rental multifamily uses by right, provide for a minimum of 27 acres that accommodate at least 20 units per site at a density of at least 20 units per acre, on a sufficient number of sites to accommodate the City's remaining RHNA allocation of 532 units. At least 50 percent of the sites designated for fulfilling the remaining lower-income housing need shall be designated for residential use only.

d. Relationship to the Pedestrian and Bicycle Master Plan. The Downtown Vitalization Specific Plan draws from the guidelines and prioritized projects outlined in the City's *Pedestrian and Bicycle Master Plan*, which expand on the direction given in the Marina General Plan. The *Pedestrian and Bicycle Master Plan* has three primary purposes: providing guidelines for pedestrian and bicycle facilities improvements, positioning the City for grants to finance improvements, and playing a role in the City's work to reduce greenhouse gas emissions. The Plan provides a published set of pedestrian and bicycle facility design guidelines that are applicable to typical situations, including guidelines for sidewalks, crosswalks, pedestrian orientation, pedestrian amenities, bikeways, end-of-trip bicycle facilities, bicycling promotion and funding, street design, parking, roundabouts, and safety. The Plan additionally provides a list of prioritized projects and a summary of future funding sources for



pedestrian and bicycle facilities. To a large extent, the fundamental concepts contained in the *Pedestrian and Bicycle Master Plan* are incorporated into the Specific Plan.

2.4.4 Land Use Plan and Buildout Potential under the Specific Plan

a. Proposed Land Use Plan. The Marina Downtown Vitalization Specific Plan provides policies and programs that will guide future development of the plan area. Based on the background documents and Council recommendations, the Specific Plan encourages a mix of new residential development, commercial development (including retail and office) and civic uses intended to create a vibrant, thriving downtown.

The Specific Plan establishes six (6) land use designations within the downtown area. These land use designations are described in Table 2-1 and shown in Figure 2-4. Changes from existing designations can be visualized by comparing Figure 2-3, which shows existing designations, with Figure 2-4, which shows the proposed designations.

It should also be noted that two additional land use designations, Visitor Serving and Industrial, currently apply to portions of the downtown area, as shown in Figure 2-3. The proposed Specific Plan eliminates these designations, changing them instead to Multiple Use. They are therefore not reflected in Table 2-1.

The General Plan land use map would be amended to reflect the land use designations shown on Figure 2-4.

b. Specific Plan Buildout Potential. As the oldest area in the City of Marina, the downtown is already developed, with very little vacant land available in the urban core of the City. As determined by the Baseline Conditions Report (Appendix J), approximately 21 acres (7 percent) of the 295-acre Specific Plan area is either vacant or underutilized. Substantially underutilized lots are defined as those that do not meet at least half of the minimum FAR for the given land use designation, which excludes much of the development in the plan area. Therefore, in order to achieve the land use goals identified in the Specific Plan, existing development will need to be redeveloped as more dense and intensive uses. The timing and phasing of future development within the Specific Plan area will occur in response to economic forces and financing capabilities of those who participate in such development. A precise phasing plan can not therefore be established, as market forces in the future cannot feasibly be established. Thus, for the purpose of this analysis, it is assumed that development and redevelopment in accordance with the proposed Specific Plan will occur over a 30 year time frame, with phasing to occur at a relatively consistent pace.

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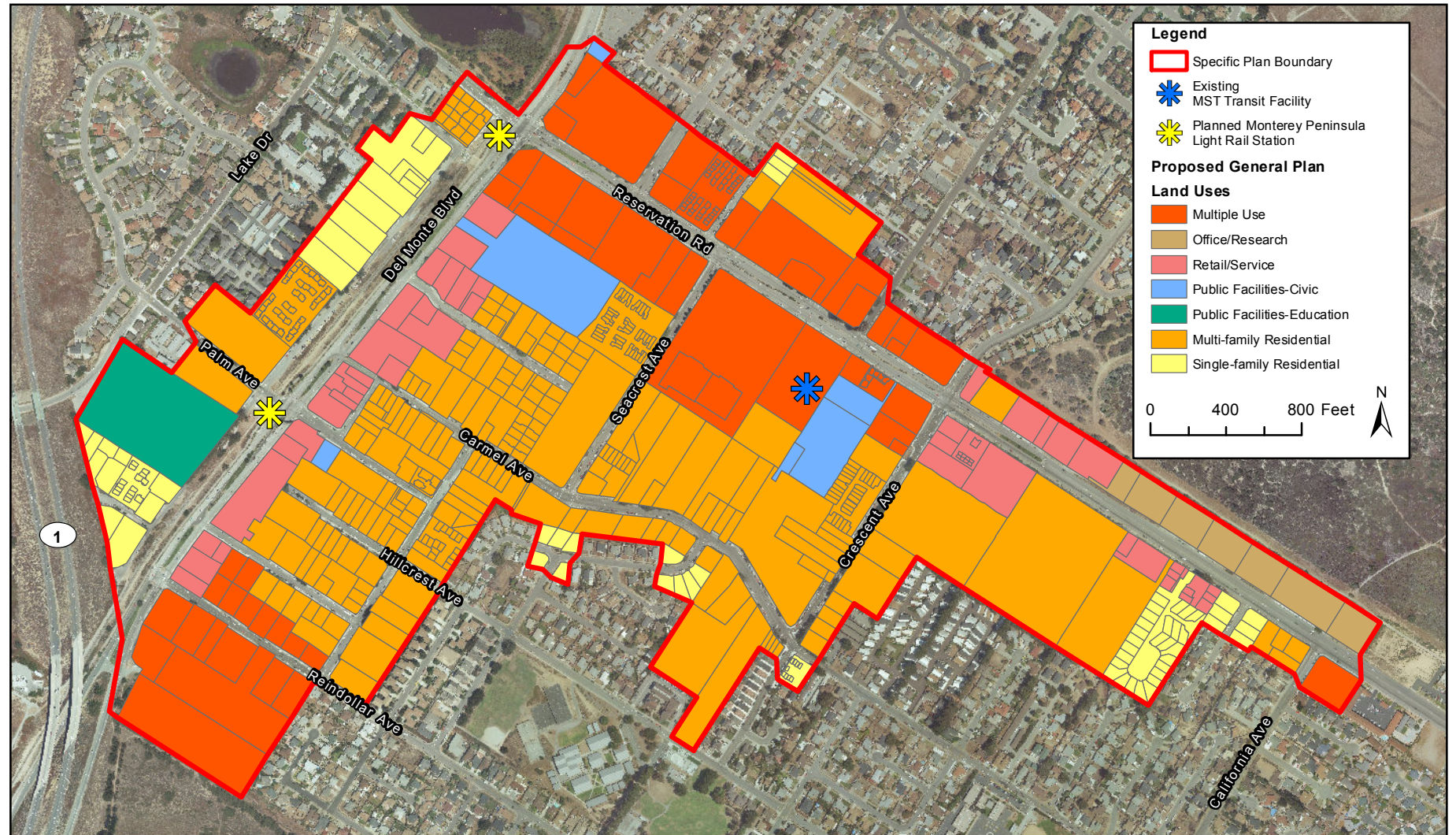
Table 2-1. Proposed Land Use Designations in the Downtown Vitalization Specific Plan Area

Land Use Designation	Description	Existing Acres	Proposed Acres	Description of Anticipated Change
Multiple Use	<p>The function of the Multiple Use category is to permit and encourage a mix of different land use types in a planned and integrated manner, such as integrating retail commercial and multi-family residential uses on the same site. The intent of Multiple Use is to increase economic vitality and visual interest, and reduce the total number of vehicular trips by encouraging pedestrian usage. This land use designation is essential to establishing a Downtown core within the City. Land uses within this designation should contribute to accomplishing the overarching land use goals of the Specific Plan.</p> <p>In conjunction with more intensive development and revise site and architectural design standards, the Multiple Use designation will be a key transformative element within the Specific Plan.</p>	28.9	61.5	<p><i>Net increase of 32.6 acres</i></p> <p>Existing Multiple Use designated areas are located primarily within the interior of the Specific Plan, northwest of Sunset Avenue between Reindollar and Carmel Avenues and east of the intersection of Carmel and Seacrest Avenues. These areas would be redesignated to Multi-family Residential. New Multiple Use designations would be applied to parcels along both sides of Reservation Road from Del Monte Boulevard to Crescent Avenue (currently designated as Retail/Service and Multiple-family Residential), and to 15.3 acres in the southwestern portion of the plan area (currently designated as Industrial).</p>
Office/Research	<p>The intent of Office/Research designation is to provide opportunities for smaller office developments with high roadway visibility for individual office structures while allowing some continued commercial service uses within buildings where they now exist and at the rear portions of new sites. Office and limited commercial service use of this area also serves to limit the extent of retail activities along Reservation Road, thereby avoiding or minimizing a strip type retail frontage.</p>	7.2	7.2	<p><i>No net change in acreage</i></p> <p>Existing Office/Research designated areas are located along the north side of Reservation Road in the easternmost portion of the plan area. This designation would not change under the Specific Plan.</p>
Retail/Service	<p>The intent of the Retail/Service designation is to provide for the shopping and service needs of local residents, businesses, and persons employed within the City; to attract commercial development that will strengthen the City's fiscal base; and to enhance employment and other economic opportunities for local residents.</p>	63.5	21.5	<p><i>Net decrease of 42 acres</i></p> <p>Existing Retail/Service designated areas are located on the east side of Del Monte Boulevard and along both sides of Reservation Road. Parcels along Reservation Road west of Crescent Avenue would be redesignated as Multiple Use. Two parcels would be redesignated to Multi-family Residential: one parcel on Cypress Avenue and one parcel southwest of the MST transit station.</p>
Public Facilities	<p>The Public Facilities designation is intended to accommodate existing and planned community facilities, including schools, police and fire facilities,</p>	14.3	18.5	<p><i>Net increase of 4.2 acres</i></p> <p>Two parcels currently designated Public</p>

Table 2-1. Proposed Land Use Designations in the Downtown Vitalization Specific Plan Area

Land Use Designation	Description	Existing Acres	Proposed Acres	Description of Anticipated Change
	civic uses, educational facilities, utilities, and various transportation-related facilities.			Facilities – Civic would be redesignated to Multi-family Residential. These parcels comprise the existing City Hall facilities, located at the northwest terminus of Hillcrest Avenue. However, an existing group of parcels near the center of the Specific Plan area currently designated Single-family Residential would be redesignated to Public Facilities – Civic, for a net addition of 4.2 acres. Existing Public Facilities – Education designations would not change under the Specific Plan.
Multi-family Residential	The Multi-family Residential designation is intended to provide high density housing, including densities of up to 40 dwelling units per acre.	80.6	110.7	<i>Net increase of 30.1 acres</i> Existing Multi-family Residential designated areas located on Reservation west of Crescent Avenue would be redesignated to Multiple Use. Existing Multiple Use designated areas within the interior of the plan area would be redesignated to Multi-family Residential, as would small parcels of Single-family Residential on the west side of Crescent Avenue. Other areas that would be redesignated for Multi-family Residential include the existing Public Facilities – Civic area at the terminus of Hillcrest Avenue (the existing City Hall) and one parcel southwest of the MST transit station.
Single-family Residential	The Single-family Residential designation is intended to provide low density housing, which generally allows up to five (5) single-family residences per acre.	25.5	19.0	<i>Net decrease of 6.5 acres</i> Existing Single-family Residential designated areas located along Mortimer Lane (off of Del Monte Boulevard) and small parcels on the west side of Crescent Avenue would be redesignated to Multi-family Residential

Section 2.0 Project Description



Base map source: City of Marina, 2010.

Marina Downtown Vitalization Land Use Plan

Figure 2-4
City of Marina

Tables 2-2 through 2-4 summarize existing and planned development within the Specific Plan area. Existing development, shown in Table 2-2, was calculated based on an aerial photo analysis which approximated total lot size versus the square footage of existing development (Baseline Conditions Report, August 2008).

Table 2-2. Existing Development in the Downtown Vitalization Specific Plan Area

Land Use Designation	Existing Acres in Designation	Existing Development (August 2008) ¹	
		Square Feet	Dwelling Units
Multiple Use	28.9	60,000	250
Office/Research	7.2	39,000	-
Retail/Service	63.5	460,000	-
Visitor Serving	3.0	27,000	-
Industrial	15.3	270,000	-
Public Facilities – Civic	6.4	45,000	-
Public Facilities – Education	7.9	32,000	-
Multi-Family Residential	80.6	-	1,250
Single-Family Residential	25.5	-	130
TOTAL	295²	933,000	1,630

1. Baseline Conditions Report, Rincon Consultants, Inc., August 2008.

2. Remaining 57 acres in plan area are roadways.

Based on the findings of the Retail Sales Leakage Analysis and as directed by Marina City Council on September 25, 2007 (Resolution No. 2007-226[a]), the proposed Specific Plan is intended to support the development of 2,400 new residential dwelling units and 380,150 square feet of new commercial retail space. Some development may occur as redevelopment; however, these figures are *net* increases, such that some residences and/or commercial space may be demolished and redeveloped, while other vacant areas would be developed anew. The net change over the anticipated 30 year development period, however, would be an addition of 2,400 units and 380,150 square feet. Full buildout (existing development plus these net additions) is shown in Table 2-3 below.

Table 2-3. Full Buildout in the Downtown Vitalization Specific Plan Area

	Non-Residential Square Feet	Residential Dwelling Units
Existing Development ¹	933,000	1,630
Specific Plan Development (Net) ²	380,150	2,400
Total Buildout Potential	1,313,150	4,030

1. Baseline Conditions Report, Rincon Consultants, Inc., August 2008.

2. Proposed in the Downtown Vitalization Specific Plan, based on the findings of the Retail Sales Leakage Analysis and as directed by Marina City Council on September 25, 2007 (Resolution No. 2007-226[a])

Although Table 2-3 shows the full buildout that could occur in the Downtown Vitalization Specific Plan area (1,313,150 square feet of non-residential development and 4,030 residential dwelling units), it does not assign specific land use designations to these figures. In other words, it does not specify how many square feet would be designated Office/Research versus Retail/Service, or how many units would be designated Single-family versus Multi-family Residential. To estimate the square footage and unit distribution for each land use designation proposed within the Specific Plan area, hypothetical full buildout of the Land Use Plan was first



calculated by multiplying the acres of each proposed land use designation and the maximum allowable FAR. This buildout, which would total approximately 2.1 million square feet of commercial space and 4,500 residential units, is theoretical. The full theoretical buildout is not supported by the Retail Sales Leakage Analysis, nor planned for in the Specific Plan itself. Therefore, to reach the planned and market-supportable buildout of the proposed Specific Plan as directed by the City Council, a percentage reduction was applied until the buildout of each land use type totaled the planned buildout. This estimated buildout distribution is shown in Table 2-4.

**Table 2-4. Full Buildout in the Downtown Vitalization Specific Plan Area:
 Distributed by Land Use Designation**

Land Use Designation	Proposed Acres in Designation	Buildout Potential ¹	
		Square feet	Dwelling Units
Multiple Use	61.5	778,000 ²	520 ³
Office/Research	7.2	109,000 ⁴	-
Retail/Service	21.5	299,000 ⁵	-
Visitor Serving	0.0	0	-
Industrial	0.0	0	-
Public Facilities – Civic	10.6	95,000 ⁶	-
Public Facilities – Education	7.9	32,000	-
Multi-Family Residential	110.7	-	3,440 ⁷
Single-Family Residential	19.0	-	70 ⁸
TOTAL	295¹⁰	1,313,150⁹	4,030⁹

1. After full buildout under the proposed Specific Plan; anticipated to take approximately 30 years. Square footage rounded to the nearest 1,000. Dwelling units rounded to the nearest 10.
2. Commercial square footage only (does not include square footage of dwelling units). Based on approximately 40 percent of the maximum FAR of 0.9 and the assumption that half the total square footage would be used for residential.
3. Assumes 50 percent of square footage is commercial and 50 percent is residential, and that average residence is 1,500 square feet.
4. Based on approximately 40 percent of the maximum FAR of 0.6.
5. Based on approximately 40 percent of the maximum FAR of 0.55.
6. No FAR exists for this Land Use; buildout based on an increase of 112 percent in land use area.
7. Based on approximately 25 percent of the maximum density of 40 units per acre.
8. Based on approximately 25 percent the maximum of 5 single family homes per acre.
9. Subtotals may not add due to rounding.
10. Remaining 56.1 acres in plan area are roadways.

The net change between existing development and full buildout, as distributed by land use designation, is shown in Table 2-5 below. Because the proposed Land Use Plan would change the existing land use designations in several areas, as outlined in Table 2-1, some land use designations in Table 2-5 actually reflect a net reduction in development. This does not mean that existing structures would be demolished. Instead, it reflects the fact that existing structures in the Industrial designation, for example, would no longer be designated Industrial. In this example, the 270,000 square feet of space currently within the Industrial category would be redesignated Multiple Use. Those 270,000 square feet are therefore reflected in the net increase of 718,000 square feet shown for the Multiple Use category. Similarly, although a net reduction of 161,000 square feet of Retail/Service space is shown in the table, much of this will be recaptured in the Multiple Use designation, which will contain a substantial commercial and retail component.



**Table 2-5. Net Change Attributed to Specific Plan:
 Distributed by Land Use Designation¹**

Land Use Designation	Net Change in Acres	Change in Development Attributed to Specific Plan ²	
		Square feet	Dwelling Units
Multiple Use	32.6	718,000 ²	270
Office/Research	0.00	70,000	-
Retail/Service	(42)	(161,000)	-
Visitor Serving	(3.0)	(27,000)	-
Industrial	(15.3)	(270,000)	-
Public Facilities – Civic	(4.2)	50,000	-
Public Facilities – Education	0.00	0	-
Multi-Family Residential	30.1	-	2,190
Single-Family Residential	6.5	-	(60)
TOTAL	NA	380,150³	2,400

1. Full buildout subtracted by existing development, or values in Table 2-4 subtracted by values in Table 2-2.
2. Due to redesignation of lots within which existing development occurs, as well as new development and/or redevelopment. Net reductions do not necessarily depict demolition and replacement, but rather redesignation and eventual redevelopment within the new land use designation which applies.
3. May not add due to rounding.

c. Opportunity Sites. Several Opportunity Sites have been identified within the Specific Plan Area (refer to Figure 2-5). Opportunity Sites are so designated because these parcels provide opportunities to encourage development that implements various Specific Plan goals. In some cases, these sites may be appropriate locations to develop key projects [as discussed in Section 2.4.2(b) below], that are essential to the future development and success of the Downtown. Opportunity Sites are those sites expected to be developed in the nearer term because they are vacant, underutilized, and/or otherwise critical to the success of creating a vital Downtown, and are likely to act as catalysts for the downtown’s transportation. Since a large portion of these sites are occupied with existing development, a significant public and private effort would be required to realize the goals of the Specific Plan.

d. Catalytic Projects. Catalytic Projects are essential to downtown’s future success, and are thus given special consideration in this Specific Plan. These projects are considered important because of their potential to encourage and set the tone for additional development and investment in the Downtown. Table 2-6 lists the catalytic projects identified in the Specific Plan, including the identified priority of those projects, and whether the project would be publicly or privately funded.

Table 2-6. Catalytic Projects for Downtown Marina

Project	Project Features	Priority	Project Responsibility
Civic Center	Centrally located civic center, town green, public art, serve as cultural centerpiece and displays Marina character	High	Public
Community Entertainment	Performing arts center, cultural arts center, exploratorium, discovery center, bowling alley, movie theater and arcade	High	Public and Private



Table 2-6. Catalytic Projects for Downtown Marina

Project	Project Features	Priority	Project Responsibility
Streetscape	Trees, benches, aesthetically pleasing trash/recycling receptacles, textured sidewalks, signage and wayfinding features	High	Public and Private
Pedestrian and Bicycle Access	Crosswalks, bulbouts, Class II bike lanes, recreational trails, bicycle racks	High	Public
Parking	Parking structures, other public parking facilities	Medium	Public and Private
Coastal Access ¹	Bike lanes from Downtown to beach access points, beach access signs, pedestrian access from Downtown to beach access points, well marked and signed entrances to beach	Medium	Public
Reservation Road modifications	Modifications to Reservation Road, including traffic calming features, roundabouts, signals (as appropriate), and parking modifications	Medium	Public, with some private funding
Gateway Features	Gateway signs, or other streetscape features, should be implemented to identify the Downtown area, and reflect the character of the area	Medium	Public

1. Although not entirely within the Specific Plan area, this project is considered catalytic for future development in the downtown.

2.4.3 Reservation Road Options

a. Background. As discussed in Section 2.4.1(c) above, the *Marina Downtown Vision* was adopted in July 2005 to supplement the City’s General Plan by identifying the City’s expectations for any potential development proposed in the Downtown area. The *Downtown Vision* proposed narrowing Reservation Road from four travel lanes to two as a means of promoting a walkable, pedestrian-friendly downtown environment. An Initial Traffic Analysis was prepared to determine the feasibility of this proposal, and included the following three scenarios for Reservation Road:

- *Scenario 1: Two lanes with signals*
- *Scenario 2: Two lanes with roundabouts (as recommended in the Downtown Vision)*
- *Scenario 3: Four lanes with signals*

The Downtown Vitalization Specific Plan includes two of the three Reservation Road scenarios above: 1) a four-lane option with signalized intersections, and 2) a two-lane option with roundabouts, as recommended in the *Downtown Vision*. Each of these options are described in greater detail below, and will be analyzed at an equal level of detail throughout this EIR.

Reservation Road Four-Lane Option. The four-lane option for Reservation Road would maintain the existing two lanes of traffic in each direction, but would add streetscape enhancements in order to create a unique identity for the Plan Area. The enhancements include design elements such as restriping to narrow all four lanes, provision of bike lanes, gateway treatments, landscape medians, 15 foot sidewalks, and pedestrian-oriented amenities. Existing signalized intersections would remain signalized, but would be enhanced with specialized crosswalk paving, bulbouts, and



other traffic calming elements. A sample cross section of the Reservation Road four-lane option is provided in Figure 2-6.

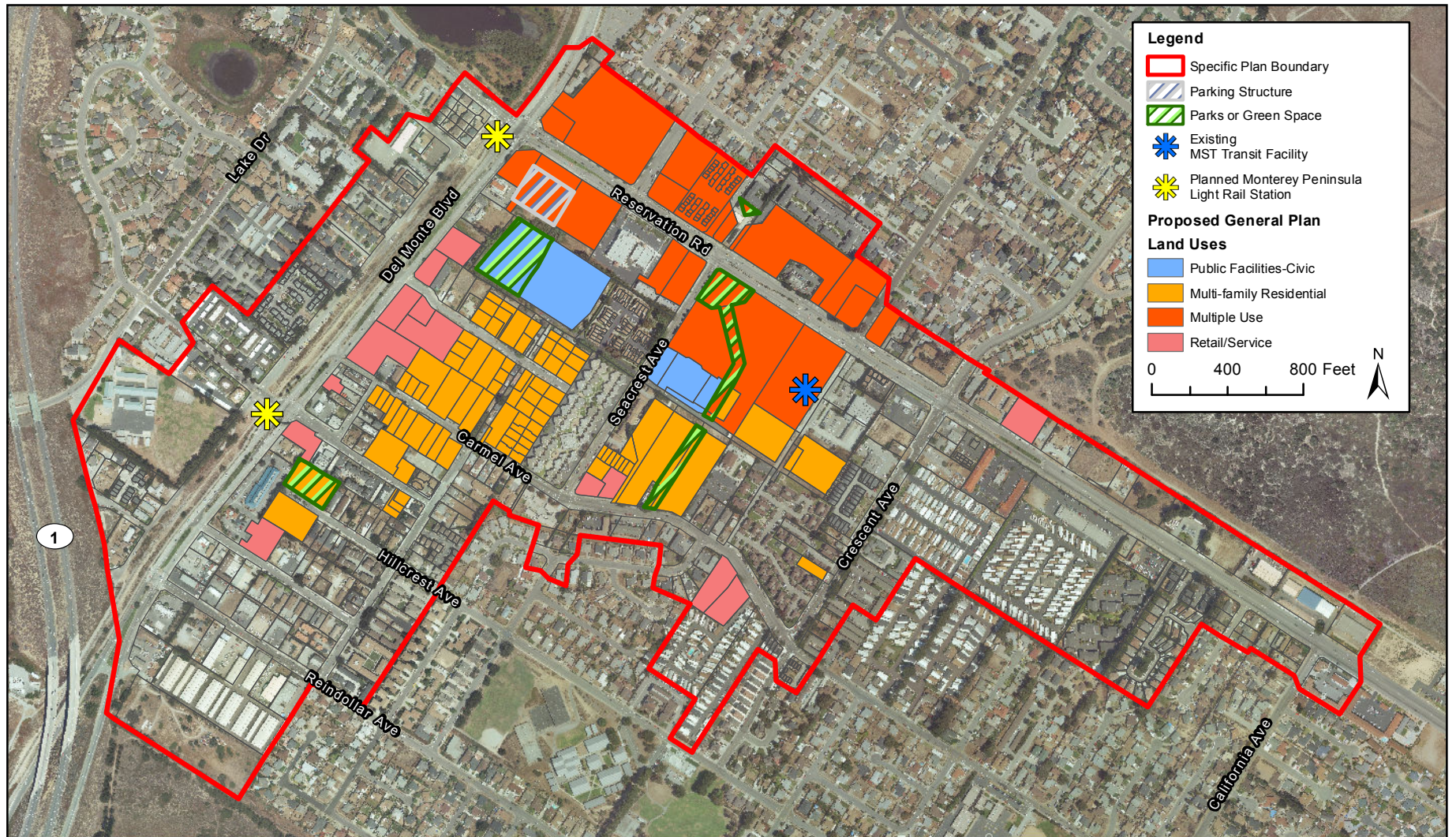
Reservation Road Four-Lane Option Attributes:

- *Street Type: Arterial*
 - *Right-of-Way: 110-115 feet*
 - *Curb-to-curb Pavement Width: 82 feet*
 - *Traffic Lanes: Four travel lanes*
 - *Parking Lanes: One parallel parking lane on each side of street*
 - *Traffic Lane Width: 11 feet*
 - *Walkway: 15 feet (varies)*
 - *Improvements: Restriping to narrow all four lanes, addition of bike lanes, bulbouts, trees, and other traffic calming features.*
- **Reservation Road Two-Lane Option.** The two-lane option for Reservation Road would reduce the number of travel lanes to one in each direction, and would replace signals with roundabouts at the following intersections:
- *Reservation Road and Del Monte Boulevard*
 - *Reservation Road and Vista Del Camino*
 - *Reservation Road and De Forest Road*

Similar to the four-lane option, the Reservation Road two-lane option would also include streetscape enhancements such as restriping to allow angled on-street parking, provision of bike lanes, bulbouts, trees, and other traffic calming features. A sample cross section of the Reservation Road two-lane option is provided in Figure 2-7.

Reservation Road Two-Lane Option Attributes:

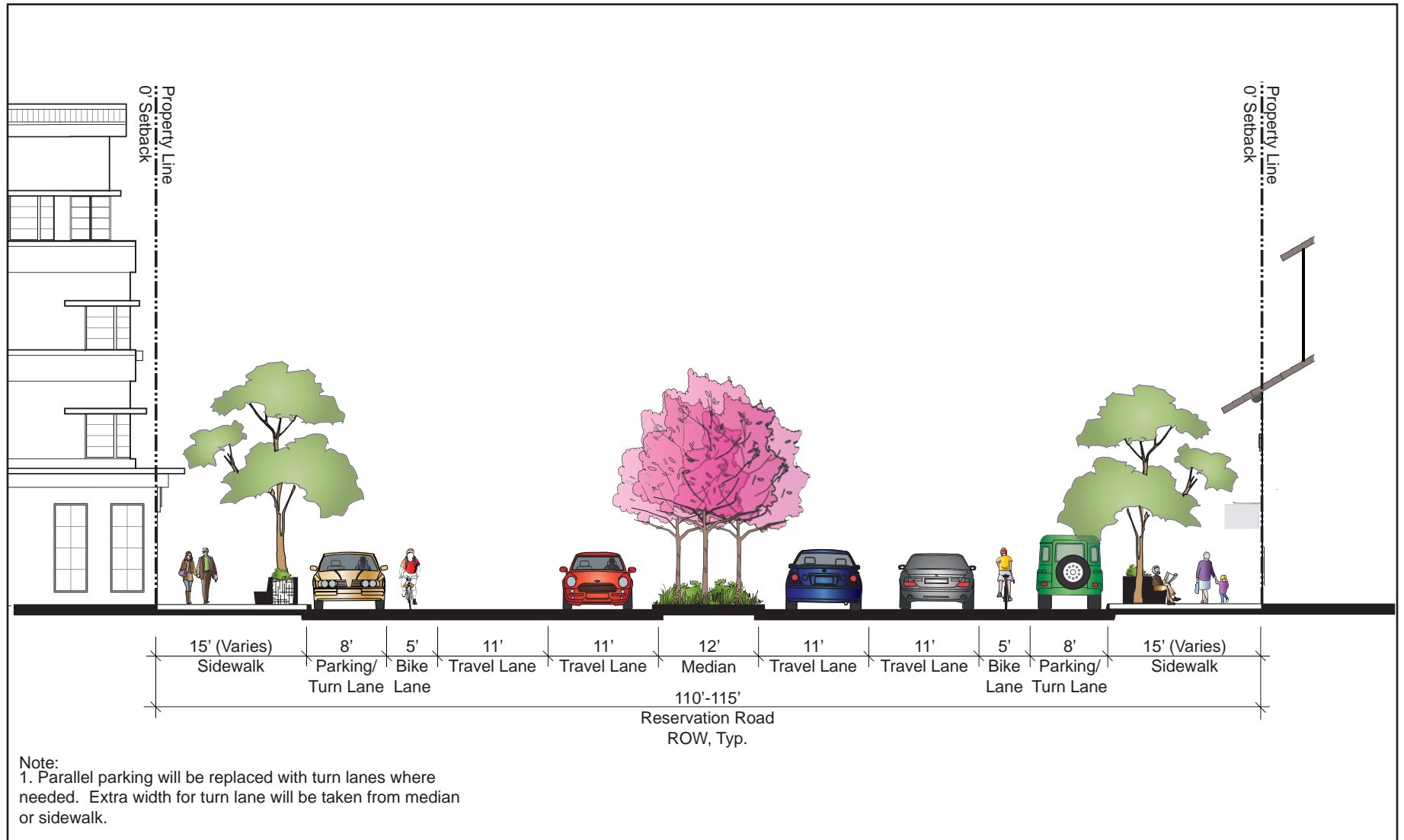
- *Street Type: Arterial*
- *Right-of-Way: 110-115 feet*
- *Curb-to-Curb Pavement Width: 90 feet*
- *Traffic Lanes: Two travel lanes, one eastbound, one westbound*
- *Parking Lanes: Angled parking, both directions*
- *Traffic Lane Width: 12 feet*
- *Walkway: 10 feet*
- *Improvements: Restriping to allow angled parking, addition of bike lanes, bulbouts, trees, and other traffic calming features.*



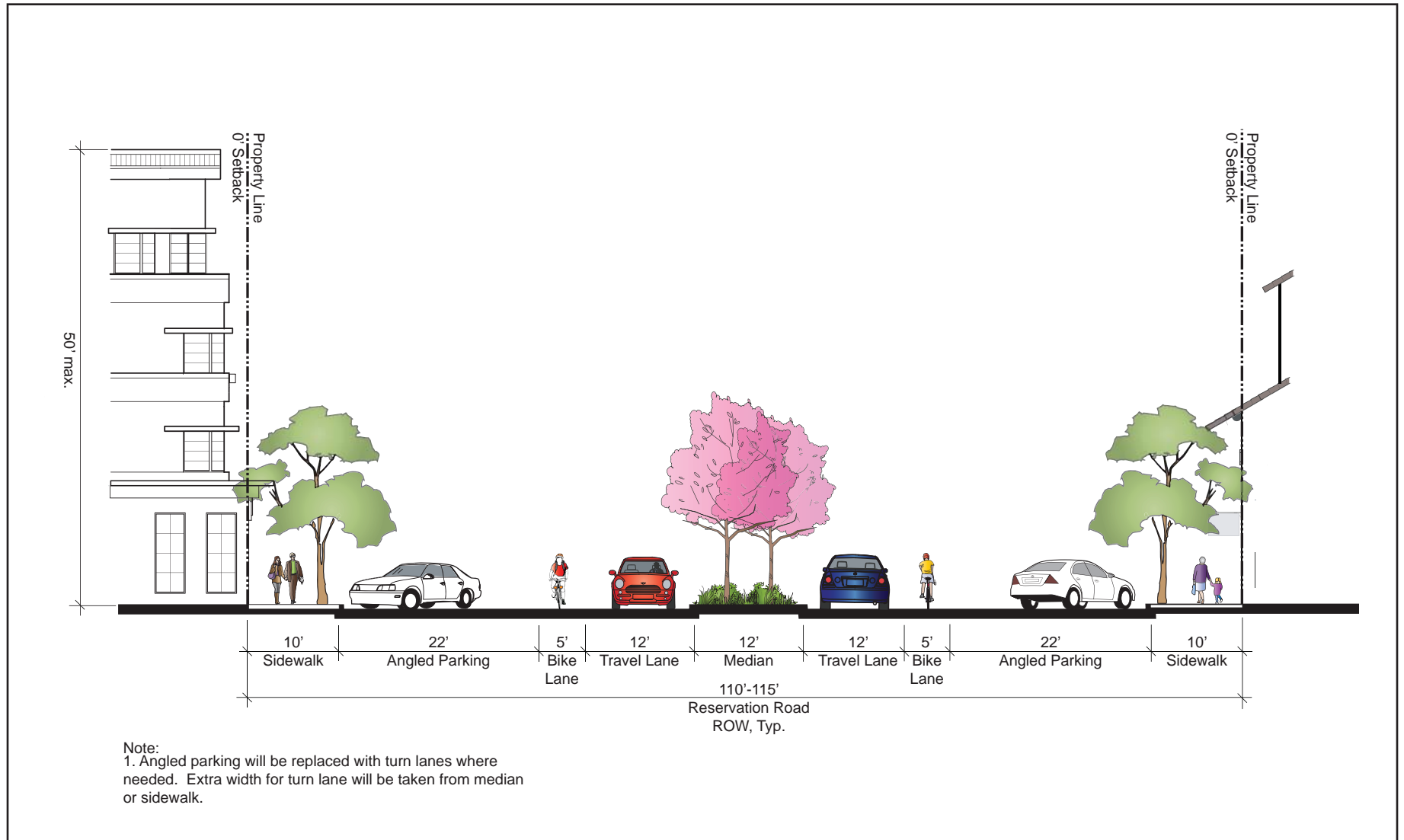
Base map source: City of Marina, 2010.

Opportunity Sites

Figure 2-5
 City of Marina



Reservation Road Four-Lane Option Cross Section



Reservation Road Two-Lane Option Cross Section

Source: RRM Design Group, 2010.

Figure 2-7
 City of Marina

2.4.4 Infrastructure

a. Water Infrastructure. The public water supplier for the Specific Plan Area is the Marina Coast Water District (MCWD), a special district formed and authorized by Division 12 of the California Water Code. MCWD was established in 1960 and provides potable water, wastewater treatment, and reclaimed water services to customers within the City of Marina. Under agreements with the U.S. Army and the Fort Ord Reuse Authority (FORA), MCWD also provides water and wastewater services within the former Fort Ord Army Base (known as the Ord Community). MCWD refers to its City of Marina service area as “Central Marina” and Ford Ord as the “Ord Community.” An extensive reclaimed water system, which provides 1,500 acre feet of water per year, has been established to support much of the surrounding agricultural land. In 2005, a plan was established to supplement the City’s water supply with a desalination plant. Upon completion, the desalination plan is expected to supply 1,500 acre feet of water per year.

In order to accommodate anticipated buildout of the Downtown Vitalization Specific Plan, some water infrastructure improvements would be required. These are shown in Figure 2-9. As shown therein, the proposed water system upgrades include:

- 10 inch water line in Reservation Road (Del Monte Boulevard to Crescent Avenue)
- 10 inch water line in Seacrest Avenue (Reservation Road to Carmel Avenue)
- 10 inch water line in De Forest Road (Reservation Road to midblock point south of Reservation Road)
- 10 inch water line midblock between Seacrest Avenue and De Forest Road (Reservation Road to midblock point south of Reservation Road)
- 8 inch water line in Mortimer Lane (Del Monte Boulevard to Seacrest Avenue)
- 8 inch water line midblock between Mortimer Lane and Reservation Road (Del Monte Boulevard to Seacrest Avenue)
- 8 inch water line in Hillcrest Avenue (Sunset Avenue to midblock point west of Sunset Avenue)
- 8 inch water line midblock between Hillcrest Avenue and Carmel Avenue (Del Monte Boulevard to Sunset Avenue)
- 8 inch water line midblock between Hillcrest Avenue and Reindollar Avenue (Del Monte Boulevard to Sunset Avenue)
- 8 inch water line from midblock of Reindollar Avenue south to existing midblock water line

b. Wastewater Infrastructure. The provision of sanitary sewer or wastewater service in the Monterey Region is organized at two levels. Local cities and sanitation districts are responsible for maintenance and extension of sewer lines, and the Monterey Regional Water Pollution Control Agency (MRWPCA) is responsible for development and operation of treatment facilities. The wastewater system in Marina is maintained and operated by MCWD. Wastewater is carried by the MCWD sanitary collection system to the MRWPCA pump stations. From local pump stations, the wastewater is transported to the MRWPCA treatment plant located two miles north of Marina. The regional treatment facility has a design capacity of 29.6 million gallons per day (mgd), but is permitted to treat a maximum of 27 mgd. In 2004, the average dry weather flows were approximately 21.5 mgd. Based on regional population forecasts for the MRWPCA service area, the facility has sufficient capacity to serve proposed



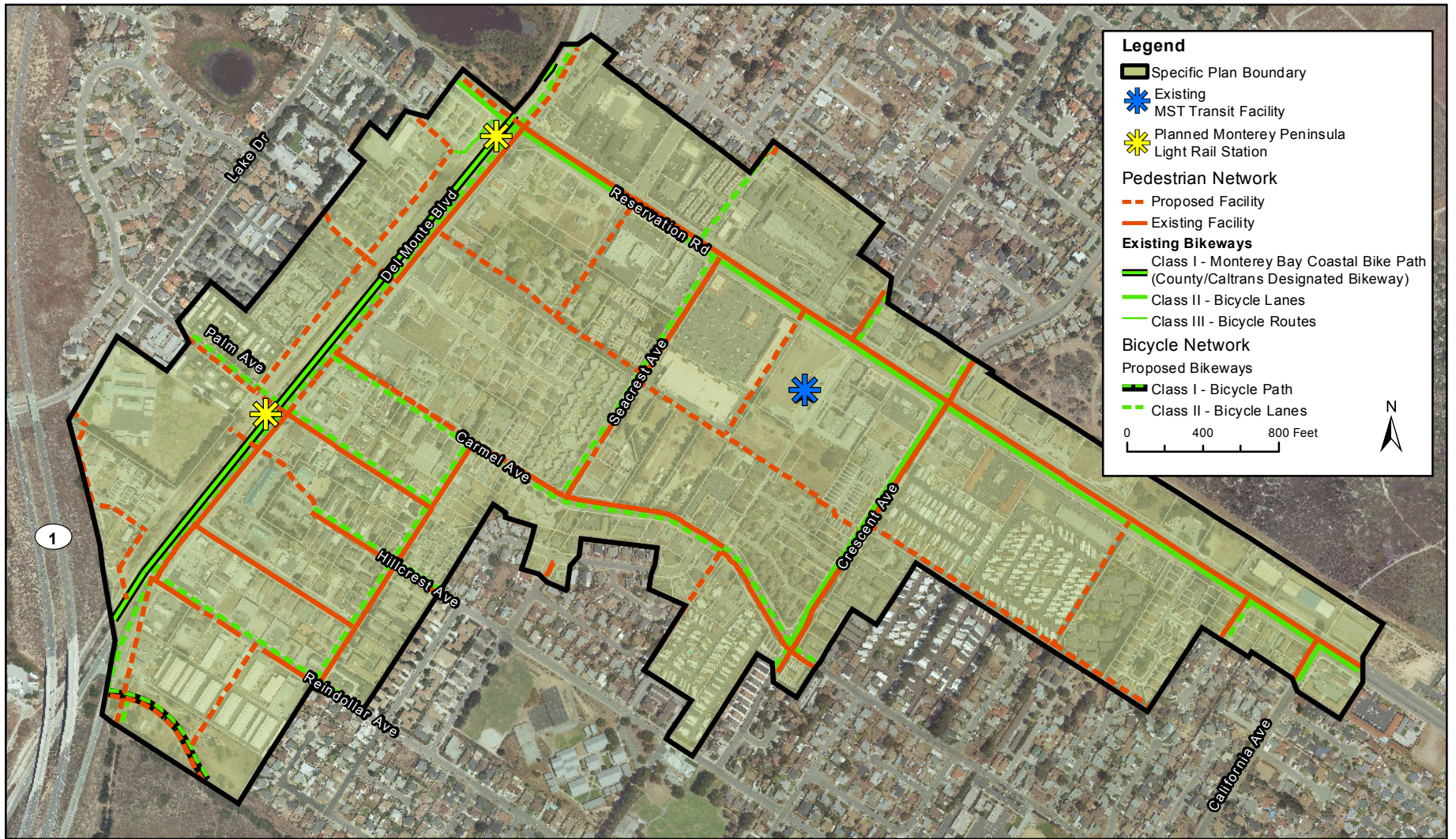
uses and new development in Marina, including portions of the former Fort Ord for at least the next 15 to 20 years.

In order to accommodate anticipated buildout of the Downtown Vitalization Specific Plan, some wastewater infrastructure improvements would be required. These improvements are shown in Figure 2-10. The proposed water system upgrades include:

- 24 inch sewer line in Reservation Road (Del Monte Boulevard to 1,400 feet west)
- 18 inch sewer line in Del Monte Boulevard (Reservation Road to Carmel Avenue)
- 18 inch sewer line in Reservation Road (Del Monte Boulevard to 500 feet east of Seacrest Avenue)
- 15 inch sewer line in Carmel Avenue (Del Monte Boulevard to Seacrest Avenue)
- 10 inch sewer line in Carmel Avenue (Seacrest Avenue to 550 feet east of Seacrest Avenue)
- 10 inch sewer line in Del Monte Boulevard (Highway 1 to midblock between Reindollar Avenue and Hillcrest Avenue)
- 10 inch sewer line from Del Monte Boulevard north of Highway 1 north 500 feet
- Additional pump at Marina Pump Station to handle Specific Plan flows (1,826 gallons per minute)

b. Storm Drainage Runoff generated from areas within the Specific Plan boundary is collected in drain inlets and conveyed in underground pipes discharging into above ground percolation ponds. The majority of runoff from Reservation Road and nearby streets is carried downhill into a large percolation pond located in the park north of the Del Monte Boulevard intersection. Smaller percolation ponds are located through out the city to provide detention for individual development areas. The City of Marina requires that the runoff from a ten year 24-hour storm event be retained onsite. Individual developments are required to propose a method of achieving this requirement that include the design of above ground percolation ponds or underground chambers to store runoff while excess runoff is dissipated into the ground via percolation.

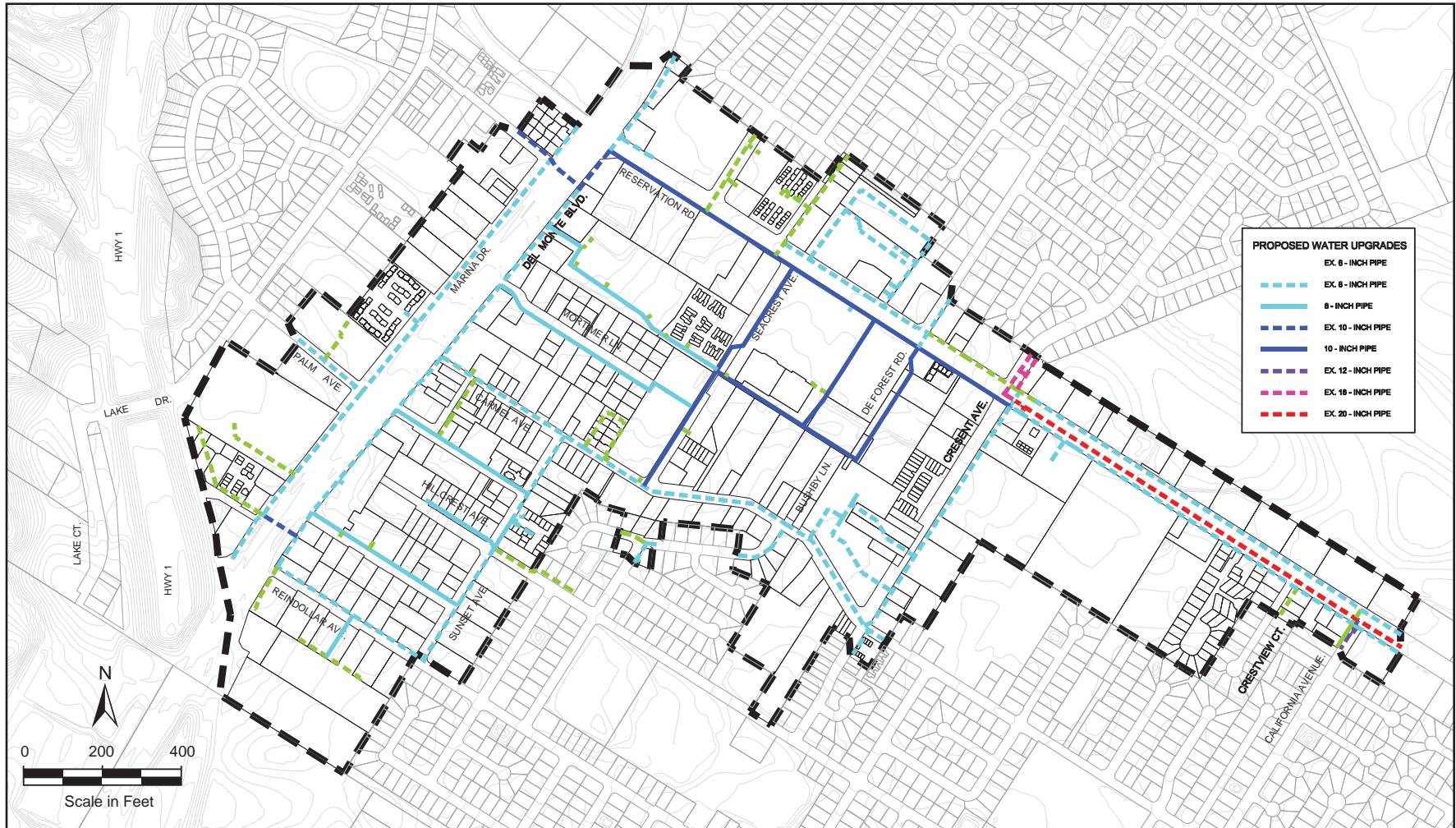
The existing drainage system is adequate to accommodate anticipated buildout of the Downtown Vitalization Specific Plan. New development will be required to provide on-site detention/retention in accordance with this plan, but plan-wide drainage improvements are not required. On-site detention will likely be provided through a combination of on-site Low Impact Development (LID) techniques including: green roofs, pervious pavement, rain barrels, rain gardens, underground retention, green streets, and other techniques.



Base map source: City of Marina, 2010.

Proposed Pedestrian and Bicycle Network

Figure 2-8
 City of Marina



Proposed Water System Upgrades

Source: RRM Design Group, 2010.

Figure 2-9
City of Marina



2.4.5 Specific Plan Policy Framework

The Specific Plan is guided by a set of adopted vision statements and guiding principles that articulate the goals for the plan area. The following summarizes these statements.

a. Vision. The vision of the Marina Downtown Vitalization Specific Plan is to establish Downtown as:

A place with a unique, small coastal town character where people can work, live and shop in an environment that creates a feeling of cohesiveness, compactness and individual community identity; a place with a vibrant economy that accommodates a variety of businesses, residences and civic uses and; a place that is architecturally pleasing and sustainable, achieved through attractive storefronts, eco-friendly design, and plentiful landscaping and pedestrian amenities to encourage people to walk along tree-lined streets and socialize in civic and public spaces.

b. Guiding Principles. The Specific Plan guiding principles are established to guide overall implementation of the Specific Plan to ensure that future development contributes to achieving this vision. The guiding principles are:

- ***A Unique Downtown.*** The physical appearance of Downtown Marina should present a positive, inviting, and dynamic image of the City as a whole through new construction and rehabilitation of existing buildings, installation of landscaping and pedestrian-oriented amenities, and convenient vehicular access and directional signs. The town should exhibit a unique character that exemplifies the cultural diversity of the community and distinguishes it from neighboring cities within the region.
- ***Cultural and Social Center.*** Downtown Marina's role as the cultural, social and symbolic center of the community should be expanded. Physical and economic growth should be encouraged as a first priority to develop a strong community core.
- ***Proactive Economic Development.*** Development in Downtown Marina should be encouraged and supported by the City through proactive economic and development activities.
- ***Historic, Pedestrian Scale.*** The historic character and pedestrian scale of the area should be enhanced (including new construction and rehabilitation of existing buildings) so that the coastal ambience of Downtown Marina will be preserved as a unique community asset.

2.4.6 Specific Plan Goals and Policies

a. Land Use and Development. The Land Use and Development Goals of the proposed Marina Downtown Vitalization Specific Plan are as follows:

1. Establish Downtown as the residential, business, cultural, social, and governmental center for the City of Marina.



2. Create an identifiable and inviting place that includes a mix of uses and services to promote improved health and support the daily needs of a diverse and growing urban population.
3. Allow for and promote higher residential densities and a compact development pattern in accordance with Transit Oriented Development (TOD) to accommodate an intensification of existing residential and commercial land uses within the context of multiple use development.
4. Create pedestrian- and transit-oriented civic and public spaces within Downtown where people can gather and enjoy various social, cultural, educational and recreational opportunities.
5. Develop a land use pattern for Downtown that embraces and enhances the unique character of the City of Marina, provides opportunities for a variety of uses within a pedestrian friendly environment and minimizes the consumption or degradation of natural resources to the greatest extent feasible.

The following Policies are intended to achieve these Land Use and Development Goals:

- LUD-1** Ensure development standards and design guidelines result in high quality development, which reflects the cultural diversity of Marina and is consistent with a pedestrian-oriented scale and character. *(Implements Goals 2, 4 and 5)*
- LUD-2** Through the land use pattern and development regulations, ensure that the Plan Area can accommodate up to 2,400 additional high density residential units and an additional 380,150 square feet of commercial development as compared to what was available in 2010. *(Implements Goals 1, 2 and 3)*
- LUD-3** Ensure parking is adequate to meet demand and develop strategically placed areas for public parking that encourages visitors to park vehicles and utilize pedestrian pathways and/or public transit, rather than depend on the automobile. *(Implements Goals 3 and 5)*
- LUD-4** Identify allowable sites for a centralized a civic center, community green, performing arts and cultural arts center, as well as other community amenities, all of which should emphasize pedestrian orientation and access. *(Implements Goal 4)*
- LUD-5** Encourage lot consolidation to allow for added flexibility in multiple use, commercial, and residential development. *(Implements Goals 1, 2, 3 and 5)*
- LUD-6** Establish design standards that help to create an intimate Downtown atmosphere, which include public art and spaces, visually interesting landscaping, and other features that enhance Marina's unique character. *(Implements Goals 2, 4 and 5)*
- LUD-7** Protect natural resources and the natural visual character of Marina by concentrating development within the Plan Area. *(Implements Goal 5)*





Reservation Road and Del Monte Boulevard:
Bird's Eye View Looking East

Source: RRM Design Group, 2010.

Figure 2-11
City of Marina



Reservation Road and De Forest Road:
Bird's Eye View Looking West

Source: RRM Design Group, 2010.

Figure 2-12
City of Marina



Image 1 - Reservation Road: Existing Condition



Image 2 - Reservation Road: Full Buildout
Note - Depicts Reservation Road Four-Lane Option

Visual Simulation: Reservation Road



Image 1 - Reservation Road and Del Monte Boulevard: Existing Condition



Image 2 - Reservation Road and Del Monte Boulevard: Full Buildout
Note - Depicts Reservation Road Four-Lane Option

Visual Simulation: Reservation Road and Del Monte Boulevard

Source: RRM Design Group, 2010.

Figure 2-14
City of Marina





Image 1 - Reservation Road and Seacrest Avenue: Existing Condition



Image 2 - Reservation Road and Seacrest Avenue: Full Buildout
Note - Depicts Reservation Road Four-Lane Option

Visual Simulation: Reservation Road and Seacrest Avenue

Source: RRM Design Group, 2010.

Figure 2-15
City of Marina



b. Mobility. The Mobility Goals of the proposed Marina Downtown Vitalization Specific Plan are as follows:

1. Provide for the safe and efficient movement of people and vehicles within and through Downtown Marina, while facilitating economic growth.
2. Create visually pleasing pedestrian and bicycle circulation that safely, efficiently, and effectively serves the Downtown, making it a place where people prefer to walk, bike, or use public transit rather than use a vehicle.
3. Maintain an adequate level of parking infrastructure to meet the residential and commercial needs of the Downtown, while maintaining the aesthetic value of Marina.
4. Continue to upgrade streets to meet current demands and accommodate new development.
5. Create a transportation system that allows a viable choice in travel modes.

The following Policies are intended to achieve these Mobility Goals:

- M-1** Design and redevelop streets to provide convenient and safe traffic flow and to support transit, bicycle, and pedestrian movement. *(Implements Goals 1, 2 and 5)*
- M-2** Recognize that Reservation Road must be designed to convey through traffic, and to provide safe pedestrian and bicycle access to serve multiple use development within the Downtown core. *(Implements Goal 1, 2, 4 and 5)*
- M-3** Develop visually attractive traffic calming features such as bulbouts, accent paving on crosswalk and intersections, street trees and median landscaping. *(Implements Goal 4)*
- M-4** Develop efficient pedestrian pathways and bicycle circulation throughout Downtown. *(Implements Goals 1, 2 and 5)*
- M-5** Consider formation of a parking district for Downtown Marina to encourage shared use of parking. *(Implements Goal 3)*
- M-6** Allow developers and/or business owners to pay in-lieu fees that fund public parking facilities as an alternative to minimum parking requirements for private off-street parking. *(Implements Goal 3)*
- M-7** Reduce minimum parking requirements if developers implement Transportation Demand Management programs. *(Implements Goal 3)*
- M-8** As necessary, develop strategically located parking structures along the periphery and of the Downtown core, as a means of eliminating traffic congestion and enhancing pedestrian activities. *(Implements Goals 2 and 3)*



- M-9** The City should pursue joint development projects, where feasible, to reduce the overall cost of parking structures. *(Implements Goal 3)*
- M-10** Pursue opportunities to replace the existing pattern of small surface lots dispersed within the Downtown with strategically located parking structures. *(Implements Goals 2 and 3)*
- M-11** The City should take actions, such as installing “wayfinding” signs, to better direct auto traffic to parking lots in the Downtown area. *(Implements Goals 1, 2 and 3)*
- M-12** Encourage walking, bicycling, and greater use of transit, as well as ridesharing, telecommuting, and flexible work schedules, to reduce overall parking demand. *(Implements Goals 1, 2 and 3)*
- M-13** Require off-street parking facilities to be located behind buildings. Parking lots shall be prohibited from being located immediately adjacent to Reservation Road. *(Implements Goals 1, 2 and 3)*
- M-14** Encourage parking lot consolidation by allowing multiple use land uses on the second and third stories of the structures.

c. Infrastructure Goals. The Infrastructure Goals of the proposed Marina Downtown Vitalization Specific Plan are as follows:

1. Maintain a sufficient level of public infrastructure and utilities to serve existing and future development in the Specific Plan Area.
2. Continue to upgrade streets, drainage facilities, and utility services to meet existing City Standards.

The following Policies are intended to achieve these Infrastructure Goals:

- INF-1** Identify needed infrastructure improvements and establish a priority schedule for capital improvements. *(Implements Goals 1 and 2)*
- INF-2** Install public improvements, such as streets, water, sewer, lighting, landscaping, sidewalks, drainage facilities, curbs and gutters during the initial phases of development under the Specific Plan. *(Implements Goals 1 and 2)*
- INF-3** Utilities should be installed underground, or for those utilities that cannot be installed underground, they should be screened with landscaping, buildings, or hardscape features. *(Implements Goal 2)*
- INF-4** Improve crosswalks and intersections within the Plan Area to enhance the pedestrian environment and encourage pedestrian mobility. *(Implements Goals 1 and 2)*



INF-5 Ensure that all streets accommodate pedestrians with continuous sidewalks on both sides of the street, and curb ramps for people with mobility impairments. Ensure existing sidewalks are repaired or replaced as necessary, and meet City code. *(Implements Goals 1 and 2)*

d. Sustainability Goals. The Sustainability Goals of the proposed Marina Downtown Vitalization Specific Plan are as follows:

1. Support sustainable development and redevelopment in Downtown Marina.
2. Allow for compact form and multiple use patterns of development that reduce dependency on the automobile, and support other modes of transportation.
3. Employ green building practices that reduce overall environmental impacts associated with development.

The following Policies are intended to achieve these Sustainability Goals:

SUS-1 Reduce residents' and workers' dependence on fossil fuels, and other non-renewable natural resources. *(Implements Goal 1)*

SUS-2 Create high-density and high intensity, multiple use areas that promote travel by transit, walking and bicycling. *(Implements Goal 2)*

SUS-3 Encourage green building techniques that conserve resources and produce more healthful living and working environments. *(Implements Goal 1)*

SUS-4 Encourage development to use renewable energy sources and meaningful energy conservation measures. *(Implements Goals 1 and 3)*

SUS-5 Integrate Low Impact Development (LID) technologies, including pervious pavers and surfaces, filter strips, tree boxes, rain gardens, vegetated bioswales and parking lot infiltration trenches. *(Implements Goals 1 and 3)*

SUS-6 Landscaping shall incorporate native plant species and/or drought tolerant species, with selection appropriate for location. *(Implements Goals 1 and 3)*

SUS-7 Water and lighting fixtures shall be designed for efficiency. Water conserving fixtures may include low-flow faucets, showerheads, and toilets, as well as drip irrigation systems. *(Implements Goals 1 and 3)*

SUS-8 Irrigation and all water elements within Specific Plan Area shall maximize the use of available reclaimed water. *(Implements Goals 1 and 3)*

SUS-9 Utilize construction materials and methods appropriate to the local area. Materials should be locally available (within 200 miles) wherever possible, and preferably have at least some recycled components. *(Implements Goals 1 and 3)*

2.4.7 Specific Plan Design Guidelines

The proposed Marina Downtown Vitalization Specific Plan includes design guidelines intended to consistently promote high quality, well-designed developments throughout the Specific Plan Area. The guidelines are composed of written statements and graphic illustrations which describe the design intent and community character for the Downtown Vitalization Specific Plan Area. In general, these design guidelines are intended to clearly inform, guide and inspire property development, redevelopment and improvements within the Plan Area. The following Goals provide the foundation of the design guidelines:

1. *Create vibrant, hospitable public places that serve as gathering places for the community.*
2. *Design pedestrian-oriented buildings and spaces with a focus on physical and visual connectivity, clear relationships to the street, and strong aesthetic appeal.*
3. *Encourage high quality development that reflects the cultural diversity of Marina, and protects and enhances property values and overall community economic viability.*
4. *Respond to environmental constraints and energy savings throughout the design process.*

The design guidelines include Plan Area-wide guidelines; guidelines by land use (including multiple use and commercial, residential, and civic); streetscape guidelines; and landscape guidelines. Plan Area-wide guidelines include regulations pertaining to: site planning and design; pedestrian and vehicular connections; entry and gateway buildings; pedestrian connections, paseos, and plazas; parking lot location, design, and treatment; parking lot landscaping; parking structures; utilities; trash and recycling enclosures; lighting; walls, fences, and screening; and sustainable design.

2.5 PROJECT OBJECTIVES

The State CEQA Guidelines requires that the EIR Project Description include a statement of objectives sought by the proposed project. The objectives of the Downtown Vitalization Specific Plan are as follows:

1. *Establish central Marina as a vital destination center, or Downtown, that accommodates a mix of commercial, retail, dining, entertainment and residential uses served by an improved transportation network.*
2. *Maximize the City's ability to capture the future economic opportunities that otherwise might be lost to neighboring, competing jurisdictions.*
3. *Promote the vision of the Marina Downtown Vitalization Specific Plan by encouraging a mix of new uses to create a vibrant, thriving Downtown.*

2.6 REQUIRED APPROVALS

Implementation of the proposed Downtown Vitalization Specific Plan would require the following legislative and discretionary approvals from the City of Marina:



- *Certify the Downtown Vitalization Specific Plan EIR.*
- *Amend the General Plan Land Use Map to reflect the land use designations within the Downtown Vitalization Specific Plan, and amend certain policies to ensure consistency with the text of the Specific Plan.*
- *Adopt the Downtown Vitalization Specific Plan by Resolution.*
- *Amend the Zoning Ordinance to rezone the Plan Area to “Downtown Vitalization Specific Plan” on the Zoning Map.*
- *Site and Architectural Design Review for all properties within the boundaries of the Downtown Vitalization Specific Plan.*
- *Review and approval of other future required permits, including but not limited to: building, grading, encroachment, and occupancy permits; site and architectural review by the Design Review Board; and Planning Commission review and approval.*

Other agencies with permit or review authority over some aspect of the project are as follows:

- *Monterey County – approval of traffic mitigation measures within county jurisdiction*
- *Marina Coast Water District – utility connections*
- *Regional Water Quality Control Board – NPDES permit, waste discharge*
- *Caltrans – encroachment permits for certain traffic mitigation measures*
- *U.S. Fish & Wildlife Service – potential incidental take permits*

This EIR is intended to facilitate adoption of the Marina Downtown Vitalization Specific Plan.

Subsequent CEQA Review of Development Consistent with the Specific Plan. Section 65457 of the California Government Code provides that once the EIR has been certified and the Downtown Vitalization Specific Plan adopted, development projects which are undertaken to implement the Specific Plan that are consistent with the Plan are generally exempt from additional CEQA review. However, this exemption does not apply if, after the adoption of the Specific Plan, any of the events that would trigger preparation of a subsequent or supplemental EIR have or would occur. Such conditions include

- *substantial changes to the project;*
- *changes in circumstances under which the project is being undertaken that require major revisions in the project, or*
- *substantial changes in background or plan area setting information becomes available which was not known at the time the EIR was certified.*

3.0 ENVIRONMENTAL SETTING

This section provides a description of the current environmental conditions in the proposed Specific Plan area.

3.1 REGIONAL SETTING

The Downtown Vitalization Specific Plan area is located within the City of Marina, in Monterey County. The City of Marina is situated in western Monterey County along State Route 1 and adjacent to the Monterey Bay, approximately eight miles north of the City of Monterey (refer to Figure 2-1 in Section 2.0, *Project Description*). Incorporated in 1975, the City has grown to a community of 19,445 residents (2010). The City encompasses approximately 9,000 acres and extends for five miles along the Pacific Ocean, from the City of Seaside on the south to the Salinas River on the north, and inland for four miles along the river to the municipal airfield. The former Fort Ord military base is located immediately south of Marina.

As of 2010, Monterey County had a population of approximately 435,878 people (California Department of Finance). The County's population has grown 8.5 percent since the year 2000, which is approximately 0.9 percent annually (California Department of Finance). However, the majority of communities in the Monterey Peninsula sub region have seen decreased population levels during the same time period, as a result of the closure of the Fort Ord military base. This includes the City of Marina, which has seen a population decreased of approximately 23 percent between 2000 and 2010.

The City of Marina is located at the southern edge of the Monterey Bay on a coastal plain. The entire Monterey Peninsula is generally well ventilated by persistent sea breezes. Year-round marine airflow allows Marina to maintain good air quality.

The Marina region is located in the North Central Coast Air Basin (NCCAB), which includes Monterey, Santa Cruz, and San Benito Counties, as defined by the Monterey Bay Unified Air Pollution Control District (MBUAPCD). A semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement. The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents.

Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure that intensifies the onshore air flow during the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay Area or the Central Valley into the NCCAB.



During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.

Topography within the City of Marina consists of coastal dunes and low, rolling hills stepping gradually up from the coastline to maximum elevations of about 250 feet. The eastern boundary of the city is marked by a steep bluff 60 to 120 feet high bordering the flood plain of the Salinas River. To the north, the city extends to the mouth of the Salinas River and incorporates a broad, low-lying flood plain along the southwestern bank of the river.

The City of Marina is situated in the central portion of the California's Coast Ranges. The city and surrounding region are underlain by a large, northwest-trending, fault-bounded, elongate prism of granitic and metamorphic basement rocks, known collectively as the Salinian Block. The Salinian Block is separated from contrasting basement rock types to the northeast and the southwest by the San Andreas and Sur-Nacimiento fault systems, respectively. Overlying the granitic and metamorphic basement rocks is a sequence of dominantly marine sediments of Cretaceous to Pliocene age and non-marine sediments of Pliocene to Pleistocene age. All but the youngest of these rocks show evidence of deformation, a result of the active tectonic environment of coastal California.

The Salinian Block is itself cut internally by many smaller faults that divide it into several sub-blocks. Some of the sub-blocks, such as the Santa Lucia Mountains, located south of the city, have been uplifted and form young, rugged mountain ranges. Other portions of the Salinian Block (including the Specific Plan area) have been relatively down-dropped, forming sedimentary basins.

3.2 SPECIFIC PLAN SITE SETTING

The Specific Plan area encompasses central Marina, and includes approximately 295 acres of urban land area. As shown in Figure 2-2 in Section 2.0, *Project Description*, the Plan Area is generally bounded:

- *On the north by the northern property line of parcels along the north side of Reservation Road;*
- *On the west by the properties generally west of Del Monte Boulevard;*
- *On the south by Reindollar Avenue, then easterly to Sunset Avenue to Carmel Street, then east on Crescent Avenue and north along Crescent to the southerly property line of the El Rancho Shopping Center and abutting commercial properties along Reservation Road; and*
- *On the east by California Avenue extending one parcel north of Reservation Road.*

General Site Characteristics. The Specific Plan area is entirely developed with urban land uses that are considered suburban in intensity. Land uses are characterized by a mixture of single-story retail commercial and office buildings, single family homes and one- to two-story multifamily residential units. There are some two story commercial structures. The existing retail and office commercial uses are located primarily along Reservation Road and Del Monte Boulevard, and are predominantly oriented in a strip configuration with the buildings positioned at the back of large surface parking lots.



Geologic Setting. The Specific Plan area is located approximately in the center of the City of Marina. Due to the highly developed nature of the Plan area, the topography of the project site is relatively flat. The downtown area is approximately 100 feet above mean sea level, with elevation increasing in the eastern portion of the area, furthest from the coast.

The Specific Plan area occupies a relatively down-dropped basement block that forms the Monterey embayment. Granitic and metamorphic basement rocks which crop out at elevations of more than 2,000 feet above sea level some ten miles south of the city occur at depths of a few thousand feet or more beneath the planning area. Overlying the granitic basement are Miocene to Pleistocene-age sedimentary rocks a few thousand feet thick, including (in ascending order) the Monterey Formation (a sequence of marine shale of Miocene age resting on granitic basement), the Purisima Formation (consisting of Pliocene-age sandstone and siltstone of marine origin), the Plio-Pleistocene Paso Robles Formation (a sequence of alluvial fan and river deposits), the Pleistocene-age Aromas Sands (made up of eolian [wind-blown] sand and river deposits), late Pleistocene to Modern fluvial sediment deposited by the Salinas River, and sand dunes that have formed in approximately the last 100,000 years. The surficial geology of the City of Marina consists primarily of dune sands and young deposits of the Salinas River.

Natural and Cultural Resources. The Specific Plan area is urbanized, and lacks either natural biological habitat or agricultural resources. The greater Monterey County region is rich in biological resources, primarily because of the diversity of unique physical characteristics: highly varied terrain, large elevation range, extensive coastline, broad range of microclimates, and diverse substrate materials. Monterey County contains some of the most productive farmland in the United States. The Salinas Valley accounts for nearly all of the agricultural production in Monterey County and is known as the “Salad Bowl of the World” because of its voluminous production of vegetable crops. Section 4.9, *Biological Resources*, of this EIR includes a detailed description of on-site ruderal and disturbed/developed habitat areas.

Based on a California Historical Resources Information System (CHRIS) cultural resource record search and assessment prepared by the Northwest Information Center at Sonoma State University, no recorded prehistoric resources or sites are within the Specific Plan area. The Specific Plan area is urbanized, with a variety of structures and roadways. Several structures have been identified as having potential for historic listing on the California Register or Local Listing.

3.3 CUMULATIVE PROJECTS SETTING

The State CEQA Guidelines require the analysis of the cumulative effects of a project in combination with other foreseeable development in the area. CEQA defines “cumulative impacts” as two or more individual events that, when considered together, are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately, but could have a significant impact when analyzed together. Section 15130 of the State CEQA Guidelines prescribes two methods for analyzing cumulative impacts: (1) use of a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or (2) use of a summary of projections contained in an adopted general plan or related planning document.



It should be noted that this is a Program EIR, which describes a series of future actions related to development within the downtown area, the timing of which are not yet known and somewhat speculative. For this reason, it is not appropriate or possible to conduct a detailed analysis of cumulative effects in accordance with the project list method, since the magnitude and timing of future development both within the Specific Plan area, and within the City in general, are speculative over the 30-year horizon of the proposed specific Plan.

For these reasons, this EIR examines cumulative impacts based on a summary of projections in accordance with long-range general plan buildout of both the City of Marina, and unincorporated portions of Monterey County that may have some peripheral relationship to the City. For transportation-related cumulative impacts, the cumulative traffic condition is defined as traffic conditions roughly twenty years beyond existing conditions. Therefore, the horizon year for the cumulative condition is approximately 2030. The Cumulative No Project Condition accounts for approved and pending development projects, as well as planned roadway improvements, and is based on the regional Association of Monterey Bay Area Governments (AMBAG) travel demand model.

Cumulative impacts are discussed within each of the specific impact analysis discussions in Section 4.0, *Environmental Impact Analysis*.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the Initial Study process as having the potential to experience significant impacts.

“Significant effect” is defined by the State CEQA Guidelines §15382 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with the setting and is followed by the impact analysis. Within the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by the City, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the Specific Plan, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

Class I - Significant and Unavoidable: An impact that cannot be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.

Class II - Significant but Mitigable: An impact that can be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.

Class III - Not Significant: An impact that may be adverse, but does not exceed the significance threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

Class IV - No Impact or Beneficial: No impact would occur or the project would have a beneficial effect.

Following each environmental effect discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.



In this EIR, impact analyses are based on the physical conditions of the Specific Plan area and vicinity existing as of December 28, 2009, the date in which the Notice of Preparation for the EIR was published.

Please refer to the Executive Summary for this EIR, which clearly summarizes all impacts and mitigation measures that apply to the proposed Specific Plan.

DRAFT

4.1 LAND USE, POPULATION, AND HOUSING

4.1.1 Environmental Setting

a. Existing Land Uses. The Specific Plan area is centrally located in the City of Marina, and encompasses approximately 295 acres. As shown in Figure 2-2 in Section 2.0, *Project Description*, the Plan area is generally bounded:

- *On the north by the northern property line of parcels along the north side of Reservation Road;*
- *On the west by the properties generally west of Del Monte Boulevard;*
- *On the south by Reindollar Avenue, then easterly to Sunset Avenue to Carmel Street, then east on Crescent Avenue and north along Crescent to the southerly property line of the El Rancho Shopping Center and abutting commercial properties along Reservation Road; and*
- *On the east by California Avenue extending one parcel north of Reservation Road.*

Existing development within the proposed Specific Plan area primarily includes commercial and residential uses. Existing commercial areas are generally located along Reservation Road and Del Monte Boulevard, with Retail/Service on the southeast side of Del Monte Boulevard and Retail/Service along both sides of Reservation Road, intermixed with Multi-Family Residential. Commercial development along these corridors generally consists of single-story strip-mall format shopping centers in the Retail/Service land use designation. Residential uses generally occur outward from these commercial areas, including southeast and northeast of Del Monte Boulevard and Reservation Road.

There is also an area designated Industrial within the Specific Plan area, southeast of the intersection of Del Monte Boulevard and Cypress Avenue, in the southernmost portion of the plan area. Although this area is designated as Industrial, existing development in this area is not typically industrial in nature. Development includes a storage facility, the Monterey Bay Aquarium's Animal Research and Care Center (ARCC), a self car wash, a restaurant, a brewery, miscellaneous businesses, and vacant lots.

Public facilities are located in four distinct, separate portions of the Specific Plan area: at the northernmost portion of the Plan area (a portion of the Monterey Superior Traffic Court parking lot); at the westernmost portion of the Plan area (Marina Del Mar Elementary School); in the western portion of the Plan area at Hillcrest Avenue (City Offices); and in the eastern portion of the Plan area along De Forest Road, south of Reservation Road (Marina Post Office and Monterey Salinas Transit Center).

Existing development in the Specific Plan area includes approximately 933,000 square feet of commercial, office, industrial and public facilities uses and 1,630 dwelling units.

b. Population, Housing, and Employment. In 2000 the City of Marina was estimated to have 25,101 residents in 8,537 total dwelling units (U.S. Census, 2000). As of 2010, the City's population is estimated at approximately 19,445 residents in 8,720 units, with an average household size of 2.804 persons. This population represents a decrease of approximately 23 percent compared to 2000. This population reduction is primarily presumed to be a result of



outmigration related to the decommissioning of the Fort Ord military installation and the accompanying loss in support service-related jobs.

Table 4.1-1 illustrates existing (2010) population and housing estimates for Marina in comparison to Monterey County as a whole.

Table 4.1-1. City of Marina Existing Population and Housing Levels

	Marina	Monterey County
Population	19,445	435,878
Housing	8,720	141,315
Persons per Household	2.804	3.195

Source: California Department of Finance, E-5 City/County Population and Housing Estimates, 2010.

Employment in Marina contributes to the demand for housing in the City. As of 2010, employment in the City was estimated at approximately 3,334 jobs (Association of Monterey Bay Area Government, *Monterey Bay Area 2008 Regional Growth Forecast*, June 2008).

Future Projections. The *Monterey Bay Area 2008 Regional Forecast* (June 2008) prepared by the Association of Monterey Bay Area Government (AMBAG) presents forecasts of population, households, and employment between 2010 and 2035 for all of Monterey County, including the City of Marina. AMBAG projections for Marina and Monterey County are shown in Table 4.1-2.

Table 4.1-2. City of Marina Population, Household, and Employment Forecasts

	2010	2015	2020	2025	2030	2035
Marina						
Population	19,445 ¹	26,658	29,274	30,133	32,010	32,942
Households	8,720 ¹	10,662	11,487	12,312	13,137	13,562
Employment	3,334	3,653	3,990	4,273	4,473	4,696
Monterey County						
Population	435,878 ¹	808,560	840,366	868,459	895,577	920,713
Households	141,315 ¹	156,061	162,857	169,933	176,236	182,082
Employment	196,430	203,660	211,160	218,830	226,780	235,460

Source: AMBAG, *Monterey Bay Area 2008 Regional Forecast*, June 2008.

1. California Department of Finance, E-5 City/County Population and Housing Estimates, 2010.

As shown in Table 4.1-2, Marina is expected to have a population of 32,942 by 2035. Based on the 2010 population of 19,445 residents, this represents an increase of approximately 69 percent from 2010 to 2035.

Jobs-Housing Balance. A jobs / housing ratio divides the number of jobs in an area by the number of housing units. A ratio of 1.0 indicates a balance of jobs and housing units, a ratio greater than 1.0 indicates an excess of jobs, and a ratio less than 1.0 indicates an excess of



housing. In urban planning practice, healthy jobs-housing balances are important as they suggest that there are opportunities for employees to reduce travel time to workplaces, reducing the vehicle miles traveled (VMT) numbers. In these terms, a ratio greater than 1.0 indicates a net in-commute and a ratio of less than 1.0 indicates a net out-commute for a given community. In more current urban planning thinking, this same goal would suggest a more sustainable community, as it increases the possibility of workers travelling from home to workplace using alternative modes, such as bicycling, riding transit, or walking. Qualitatively, it is assumed that workers spending less time commuting far distances are more productive and have more time to spend doing leisure activities. Quantitatively, communities are generally considered to be in balance when the ratio of jobs-to-housing is close to 1.0, or lies within the range of 0.75 to 1.25 (Sedway and Associates, 1992, as reported in the FORA FEIR, June 1997).

The jobs-housing ratio forecasts for the City of Marina and Monterey County are shown in Table 4.1-3.

**Table 4.1-3.
Jobs-Housing Ratio for Marina and Monterey County**

	Existing	2015	2020	2025	2030	2035
Marina	0.38	0.34	0.35	0.35	0.34	0.35
Monterey County	1.39	1.31	1.30	1.29	1.29	1.29

Source: Table 4.1-2.

As shown in Table 4.1-3, the existing jobs-housing ratio in Marina is 0.38, while the existing ratio countywide is 1.39. Both of these ratios are outside the identified range and therefore signify an imbalance.

According to the 2000 U.S. Census, the average travel time to work for Marina residents was 23.3 minutes in 2000. Combined with the low jobs-housing balance ratio, this data indicates that many Marina residents commute outside the City to work. Nevertheless, this commute time does not necessarily compare unfavorably with other communities in the Monterey Bay region. For example, the average travel time to work for the nearby cities of Santa Cruz, Watsonville, Monterey, and Salinas, is 22.8 minutes, 24.0 minutes, 14.5 minutes, and 19.4 minutes, respectively. In addition, the average commute time for all of Monterey County is 23.2 minutes (U.S. Census, 2000).

c. Regulatory Setting.

City of Marina General Plan. The Marina General Plan serves as the long-term policy guide for the physical, economic and environmental growth of Marina. The City's core values are the foundation of the General Plan and the underlying basis for its vision and direction. The Introduction to the General Plan contains the overall community goals of the General Plan, including several related to land use, population, and housing:

1. *Housing within the means of households of all economic levels, ages and lifestyles, and, therefore, a diversified and integrated housing supply in which new residential development emphasizes a mix of housing types and lot sizes at the neighborhood level.*



4. *A balance of jobs and housing that provides the greatest possible opportunity both to live and work in Marina.*
7. *A city that helps avoid sprawl in the region by making efficient use of lands designated for community development purposes.*
10. *A community responsive to the housing and transportation needs of Monterey County.*
11. *A physically and socially cohesive community in which existing and future land uses, transportation facilities, and open spaces are well integrated.*
15. *Attractive, distinctive residential neighbor-hoods and commercial districts which contribute to the overall vitality, image and identity of the city.*

The General Plan also consists of the following elements:

Community Land Use Element. The Community Land Use Element establishes the permitted use of land for the entire Marina planning area as well as permissible housing densities and building intensity levels for nonresidential uses. This element integrates into one section all land use policies required by the state-mandated land use element and those of the conservation, open space, noise and safety elements.

Community Infrastructure Element. The Community Infrastructure Element sets forth the City's policies for vehicular, transit, pedestrian and bicycle circulation in accordance with the state circulation element requirements. This element also encompasses other infrastructure requirements including water supply, wastewater collection and treatment, storm drainage, and associated issues and concerns pertaining to water resource management and soil conservation.

Community Development and Design Element. The Community Development and Design Element encompasses both the functional and aesthetic requirements for the physical design and construction that accompany use of the land and provision of infrastructure. It addresses the overall design and appearance of the city and design decisions for individual sites and buildings – decisions which taken together, do much to determine how the entire city functions and appears. The following general plan features can be found in this element: policies governing citywide appearance; standards and guidelines for roads; detailed design guidance for individual neighborhoods and commercial areas; and policies and guidelines addressing environmental protection, conservation, and public safety.

Program and Implementation Element. The Program and Implementation Element lays out the steps and actions needed to accomplish the General Plan objectives. It makes recommendations for bringing City ordinances and codes into compliance with the General Plan – as required by state planning law. This element also contains recommendations for public improvement programs and makes proposals for complementary studies.

Housing Element. The Housing Element is intended to provide citizens and public officials with an understanding of the housing needs in the community and set forth an integrated set of policies and programs aimed at the attainment of defined goals. The City of Marina Final Housing Element 2008-2014 was adopted on September 1, 2009 by the Marina City Council and certified by the Department of Housing and Community Development (HCD) December 16, 2009. Program 1.1 directly relates to the Specific Plan Area:



Program 1.1 Rezone Within Downtown Specific Plan Area. The City of Marina shall complete planning and re-zoning within the Downtown Specific Plan (DSP) area. Parcel specific planning for the DSP will include a thorough evaluation of all vacant and underutilized parcels within the planning area boundary. The capacity estimate shall identify site constraints and consider the square footage of existing uses, height limits, site coverage, required parking, open space, and other land use controls and site development standards, as well as parameters such as context and fiscal considerations, to estimate how much housing can realistically be developed on each parcel. The DSP will contain specific incentives to encourage and facilitate lot consolidation, by development of administrative procedures (see Program 1.6).

An inventory of developable units in each income category will be prepared in conjunction with the land use plan, infrastructure and public facilities assessment, design guidelines and development standards for downtown Marina. In accordance with Government Code Section 65583.2(h), the rezoning within the Downtown Specific Plan should allow owner-occupied and rental multifamily uses by right, provide for a minimum of 27 acres that accommodate at least 20 units per site at a density of at least 20 units per acre, on a sufficient number of sites to accommodate the City's remaining RHNA allocation of 532 units. At least 50 percent of the sites designated for fulfilling the remaining lower-income housing need shall be designated for residential use only.

City of Marina Downtown Vision. The *Marina Downtown Vision* was adopted by the City Council in July 2005 to supplement the City's General Plan by identifying the City's expectations for any potential development proposed in the Downtown area. The intent of the Vision is to establish a direction for the physical design of Downtown Marina and to ensure that new development meets or exceeds the City's policies, standards and expectations. Issues addressed include community identity, fiscal health, infrastructure, safety and security, services, design and sources of funding.

City of Marina Downtown Design Guidelines. The *Downtown Design Guidelines* were developed as a follow-up to the *Downtown Vision* and adopted by the City Council in July 2005. The guidelines provide greater detail of how the *Downtown Vision* can be implemented. The guidelines also provide a proactive means of encouraging development that is consistent with the Vision Plan.

City of Marina Pedestrian and Bicycle Master Plan. The *City of Marina Pedestrian and Bicycle Master Plan* (adopted February 2, 2010) has three primary purposes: providing guidelines for pedestrian and bicycle facilities improvements, positioning the City for grants to finance improvements, and playing a role in the City's work to reduce greenhouse gas emissions. The Plan provides a published set of pedestrian and bicycle facility design guidelines that are applicable to typical situations, including guidelines for sidewalks, crosswalks, pedestrian orientation, pedestrian amenities, bikeways, end-of-trip bicycle facilities, bicycling promotion and funding, street design, parking, roundabouts, and safety. The Plan additionally provides a list of prioritized projects and a summary of future funding sources for pedestrian and bicycle facilities.



4.1.2 Impact Analysis and Mitigation Measures

a. Methodology and Impact Criteria. Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in the following condition:

- *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, clean air plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

It should be noted that two Appendix G thresholds are excluded from the above list because impacts related to these thresholds were determined in the Initial Study to be less than significant. This includes physically dividing an established community and conflicting with an adopted habitat conservation plan or natural communities conservation plan. The Initial Study is included in Appendix A to this EIR.

In addition, impacts relating to population and housing would be significant if development facilitated by the Specific Plan would result in the any of the following:

- *Induce substantial population growth in the area, either directly or indirectly;*
- *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;*
- *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere;*
- *Create an imbalance of jobs and housing; or*
- *Result in land use conflicts with nearby existing or planned uses.*

For the purposes of this analysis, "substantial" population growth is defined as growth exceeding AMBAG population forecasts for the City.

A jobs-to-housing ratio within the range of 0.75 to 1.25 is considered balanced (Sedway and Associates, 1992, as reported in the FORA FEIR, June 1997). Both the City of Marina and Monterey County are currently outside of this identified range (refer to Table 4.1-3). Therefore, for the purpose of this analysis, a potentially significant impact related to jobs-housing balance would occur if the proposed Specific Plan would worsen an existing imbalance.

Growth inducing impacts are discussed in Section 5.0, *Growth Inducing Impacts*.

b. Project Impacts and Mitigation Measures

Impact LU-1 **The proposed Specific Plan would generally support the goals and policies of the Marina General Plan and other planning documents applicable to the downtown area. However, the proposed Land Use Plan would conflict with the existing General Plan Land Use Map, and would require General Plan amendments to resolve the conflict. Pursuant to approval of**



General Plan amendments, impacts would be Class III, less than significant.

The proposed Specific Plan was designed to build on the goals and objectives from the City of Marina General Plan as well as the recommendations of the City's *Downtown Vision, Downtown Design Guidelines, and Pedestrian and Bicycle Master Plan*. The following discussion provides a summary of the potential consistency of the proposed Specific Plan with each of these documents.

It should be noted that the discussion below is intended to guide policy interpretation, but is not intended to replace or supplant City decision-makers. The final determination of consistency will be made by City decision-makers when they act on the Specific Plan document.

City of Marina General Plan. As discussed in Section 2.0, *Project Description*, the proposed Specific Plan builds on the goals and objectives from the City of Marina General Plan. It was written with the intent of not only being consistent with the General Plan goals and policies, but of furthering the goals and objectives contained therein. The following discussion provides a summary of the potential consistency of the proposed Specific Plan with each of the elements of the City's General Plan.

Community Land Use Element. The intent of the Community Land Use Element is to help achieve the overall General Plan goals of providing a satisfying, safe and healthful living and working environment and promoting the economic well-being of city residents and businesses. The proposed Specific Plan is potentially consistent with the primary policies in this element because it promotes compact, in-fill development that would minimize the dispersal of future growth to outlying areas (per primary policy 2.4.2). The plan includes sufficient intensity to help ensure long-term feasibility of public transit, and creates a pedestrian-oriented environment (per primary policy 2.4.5). The Specific Plan additionally directs retail and personal-service uses into existing commercial areas, and calls for the elimination of strip-type commercial development (per primary policy 2.4.7). The plan further includes a broad range of housing types to provide greater housing choice and diversity (per primary policy 2.4.8). In addition, as outlined in Section 4.10, *Public Services and Infrastructure*, the Specific Plan would be consistent with park standards outlined in this element.

The Community Land Use Element additionally identifies land use designations for the Marina planning area. The Specific Plan area currently includes the following General Plan land use designations, as shown in Figure 2-3 in Section 2.0, *Project Description*:

- *Multiple Use*
- *Office/Research*
- *Retail/Service*
- *Industrial*
- *Public Facilities - Civic*
- *Public Facilities - Education*
- *Multi-family Residential*
- *Single-family Residential*



Approximately 40 percent of the existing land uses within the Specific Plan area would remain unchanged from their current General Plan designations. However, a General Plan Amendment would be required to change the following land use designations:

- *Retail/Service parcels along Reservation Road from Del Monte Boulevard to De Forest Road to Multiple Use;*
- *Multiple Use and Single-Family Residential uses in the western portion of the Specific Plan area to Multi-Family Residential;*
- *Industrial and Visitor-Serving uses in the southwestern portion of the Specific Plan area to Multiple Use; and*
- *Multi-Family Residential south of the Del Monte Boulevard and Reservation Road intersection to Public Facilities-Civic.*

Refer to Figures 2-3 and 2-4 in Section 2.0, *Project Description*, for existing and proposed land use designations, respectively. A list of General Plan amendments that would be required as a result of these changes is included in Section 2.4.3(a) of Section 2.0, *Project Description*. Pursuant to approval of these amendments, impacts would be considered less than significant.

Potential land use conflicts that could occur as a result of the above land use changes are addressed in Impact LU-5.

Community Infrastructure Element. The Community Infrastructure Element sets forth the City's policies for vehicular, transit, pedestrian and bicycle circulation. The proposed Specific Plan is potentially consistent with the primary policies of this element because it promotes redevelopment of existing areas, with a pattern and density that makes the provision of frequent regional and local transit economically feasible (per primary policy 3.3.1). The plan additionally includes a substantial amount of new commercial and office development (380,150 square feet), which would allow residents to work within the community, thereby reducing the length and travel time of work trips generated by local residents (per primary policy 3.3.2). The multiple use and pedestrian-oriented aspects of the plan would also reduce the number and length of vehicular trips (per primary policy 3.3.4) and ensure that walking and bicycling routes are integrated parts of street design and form a safe and preferred transportation network (per primary policy 3.3.5).

As discussed in Section 4.10, *Public Services and Infrastructure*, the proposed Specific Plan would minimize water consumption, use recycled water, and protect the water quality of the aquifers (per primary policies 3.3.11 and 3.3.12). Similarly, the Specific Plan would ensure availability of required facilities and services (per primary policy 3.3.13). Implementation of recycling programs and state mandated diversion requirements would promote reductions in non-recyclable solid waste from land uses within the proposed Specific Plan area (per primary policy 3.3.15).

Community Development and Design Element. Siting, design, and architectural considerations detailed throughout the Community Development and Design Element are incorporated into Chapter 4, *Design Guidelines*, of the proposed Specific Plan and enhanced in some instances. For example, the proposed Specific Plan calls for the streetscapes along Del Monte Boulevard and Reservation Road to be improved with design elements such as gateway



and intersection treatments, wide sidewalks with pedestrian amenities, and traffic calming features. These features help to enhance the City's major travel corridors in accordance with policies 4.14, 4.72, and 4.73. The plan further includes detailed guidelines for street furnishings, landscaping, and lighting to create a cohesive downtown area, and to help increase the visibility of the corridor. In addition, as outlined in Section 4.7, *Aesthetics and Community Design*, design guidelines within the proposed Specific Plan would limit the amount of glare and lighting visible from residential neighborhoods (per policy 4.20). The retail area along Reservation Road, among other areas, would be enhanced (per policy 4.79) and a wide range of housing options are included in the Plan (per policy 4.79).

Program and Implementation Element. The Program and Implementation Element of the Marina General Plan outlines action items for the city to implement the General Plan, including zoning ordinance updates, preparation of planning studies, and implementation of mitigation measures required by the General Plan EIR. Therefore, it does not directly relate to the Specific Plan.

City of Marina Downtown Vision. The intent of the *Marina Downtown Vision* is to establish a direction for the physical design of downtown Marina and to ensure that new development meets or exceeds the City's policies, standards and expectations. As described in Section 2.0, *Project Description*, the underlying intent of the Vision has been incorporated into the proposed Specific Plan and will be implemented by the various goals, implementing actions, and design standards set forth by the Specific Plan. Further, the *Downtown Vision* calls for the reduction of Reservation Road from four-lanes to two-lanes, the installation of roundabouts, and a variety of traffic-calming and pedestrian-orientation elements. The Reservation Road two-lane option (discussed below) incorporates the lane reductions and roundabouts suggested by the *Downtown Vision*. A second four lane option was also developed and analyzed in this EIR. Both Reservation Road options include a variety of traffic-calming elements and pedestrian-oriented design features to satisfy the objectives of the *Downtown Vision*, as outlined in Chapter 4.0, *Design Guidelines*, of the proposed Specific Plan.

City of Marina Downtown Design Guidelines. The *Downtown Design Guidelines* were developed as a follow-up to the *Downtown Vision* and adopted by the City Council in July 2005. As stated in Section 2.0, *Project Description*, the *Design Guidelines* have been incorporated into Specific Plan, and can be found in Chapter 4.0, *Design Guidelines*, of the Plan.

City of Marina Pedestrian and Bicycle Master Plan. The City's *Pedestrian and Bicycle Master Plan* provides guidelines for pedestrian and bicycle facilities improvements throughout the City of Marina. As stated in Section 2.0, *Project Description*, the fundamental concepts contained in the Pedestrian and Bicycle Master Plan are incorporated into the Specific Plan and will be implemented by the various goals, policies and design standards set forth by the Chapter 3.0, *Mobility*. The proposed Specific Plan would encourage walking and bicycling as major and safe means of travel, which is the fundamental goal of the *Pedestrian and Bicycle Master Plan*.

Reservation Road Four-Lane Option. As discussed above, the *Downtown Vision* recommends reducing Reservation Road from four-lanes to two-lanes and providing roundabouts at key intersections. The Reservation Road four-lane option is potentially inconsistent with these recommendations.



Reservation Road Two-Lane Option. As discussed above, the *Downtown Vision* recommends reducing Reservation Road from four-lanes to two-lanes and providing roundabouts at key intersections. The Reservation Road two-lane option implements this recommendation. A General Plan Amendment would be required to reduce Reservation Road to two lanes.

Specific Plan Policies which Reduce Impacts. As discussed above, the design guidelines and other aspects of the proposed Specific Plan promote and in some cases expand upon the primary policies within the city's General Plan, as well as the *Downtown Vision*, *Downtown Design Guidelines*, and *Pedestrian and Bicycle Master Plan*. However, General Plan amendments would be required, as outlined above. Pursuant to approval of these amendments, the proposed Specific Plan would be consistent with the General Plan and impacts would be considered less than significant.

Mitigation Measures. No mitigation measures are required, beyond adherence to goals, policies, and design guidelines contained in the Specific Plan.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant pursuant to approval of identified General Plan amendments.

Impact LU-2 Buildout of the Specific Plan would support an increase in Marina's residential population. Anticipated population growth would not exceed AMBAG forecasts for the City, and would therefore be a Class III, less than significant, impact.

The *Monterey Bay Area 2008 Regional Forecast* (AMBAG, June 2008) presents forecasts of population between 2010 and 2035 for all of Monterey County, including the City of Marina. As shown in Table 4.1-2, AMBAG forecasts Marina to have a population of 32,010 residents by 2030 (the anticipated buildout year of the Specific Plan).

Buildout of the proposed Specific Plan would add an estimated 6,730 residents to the City (based on 2.804 persons per household and 2,400 new housing units). When added to the existing population of Marina (19,445 in 2010), the Specific Plan would increase Marina's total population to an estimated 26,175 residents. This estimate is 5,835 less than AMBAG's population forecasts (32,010 in 2030). Therefore, the project would not induce substantial population growth in the area, and impacts related to population growth would be less than significant.

Reservation Road Four-Lane Option. The residential population generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Population generation impacts associated with this option would therefore be consistent with the description above.



Reservation Road Two-Lane Option. The residential population generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. Population generation impacts associated with this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that reduce this impact. It should also be noted that General Plan Amendments would be required for adoption and implementation of the Specific Plan, as outlined in Section 2.4.3(a) of Section 2.0, *Project Description*.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.

Impact LU-3 The Specific Plan would accommodate more housing units than would be displaced as a result of redevelopment. Impacts would be Class III, less than significant.

The proposed Specific Plan would accommodate up to 2,400 new residential units in addition to the 1,630 units in the Downtown area, for a total of 4,030 units at buildout (refer to Table 2-2 in Section 2.0, *Project Description*). The downtown area is already developed, and there is very little vacant land in the urban core of the City. Thus, future development in accordance with the proposed Specific Plan would consist of replacing existing development with more intensive uses.

Although some existing residences would be replaced by new residential development, a substantial displacement of existing housing or residents would only occur if allowed land uses displace more residences than what is accommodated through the proposed development. The Specific Plan would accommodate 2,400 new residences, which is more than the 1,630 existing units in the Plan area. In addition, it is assumed that total buildout would accommodate 4,030 units, such that any units removed for redevelopment would be replaced commensurately. Buildout of the Specific Plan would not result in the displacement of people or housing units through eminent domain. Because new housing would become available as existing housing is redeveloped, impacts would be Class III, *less than significant*.

It should also be noted that the El Rancho Mobile Homes Park located within the Specific Plan area (at 356 Reservation Road) would retain its current land use designation under the proposed Specific Plan. Therefore, this area would not be impacted by the proposed project.

Reservation Road Four-Lane Option. The total number of units accommodated by the Specific Plan would not change from the above description under the Reservation Road four-



lane option. Housing displacement impacts associated with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The total number of units accommodated by the Downtown Vitalization Specific Plan would not change from the above description under the Reservation Road two-lane option. Housing displacement impacts associated with this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Downtown Vitalization Specific Plan that explicitly reduce this impact. The Plan is a redevelopment plan that will accommodate a variety of housing types, and would result in a net increase of 2,400 housing units in the downtown area.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.

Impact LU-4 Buildout of the Specific Plan would not create an imbalance of jobs and housing in the City of Marina or Monterey County. Impacts would be Class III, less than significant.

As discussed in Section 4.1.1(b), a jobs-housing ratio of 1.0 indicates a balance, a ratio greater than 1.0 indicates a net in-commute, and a ratio less than 1.0 indicates an out-commute. The existing jobs-housing ratio in Marina is 0.38, which suggests an existing jobs-housing imbalance where the community contains more housing than jobs, for a net out-commute. In contrast, the existing jobs-housing ratio for Monterey County is 1.39, which suggests an imbalance where the County contains more jobs than housing, for a net in-commute.

The proposed Specific Plan would accommodate the development of up to 2,400 new dwelling units and 380,150 square feet of new non-residential space in the Marina downtown area. Table 4.1-4 shows the estimated number of jobs that could be generated by this non-residential development. The figures in Table 4.1-4 are based on a comprehensive survey commissioned by the Southern California Association of Governments (SCAG) which included surveys of businesses throughout the seven-county SCAG region to develop employee density factors for major land use categories. Although not specific to Monterey County, no other available studies replicate the breadth of the analysis produced by the SCAG study. The figures used herein are therefore considered the most reliable source of data available for employment levels by major land use category.



Table 4.1-4 Jobs Generated from Specific Plan

Land Use Designation	Square Feet Attributed to Specific Plan ¹	Average Square Feet Per Employee ²	Jobs Generated ³
Multiple Use	718,000	344	2,087
Office/Research	70,000	288	243
Retail/Service	(161,000)	344	(468)
Visitor Serving	(27,000)	344	(79)
Industrial	(270,000)	439	(615)
Public Facilities – Civic	50,000	261	192
Public Facilities – Education	0	n/a	0
TOTAL	380,150⁴		1,360

1. Source: Table 2-5 in Section 2.0, Project Description. Note that net reductions do not necessarily depict demolition and replacement, but rather redesignation and eventual redevelopment within the new land use designation which applies.
2. From: The Natelson Co., Inc. Employment Density Summary Report. SCAG. October 31, 2001. The following land use categories from this report were used: other retail/service (for Multiple Use, Retail/Service, and Visitor Serving); low-rise office (for Office/Research); light manufacturing (for Industrial); and government office (for Public Facilities – Civic).
3. Negative jobs figures are the result of land use redesignation and do not necessarily represent a job lost. Instead, these jobs are captured in the target land use designation.
4. May not add due to rounding.

As shown in Table 4.1-4, non-residential development facilitated by the Downtown Vitalization Specific Plan would generate an estimated 1,360 new jobs. Because the proposed Specific Plan would change existing land use designations in several areas, some land use designations actually reflect a net reduction in development, and therefore a net reduction in jobs. This does not mean that existing structures would be demolished or that existing jobs would be eliminated. Instead, it reflects the fact that existing structures in the Industrial designation, for example, would no longer be designated Industrial.

The Association of Monterey Bay Area Governments (AMBAG) suggests a regional approach to jobs-housing balance impacts (Randy Deshazo, Principle Planner, personal communication, March 8, 2011). Therefore, comparison of the proposed Specific Plan with existing (2010) and future (2035) countywide jobs and housing numbers are used to determine impacts of the proposed Specific Plan. Comparison of the proposed Specific Plan with City of Marina jobs and housing numbers are also presented herein for informational purposes.

The existing (2010) jobs-housing ratio in Monterey County is 1.39, as shown in Table 4.1-3. When the 1,360 new jobs and 2,400 new housing units generated by the Specific Plan are added to existing countywide figures, the resulting jobs-housing ratio would be 1.38. The future (2035) jobs-housing ratio in Monterey County is estimated at 1.29. When the proposed Specific Plan is added to future countywide figures, the resulting jobs-housing ratio would be 1.28. In both cases, the addition of the proposed Downtown Vitalization Specific Plan would have a negligible impact on the countywide ratio, and would bring the ratio .01 points closer to a “balance.” Because the proposed Specific Plan would not worsen an existing imbalance, impacts would be Class III, *less than significant*.



It should also be noted that the proposed Specific Plan would not create an additional imbalance when viewed on a citywide scale. The City of Marina's existing jobs-housing ratio is 0.38 and the projected 2035 ratio is 0.35. When the 1,360 new jobs and 2,400 new housing units generated by the Specific Plan are added to these citywide figures, the ratios would become 0.42 and 0.38, respectively. In both cases, the proposed Specific Plan would improve the jobs-housing balance within the City of Marina.

Reservation Road Four-Lane Option. The total number of jobs and housing units accommodated by the Specific Plan would not change from the above description under the Reservation Road four-lane option. Jobs-housing balance impacts associated with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The total number of jobs and housing units accommodated by the Downtown Vitalization Specific Plan would not change from the above description under the Reservation Road two-lane option. Jobs-housing balance impacts associated with this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Downtown Vitalization Specific Plan that explicitly reduce this impact.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.

Impact LU-5 **New development and redevelopment facilitated by the proposed Specific Plan could result in conflicts with adjacent uses. However, conflicts would be addressed on a project-by-project basis and are anticipated to be Class III, less than significant.**

The proposed Specific Plan would accommodate the development of up to 2,400 new dwelling units and 380,150 square feet of new non-residential space in the Marina downtown area. As the oldest area in the City of Marina, the downtown is already developed, with very little vacant land available in the urban core of the City. As determined by the Baseline Conditions Report (Appendix J), approximately 21 acres (7 percent) of the 295-acre Specific Plan area is either vacant or underutilized. Therefore, much of the new development under the Specific Plan would occur as redevelopment to more dense and intensive uses. In addition, the proposed Land Use Plan would change the existing land use designations in several areas, as described below (refer also to Table 2-1 in Section 2.0, *Project Description*):



- *Retail/Service parcels along Reservation Road from Del Monte Boulevard to De Forest Road to Multiple Use;*
- *Multiple Use and Single-Family Residential uses in the western portion of the Specific Plan area to Multi-Family Residential;*
- *Industrial and Visitor-Serving uses in the southwestern portion of the Specific Plan area to Multiple Use; and*
- *Multi-Family Residential south of the Del Monte Boulevard and Reservation Road intersection to Public Facilities-Civic.*

These land use changes would allow for future development or redevelopment to occur in areas with different, and potentially conflicting, land uses patterns. In other words, incompatibilities with adjacent existing and planned land uses could occur.

The primary land use conflict would occur through the placement of residences in close proximity to non-residential development, as would occur in bullets 1 and 4 above. This can expose residents to higher levels of noise and other nuisances than what would be expected in purely residential neighborhoods because of associated commercial/retail or office traffic, loading docks, mechanical equipment (such as generator, heating, ventilation, and air conditioning [HVAC] units), deliveries, trash hauling activities, and customer and employee use of the facilities associated with commercial uses. These impacts are discussed in greater detail in Section 4.4, *Noise* (Impact N-5). As noted therein, General Plan Policy 4.111 requires that new stationary sources adjacent to sensitive land uses comply with specific noise standards. Acoustic design to achieve such standards would be developed at the time a specific project is proposed. Compliance with these standards would need to be demonstrated prior to any discretionary or ministerial City approvals to construct. This would be a Class III, *less than significant* impact.

Redesignation of the Industrial and Visitor-Serving areas in the southernmost portion of the plan area could also result in conflicts. However, existing development in this area is not typically industrial in nature. Development includes a storage facility, the Monterey Bay Aquarium's Animal Research and Care Center (ARCC), a self car wash, a restaurant, a brewery, miscellaneous businesses, and vacant lots. Redeveloping some of this area with Multiple Use development could place residences in close proximity to these land uses, the impacts of which would be expected to be similar to those described above.

Reservation Road Four-Lane Option. The distribution of land uses throughout the Specific Plan area would not change under the Reservation Road four-Lane Option. Land use conflicts would therefore be consistent with the above description. Impacts would be Class III, *less than significant*.

Reservation Road Two-Lane Option. The distribution of land uses throughout the Specific Plan area would not change under the Reservation Road two-Lane Option. Land use conflicts would therefore be consistent with the above description. Impacts would be Class III, *less than significant*.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to land use conflicts. Individual projects would be evaluated



and appropriate sound attenuation techniques or other mitigation measures implemented on a project-by-project basis.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.

c. Cumulative Impacts. Buildout of the City of Marina General Plan would gradually alter the character and scale of existing development, including the existing configuration of land uses. Much of these impacts would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. The establishment of a functional downtown that serves as a destination for the community would improve the cohesiveness of the City. Land use conflicts may arise as development occurs, but these would be addressed on a case-by-case basis. In addition, as noted under Impact LU-1 above, impacts related to consistency with applicable land use plans, policies, and regulations would be less than significant. In addition, the proposed Specific Plan would not induce population growth beyond current AMBAG forecasts, and would not displace a substantial number of people or housing. Accordingly, the proposed Specific Plan's contribution to cumulative land use, population, and housing impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.

4.2 TRANSPORTATION

4.2.1 Environmental Setting

a. **Existing Roadway Network.** Regional access to the Specific Plan area is provided by State Route (SR) 1. Primary local access to the area is provided by Reservation Road, Del Monte Boulevard, Imjin Parkway, 2nd Avenue, Blanco Road, Crescent Avenue, and California Avenue (please refer to Figure 4.2-1). Detailed descriptions of the key roadway facilities are presented below.

State Route 1 (SR 1) is a state highway within Monterey County, providing access to Watsonville and Santa Cruz to the north via Seaside, Marina, and Castroville; and to San Luis Obispo to the south via Monterey and Carmel. Through its connection to SR 156 in Castroville, it also provides access to US 101 and the greater San Francisco Bay Area. Through Marina SR 1 provides four lanes north of the Del Monte Boulevard interchange and six lanes south of interchange, and includes a posted speed limit of 65 miles per hour (mph).

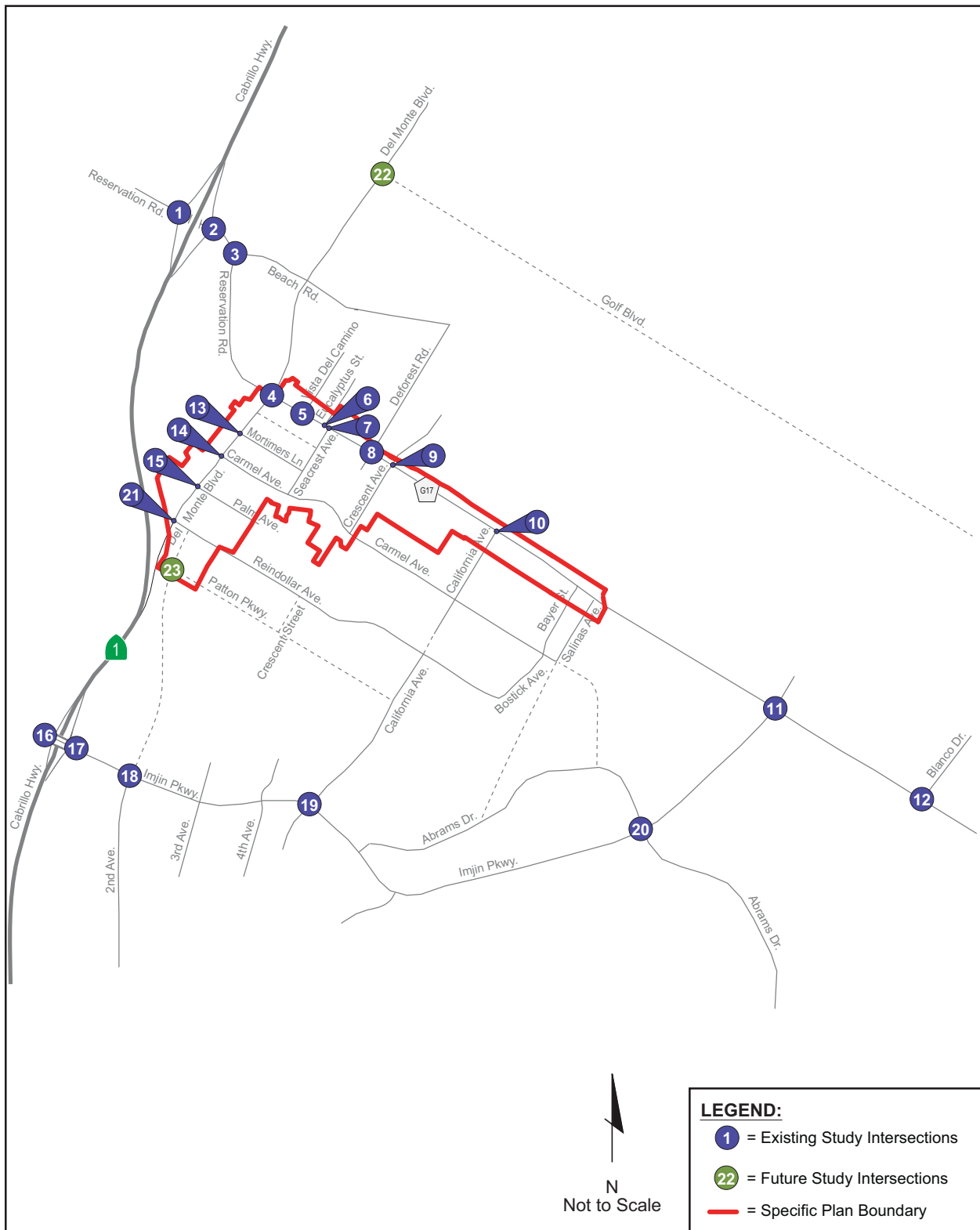
Del Monte Boulevard is a major arterial within western Marina, extending from a partial interchange (ramps to and from the south only) with SR 1 north of Imjin Parkway (Twelfth Street) to SR 1 north of Marina. Near the project area, Del Monte Boulevard is a Four-Lane divided roadway. Through the Specific Plan area, the posted speed limit is 35 mph.

Reservation Road is a major arterial extending from Marina State Park west of Dunes Drive, through the City of Marina, connecting to SR 1 north of the Specific Plan area. Between Marina State Park and Del Monte Boulevard, Reservation Road is two lanes wide with left turn channelization at key intersections. Between Del Monte Boulevard and Blanco Road, Reservation Road is a Four-Lane divided roadway. East of Blanco Road, it narrows to a Two-Lane rural highway. Reservation Road is under the jurisdiction of the City of Marina west of Blanco Road and the County of Monterey east of Blanco Road.

Imjin Parkway is an arterial roadway within the City of Marina city limits. Imjin Parkway is a Two-Lane road at its interchange with SR 1 and a Four-Lane divided roadway with left-turn channelization east of the interchange. It should be noted that the exit signing from SR 1 currently misidentifies Imjin Parkway as 12th Street, the former name of the roadway prior to its reconstruction the early 2000s. For the purpose of clarity within this analysis, the roadway will be referred to as “Imjin Parkway (12th Street)” at the two intersections that compose the SR 1 interchange with Imjin Parkway. In the remainder of its length, existing City of Marina signing correctly designates the roadway as “Imjin Parkway,” and therefore this report uses that terminology for that segment of the roadway. The speed limit on Imjin Parkway is 45 mph.

2nd Avenue is a Two-Lane, north-south roadway in Marina and Seaside. 2nd Avenue connects Lightfighter Drive in Seaside with Imjin Parkway in Marina, along the western edge of California State University, Monterey Bay (CSUMB). The speed limit on 2nd Avenue is 35 mph.





Existing and Future Roadway Network
 and Study Intersections

Base map source: Fehr & Peers, 2011.

Blanco Road is a major arterial extending from Reservation Road to the City of Salinas. Between Reservation Road and the Salinas River Bridge, Blanco Road is Four-Lanes wide with left turn channelization at key intersections. Blanco Road is a Two-Lane rural highway east of the Salinas River Bridge.

California Avenue is designated a Two-Lane collector in central Marina. California Avenue connects Reservation Road with Imjin Parkway and CSUMB. Bicycle lanes are provided along California Avenue between Imjin Parkway and Reservation Road. The speed limit on California Avenue is 25 mph.

Crescent Avenue is a Two-Lane local street in central Marina. Crescent Avenue is only one block long, and connects Reindollar Avenue and Patton Parkway through a residential neighborhood. The speed limit on Crescent Avenue is 25 mph.

b. Pedestrian and Bicycle Facilities. Existing and proposed pedestrian and bicycle facilities in the City of Marina are shown in Figure 2-8 in Section 2.0, *Project Description*.

Existing Pedestrian Facilities. Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. The pedestrian sidewalk network within the Specific Plan is fairly well developed, with existing sidewalks on collector and arterial roadways, as well as most local residential streets. Continuous sidewalks can be found on some major roadways throughout the City, including but not limited to Reservation Road (east of Highway 101), California Avenue, Imjin Road and Imjin Parkway. However, discontinuous sidewalks can be found on Del Monte Boulevard, Carmel Avenue, Reindollar Avenue and Reservation Road. In addition, many sidewalks are not wide enough for simultaneous pedestrian use or have obstructions that partially block pedestrian flow and require right-of-way acquisition.

Existing Bicycle Facilities. There are three basic types of bicycle facilities. Each type is described below:

- Class I Bikeways are generally referred to as Bicycle Paths and provide a completely separated right-of-way for the exclusive use of bicycle and pedestrian traffic with cross flow minimized.
- Class II Bikeways are referred to as Bicycle Lanes and provide a striped lane for one-way bike travel on a street or highway, and typically includes signs placed along the street segment.
- Class III Bikeways are referred to as Bicycle Routes and provide a shared use with pedestrian or motor vehicle traffic. Typically these facilities are City streets with signs designating the segment for Bike Route without additional striping or facilities.

The existing bicycle network in Marina includes six Class I bikeways. The largest Class I bikeway spans the entire length of the City and parallels Del Monte Boulevard and Highway 1. This bikeway is known as the Monterey Bay Coastal Bike Path. The trail currently extends 18 miles from Pacific Grove to Castroville. Other Class I bikeways include a path that borders Patton Parkway from California Avenue to Marina High School; a 0.75 mile long path that



parallels the southern edge of Reservation Road from Salinas Avenue to Imjin Parkway; a path that parallels the southern edge of Imjin Parkway from Highway 1 to Imjin Road; a path that parallels the eastern side of 2nd Avenue near CSUMB; and a short path that borders the eastern edge of Dunes Road in the northwest portion of the City.

There are a limited number of Class II bicycle lanes within Marina. Class II bike lanes primarily exist along Reservation Road, California Avenue, and Beach Road west of Del Monte Boulevard. Class II bicycle routes are also available in portions of the City.

c. Transit. The largest public transit provider in Monterey County is Monterey-Salinas Transit (MST). Monterey-Salinas Transit operates from five key transit centers, the Monterey Transit Plaza, Salinas Transit Center, Watsonville Transit Center, Edgewater Transit Exchange in Seaside/Sand City, and Marina Transit Exchange. The Marina Transit Exchange is located on the south side of Reservation Road at the intersection of Reservation Road and De Forest Road, within the Specific Plan area. Five transit routes currently provide service to the City of Marina, including within the Specific Plan area. These include:

- *The Pebble Beach Express (Line 2X),*
- *The Monterey-Marina route (Line 16),*
- *The Monterey-Salinas route (Line 20),*
- *The Watsonville-Marina route (Line 27),*
- *The Presidio-Marina Express (Line 71).*

Line 2X (Pebble Beach Express) provides service between Pebble Beach and the City of Salinas. This route operates daily and serves the Salinas to Pebble Beach route during the AM peak period (4:47 am to 8:57 am) and the opposite direction during the PM peak period (3:50 pm to 7:28 pm). This route serves the Marina Transit Exchange and the Dunes Shopping Center with seven (four during the AM and three during the PM) routes per day on varying headways during the peak periods. The first westbound route during the AM peak period does not stop at the Dunes Shopping Center.

Line 16 provides service between the Cities of Monterey and Marina with Monday through Saturday service between 6:00 am and 11:00 pm. Sunday service is provided between 8:00 am and 7:00 pm. Route 16 serves the Marina Transit Exchange and travels to Monterey via CSUMB on 60 minute headways.

Line 20 connects Monterey and Salinas via Seaside and Marina. In Marina, Line 20 travels along Del Monte Boulevard and Reservation Road, and services the Marina Transit Exchange at the DeForest Road/Reservation Road intersection. Service on this line is offered weekdays and Saturdays between 5:00 am and 12:00 am on 30-minute headways. Service on Sundays is every hour between 8:00 am and 8:00 pm.

Line 27 connects the cities of Marina and Watsonville via Castroville. Near the Specific Plan area, Line 27 winds its way through Marina neighborhoods to the north and northwest of the downtown area, via Crescent Avenue, Carmel Avenue, Del Monte Boulevard, Palm Avenue, Reservation Road, and Beach Road. Service is provided every two hours on weekdays only, between 6:00 am and 8:00 pm.



Line 71 (Presidio-Marina Express) provides limited service between the City of Marina and the Presidio of Monterey during the weekdays only. Two buses serve the westbound direction during the AM peak period and one bus serves the eastbound direction during the PM peak period. This route travels through the City of Marina via Reservation Road, Carmel Avenue, Beach Road, and Reindollar Avenue.

MST also operates MST On Call Marina, a dial-a-ride service that covers much of Marina. Residents can arrange for a ride to pick up at a nearby location when calling one hour before the requested time.

d. Study Intersections and Freeway Segments. Peak traffic periods for commuter-, school-, and shopping-related travel generally occur during a two-hour period on weekday mornings between 7:00 am and 9:00 am and weekday evenings between 4:00 pm and 6:00 pm. Intersection operations were evaluated based on the highest traffic volumes counted during a one-hour period within the morning and evening peak hour periods (7:00 am and 9:00 am and 4:00 pm and 6:00 pm). The following intersections are included in the analysis (refer to Figure 4.2-1):

Intersection 1:	Reservation Road/SR 1 Southbound Ramps
Intersection 2:	Reservation Road/SR 1 Northbound ramps
Intersection 3:	Reservation Road/Beach Road
Intersection 4:	Reservation Road/Del Monte Boulevard
Intersection 5:	Reservation Road/Vista Del Camino
Intersection 6:	Reservation Road/Eucalyptus Street
Intersection 7:	Reservation Road/Seacrest Avenue
Intersection 8:	Reservation Road/De Forest Road
Intersection 9:	Reservation Road/Crescent Avenue
Intersection 10:	Reservation Road/California Avenue
Intersection 11:	Reservation Road/Imjin Road
Intersection 12:	Reservation Road/Blanco Road
Intersection 13:	Mortimer Lane/Del Monte Boulevard
Intersection 14:	Carmel Avenue/Del Monte Boulevard
Intersection 15:	Palm Avenue/Del Monte Boulevard
Intersection 16:	Imjin Parkway/SR 1 Southbound Ramps
Intersection 17:	Imjin Parkway/SR 1 Northbound Ramps
Intersection 18:	Imjin Parkway/2 nd Avenue
Intersection 19:	Imjin Parkway/California Avenue - 5 th Avenue
Intersection 20:	Abrams Drive/Imjin Road
Intersection 21:	Reindollar Avenue/Del Monte Boulevard
Intersection 22:	Golf Boulevard/Del Monte Boulevard (Future Intersection)
Intersection 23:	Patton Parkway/2 nd Avenue (Future Intersection)

The following freeway segments are also included in the analysis:

1. SR 1 north of Reservation Road
2. SR 1 between Reservation Road and Del Monte Boulevard
3. SR 1 between Del Monte Boulevard and Imjin Parkway
4. SR 1 south of Imjin Parkway



The study intersections and freeway segments were determined based on the anticipated buildout of the proposed Specific Plan, local circulation patterns, and consultation with City staff.

The operations of study intersections and freeway segments are evaluated under the following six scenarios:

- *Existing Conditions.* Existing volumes obtained from counts and existing roadway geometrics.
- *Existing plus Four-Lane Option Conditions.* Existing volumes plus traffic generated by buildout of the Specific Plan with the Four-Lane Reservation Road configuration. A cross-section of the Four-Lane option is shown in Figure 2-6 in Section 2.0, *Project Description*).
- *Existing plus Two-Lane Option Conditions.* Existing volumes plus traffic generated by buildout of the Specific Plan with the Reservation Road narrowing to Two-Lanes between Del Monte Boulevard and De Forest Road, and roundabouts at select locations. A cross-section of the Two-Lane option is shown in Figure 2-7 in Section 2.0, *Project Description*).
- *Cumulative No Project Conditions.* Year 2030 cumulative traffic volumes based on City-provided land use that includes approved and pending development projects, plus planned roadway improvements.
- *Cumulative plus Four-Lane Option Conditions.* Year 2030 cumulative traffic volumes plus traffic generated by buildout of the Specific Plan area with the Four-Lane Reservation Road configuration. A cross-section of the Four-Lane option is shown in Figure 2-6 in Section 2.0, *Project Description*).
- *Cumulative plus Two-Lane Option Conditions.* Year 2030 cumulative traffic volumes plus traffic generated by buildout of the Specific Plan with the Reservation Road Two-Lane option with roundabouts. A cross-section of the Two-Lane option is shown in Figure 2-7 in Section 2.0, *Project Description*).

e. Levels of Service. Intersection traffic operations were evaluated based on the Level of Service (LOS) concept. LOS is a qualitative description of an intersection and roadway's operation, ranging from LOS A to LOS F. Level of service "A" represents free flow uncongested traffic conditions. Level of service "F" represents highly congested traffic conditions with what is commonly considered unacceptable delay to vehicles on the road segments and at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

f. Existing Traffic Conditions.

Existing Intersection Levels of Service. Existing AM and PM peak-hour [the highest traffic volumes counted within a given one-hour period during the morning and evening peak hour periods (7:00 am and 9:00 am and 4:00 pm and 6:00 pm)] turning movement volumes at



the study intersections are shown in Figures 4.2-2a and 4.2-2b, and listed in Table 4.2-1. As shown therein, many of the intersections currently operate at LOS A, B, or C during the peak hours. However, the following study locations operate at unacceptable levels of service (LOS E or F) under Existing Conditions:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM peak hour)
- Intersection 10: Reservation Road/California Avenue (PM peak hour)¹
- Intersection 14: Carmel Avenue/Del Monte Boulevard (AM and PM peak hour)
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 17: Imjin Parkway/SR 1 Northbound Ramps (AM peak hour)

For intersections operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection’s theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply “greater than” those thresholds.

**Table 4.2-1.
Existing Intersection Levels of Service**

Intersection	Traffic Control	Peak Hour	Average Delay ¹	LOS ²
1. Reservation Road/SR 1 Southbound Ramps	Side-street stop	AM PM	>80 21.7	F C
2. Reservation Road/SR 1 Northbound ramps	Side-street stop	AM PM	10.6 13.1	B B
3. Reservation Road/Beach Road	Signal	AM PM	9.8 12.7	A B
4. Reservation Road/Del Monte Boulevard	Signal	AM PM	21.7 27.8	C C
5. Reservation Road/Vista Del Camino	Signal	AM PM	12.9 15.4	B B
6. Reservation Road/Eucalyptus Street	Side-street stop	AM PM	14.6 23.6	B C
7. Reservation Road/Seacrest Avenue	Signal	AM PM	9.3 13.2	A B
8. Reservation Road/De forest Road	Signal	AM PM	13.0 13.5	B B
9. Reservation Road/Crescent Avenue	Signal	AM PM	18.4 18.4	B B
10. Reservation Road/California Avenue	Side-street stop	AM PM	21.4 76.1	C F
11. Reservation Road/Imjin Road	Signal	AM PM	21.3 25.4	C C
12. Reservation Road/Blanco Road	Signal	AM PM	15.4 12.1	B B
13. Mortimer Lane/Del Monte Boulevard	Side-street stop	AM PM	14.6 15.3	B C
14. Carmel Avenue/Del Monte Boulevard	Side-street stop	AM PM	21.1 24.2	C C

¹ Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



**Table 4.2-1.
Existing Intersection Levels of Service**

Intersection	Traffic Control	Peak Hour	Average Delay ¹	LOS ²
15. Palm Avenue/Del Monte Boulevard	Signal	AM PM	21.7 16.2	C B
16. Imjin Parkway/SR 1 Southbound Ramps	Side-street stop	AM PM	>80 >80	F F
17. Imjin Parkway/SR 1 Northbound Ramps	Side-street stop	AM PM	46.3 28.9	E D
18. Imjin Parkway/2 nd Avenue	Signal	AM PM	13.0 19.0	B B
19. Imjin Parkway/California Avenue – 5th Avenue	Signal	AM PM	26.2 19.1	C B
20. Abrams Drive/Imjin Road	Signal	AM PM	29.2 25.0	C C
21. Reindollar Avenue/Del Monte Boulevard	Signal	AM PM	15.0 11.4	B B
22. Golf Boulevard/Del Monte Boulevard (Future Intersection)	Side-street stop	AM PM	Future Intersection	
23. Patton Parkway/2 nd Avenue (Future Intersection)	Side-street stop	AM PM	Future Intersection	

Notes:

1. Whole intersection weighted average total delay for signalized intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections.
2. LOS calculations performed using the 2000 Highway Capacity Manual - Special Report 209 delay methods for signalized and unsignalized intersections.
3. For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.
4. Intersection counts performed in May 2010 by Fehr & Peers.

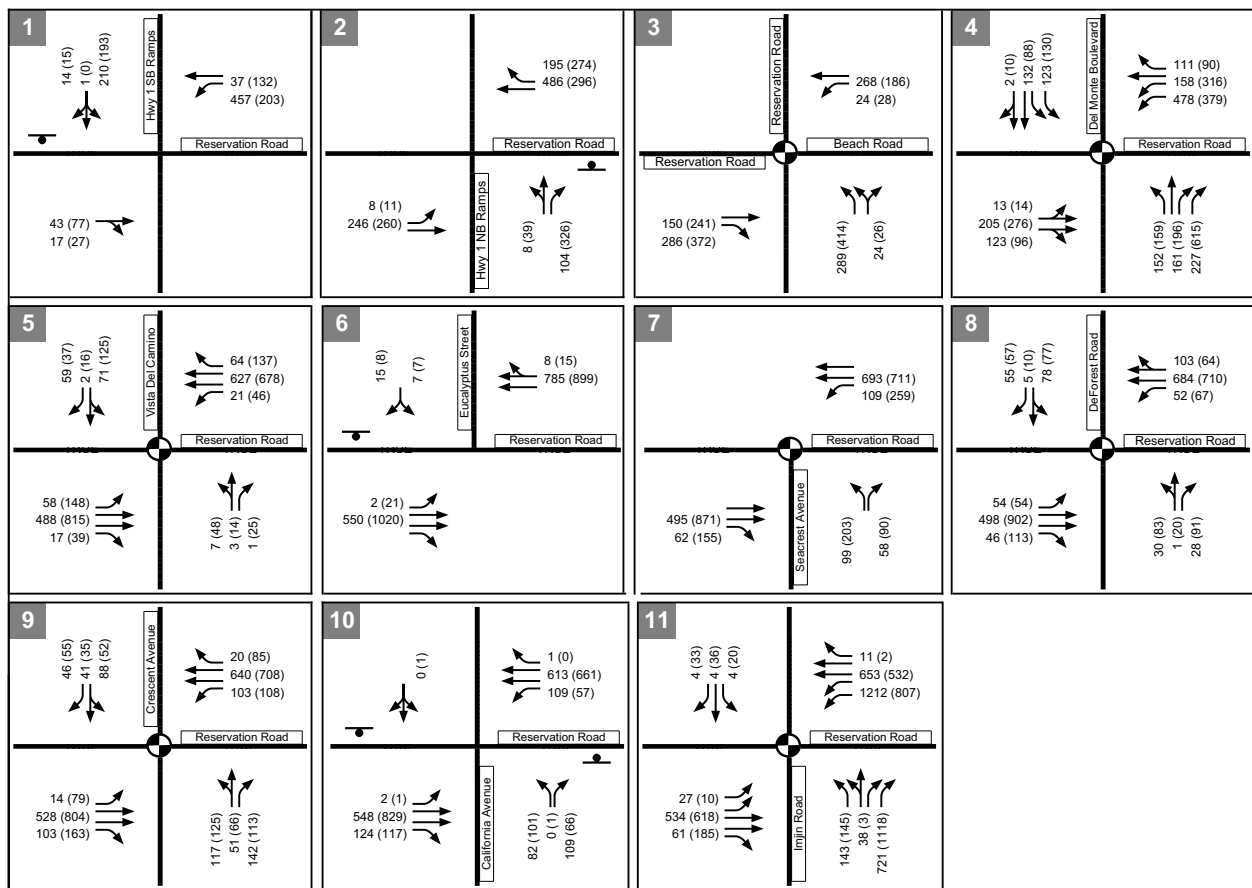
Unacceptable operations are indicated in **bold** type.

Source: Fehr & Peers, March 2011.

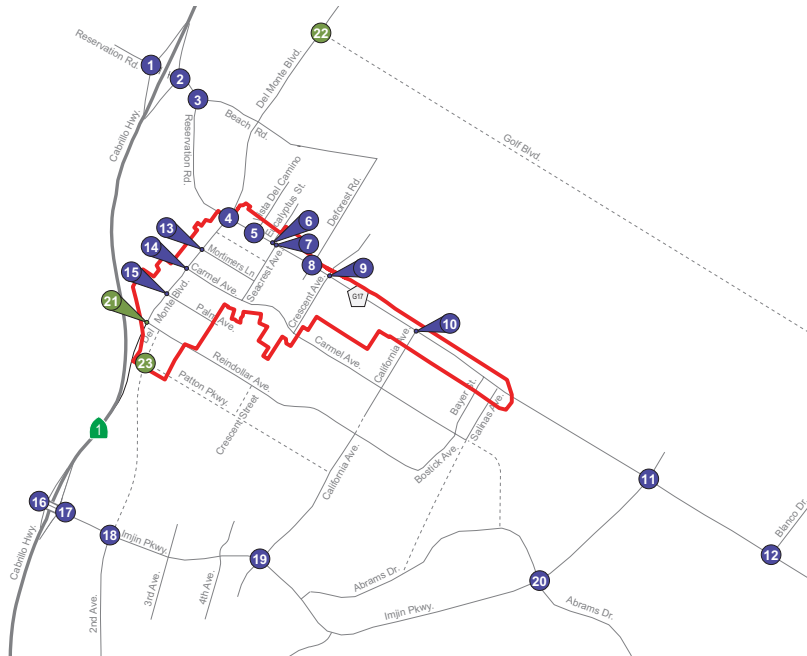
Existing Freeway Segment Levels of Service. Existing AM and PM peak-hour volumes on the study freeway segments are shown in Table 4.2-2. As shown therein, most of the study freeway segments currently operate at LOS C or better during both peak hours; five segments operate at LOS D during one peak hour Caltrans maintains and LOS target at the transition between LOS C and LOS D on all state transportation facilities.



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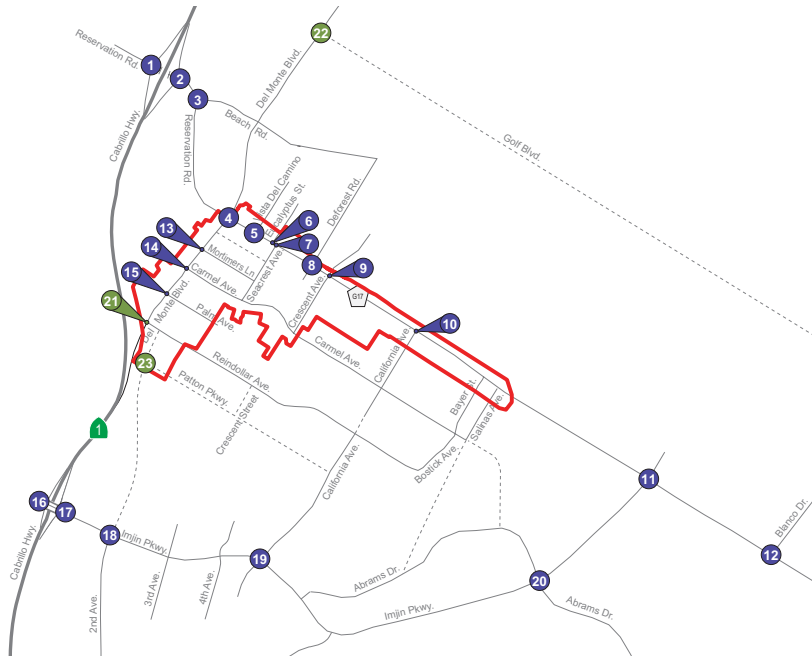
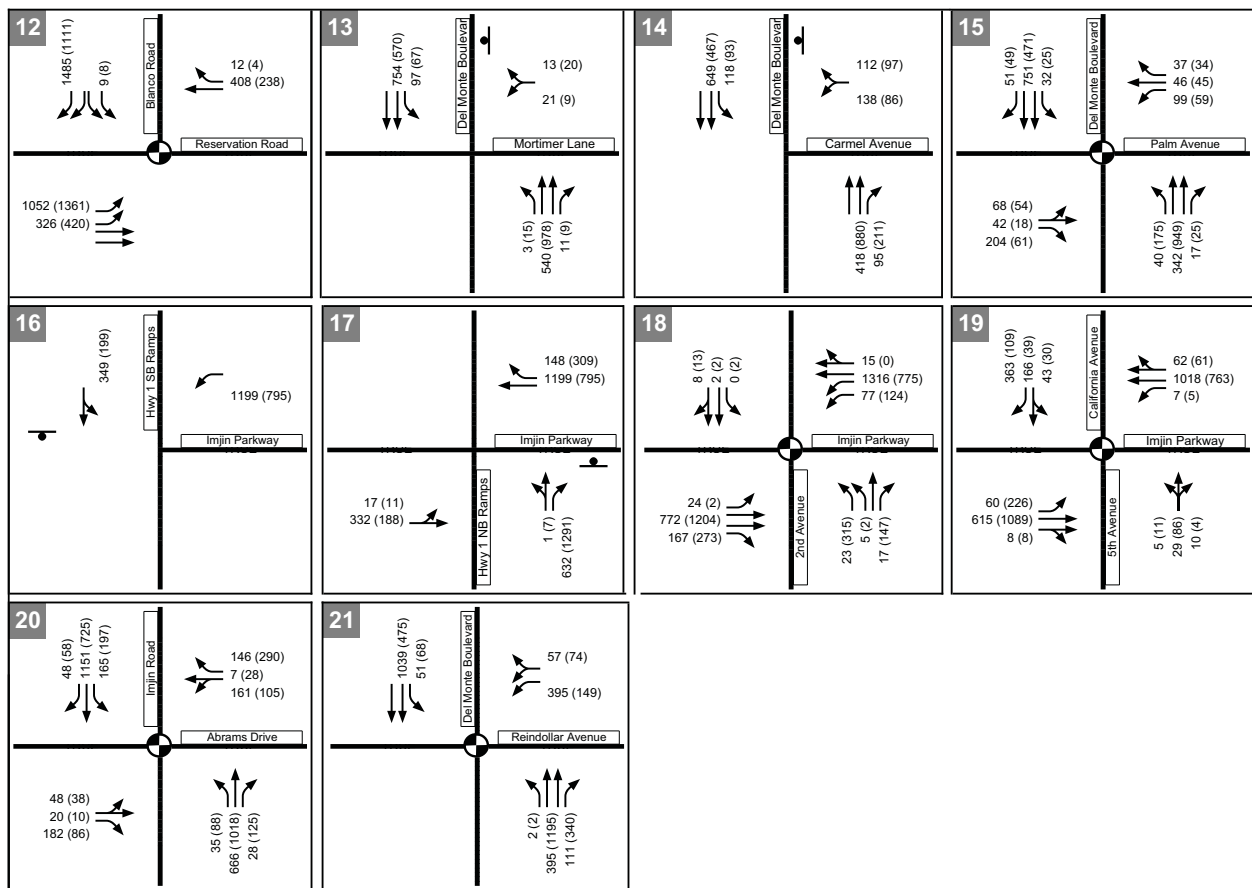
KEY:
 XX (YY) = AM (PM) Peak Hour Traffic Volumes
 = Signalized Intersection
 = Stop Sign



Existing Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Controls (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

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- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - ⊕ = Signalized Intersection
 - ⊥ = Stop Sign

Existing Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Controls (Intersections 12-21)

Base map source: Fehr & Peers, 2011.

**Table 4.2-2.
Existing Peak Hour Freeway Mainline Levels of Service**

Travel Direction	Segment		Roadway Type	Peak Hour	Peak Hour Volume	LOS ²
	From	To				
NB SR 1	Lightfighter Dr	Imjin Pkwy	3-Lane Freeway	AM	1,849	A
				PM	5,135	E
	Imjin Pkwy	Del Monte Blvd	3-Lane Freeway ²	AM	1,382	A
				PM	4,157	D
Del Monte Blvd	Reservation Rd	two-lane Freeway	AM	876	A	
			PM	2,622	C	
Reservation Rd	Del Monte Blvd-Neponset Rd	two-lane Freeway	AM	966	A	
			PM	2,541	C	
SB SR1	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM	2,638	C
				PM	1,815	B
	Reservation Rd	Del Monte Blvd	two-lane Freeway	AM	2,887	D
				PM	1,837	B
Del Monte Blvd	Imjin Pkwy	3-Lane Freeway ³	AM	4,321	D	
			PM	2,461	B	
Imjin Pkwy	Lightfighter Dr	3-Lane Freeway	AM	5,171	E	
			PM	3,057	C	

Notes:

¹ LOS = Level of service.

² 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction.

Source: Fehr & Peers, March 2011.

g. Cumulative No Project Conditions. Cumulative impacts were analyzed for the year 2030. The Cumulative No Project Condition accounts for approved and pending development projects, as well as planned roadway improvements, and is based on the regional Association of Monterey Bay Area Governments (AMBAG) travel demand model. At present, the AMBAG model is the only tool available for estimating long-range traffic forecasts for streets and highways in the greater Marina area. The sub-area model is intended to provide more accurate forecasts for non-regional (i.e., local) roadways in Marina. Caltrans and FHWA standards were used to validate the sub-area model to ensure that state of the practice forecasting methodology is followed and that the sub-area model forecasts are defensible. The sub-area travel demand forecasting model was used to develop Year 2030 without Project Condition traffic volume estimates.

Transportation Network Assumptions. In order to identify planned transportation improvements, the following transportation planning documents were reviewed:

- City of Marina 13 Year Capital Improvement Program Project List
- 2005 Monterey County Regional Transportation Plan
- Fort Ord Reuse Authority's Capital Improvement Program: Fiscal Year 2006/2007 through 2021/2022

The document review identified roadway improvements (e.g., lane widening, or roadway extensions) in the City of Marina, in the Fort Ord Reuse Area, the SR 156 corridor between US



101 and SR 1, and the Marina-Salinas corridor (e.g., Blanco Road, Davis Road, and Reservation Road). The roadway improvements described below are included in Year 2030 Without Project and Year 2030 With Project Conditions.

City of Marina Capital Improvement Program

- Golf Boulevard extension as a Two-Lane collector between Blanco Road and Del Monte Boulevard
- Crescent Avenue extension as a Two-Lane collector south to the new east/west alignment of the Patton Parkway extension
- 2nd Avenue extension as a Two-Lane arterial between Imjin Parkway and Reindollar Avenue
- Beach Road widening to four lanes between Reservation Road and Del Monte Boulevard
- Beach Road widening to four lanes between Del Monte Boulevard and De Forest Road
- Patton (Abrams) Parkway extension as a Two-Lane collector between California Avenue and Del Monte Boulevard
- Imjin Parkway widening to a Four-Lane arterial between Reservation Road and Imjin Road
- Imjin Parkway widening to 6-lanes between Imjin Road and 2nd Avenue
- New SR 1 interchanges at Imjin Parkway and Del Monte Boulevard
- Reservation Road widening to a Four-Lane arterial between Beach Road and SR 1
- Salinas Avenue extension as a Two-Lane arterial between Reservation Road and Abrams Drive
- Imjin Road widening as a Four-Lane arterial between Imjin Parkway and 8th Street

Monterey County Regional Transportation Plan

- SR 1 widened to 6-lanes between Fremont Avenue interchange to Canyon Del Ray Boulevard interchange
- SR 156 widened to a Four-Lane freeway with corresponding interchanges at Cathedral Oaks Road and US 101
- Davis Road widening to four lanes between Market Street and Reservation Road
- Reservation Road widening to four lanes between Blanco Road and Davis Road

Fort Ord Reuse Area Capital Improvement Program

- New SR 1 and Monterey Road interchange
- Inter-Garrison Road widening to four lanes between Reservation Road and Eastside Road
- Gigling Road widening to a Four-Lane arterial between General Jim Moore Boulevard and Eastside Road
- General Jim Moore Boulevard widening to four lanes between Normandy and South Boundary Road
- Eastside Road extension as a Two-Lane arterial between Gigling Road to Schoonover Drive
- South Boundary Road upgrade to a Two-Lane arterial



Cumulative Intersection Levels of Service. The AM and PM peak hour intersection turning movement forecast volumes, intersection lane configurations, and traffic control devices for the study intersections under Cumulative No Project Conditions are shown in Figures 4.2-3a and 4.2-3b. The levels of service calculations are shown in Table 4.2-3. As shown therein, the following intersections are forecast to operate at unacceptable levels of service under City of Marina standards under Cumulative Conditions:

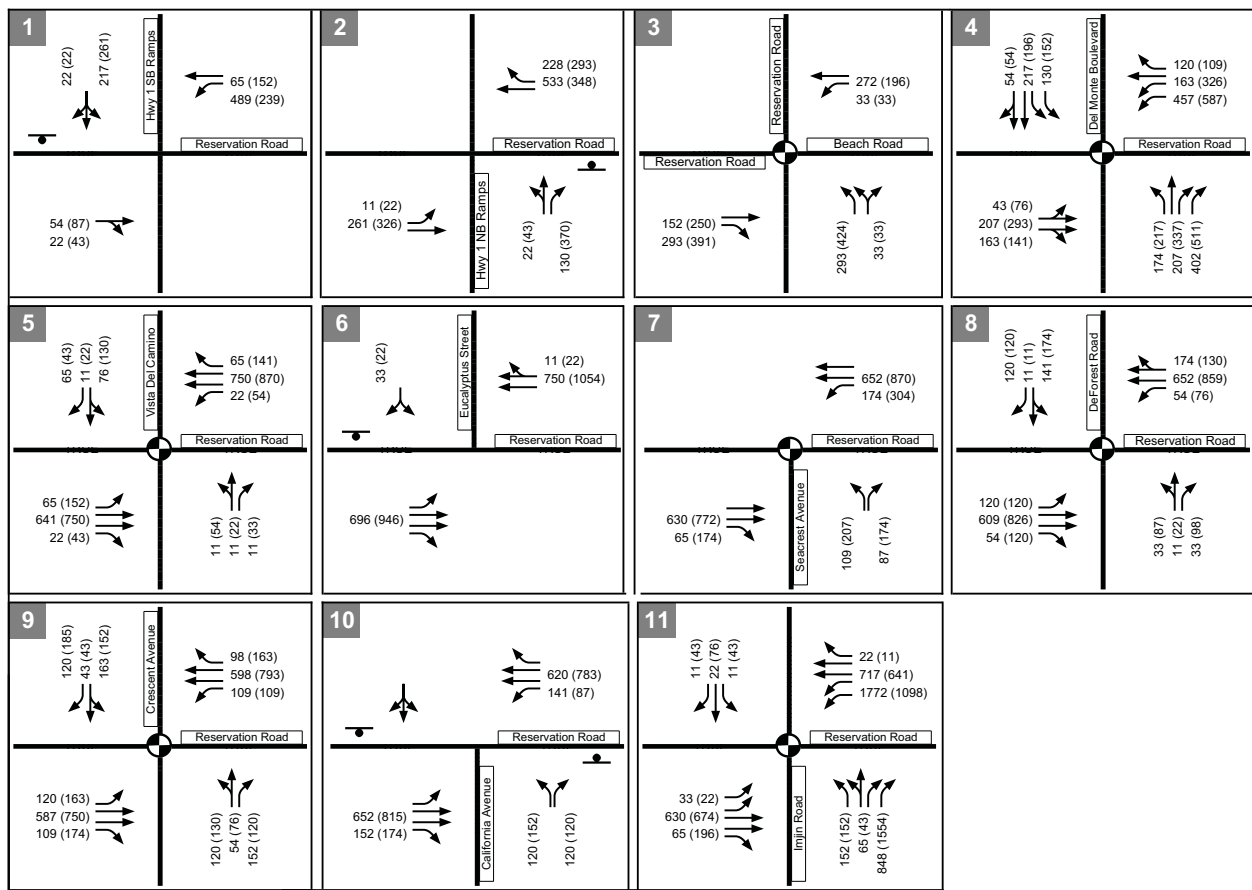
- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 10: Reservation Road/California Avenue (AM and PM peak hour)²
- Intersection 14: Carmel Avenue/Del Monte Boulevard (AM and PM peak hour)
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 17: Imjin Parkway/SR 1 Northbound Ramps (AM and PM peak hour)
- Intersection 18: Imjin Parkway/2nd Avenue (PM peak hour)
- Intersection 22: Golf Boulevard/Del Monte Boulevard (PM peak hour)
- Intersection 23: Patton Parkway/2nd Avenue (PM peak hour)

All other study intersections operate acceptably during the AM and PM peak hour.

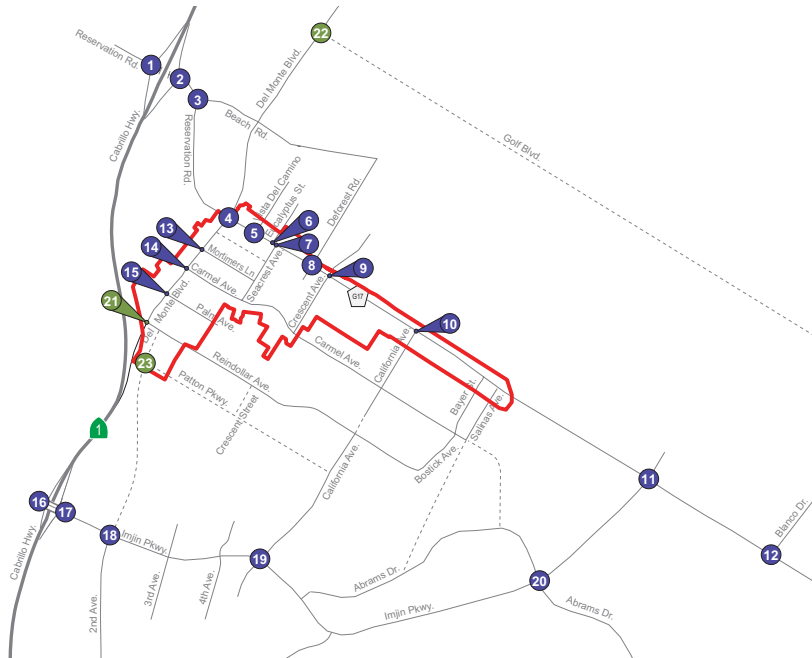
² Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



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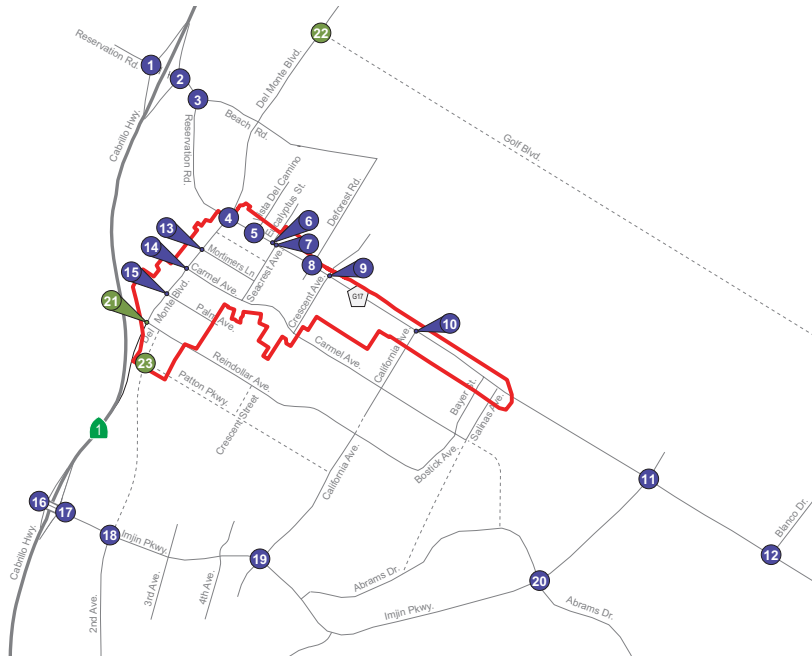
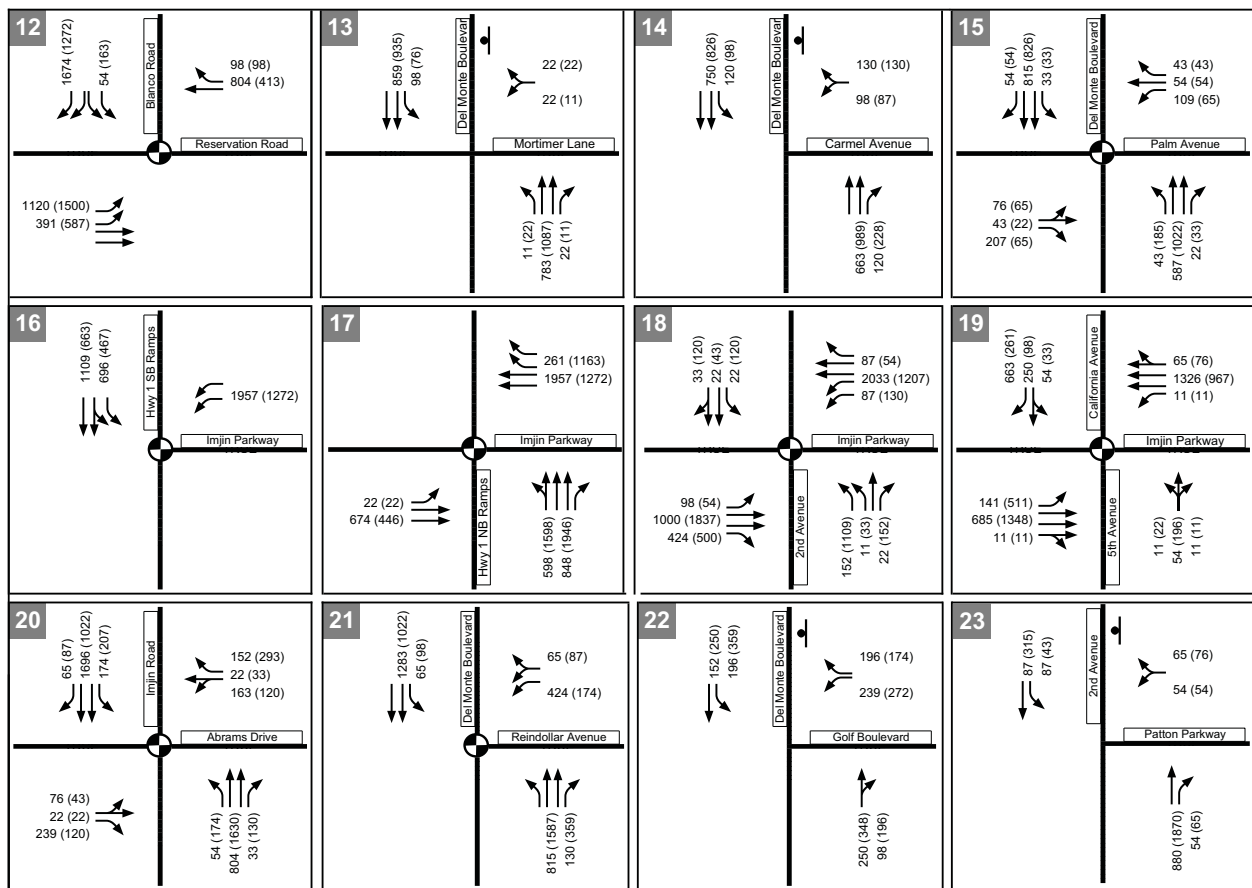
KEY:
 XX (YY) = AM (PM) Peak Hour Traffic Volumes
 = Signalized Intersection
 = Stop Sign



Cumulative No Project Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Controls (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

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KEY:
 XX (YY) = AM (PM) Peak Hour Traffic Volumes
 = Signalized Intersection
 = Stop Sign

Cumulative No Project Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Controls (Intersections 12-23)

Base map source: Fehr & Peers, 2011.

**Table 4.2-3
 Cumulative No Project Intersection Levels of Service**

Intersection	Traffic Control	Peak Hour	Average Delay ¹	LOS ²
1. Reservation Road/SR 1 Southbound Ramps	Side-street stop	AM PM	>80 44.6	F E
2. Reservation Road/SR 1 Northbound ramps	Side-street stop	AM PM	11.6 15.5	B C
3. Reservation Road/Beach Road	Signal	AM PM	10 12.9	B B
4. Reservation Road/Del Monte Boulevard	Signal	AM PM	21.2 30.2	C C
5. Reservation Road/Vista Del Camino	Signal	AM PM	11.8 15.0	B B
6. Reservation Road/Eucalyptus Street	Side-street stop	AM PM	11.1 12.6	B B
7. Reservation Road/Seacrest Avenue	Signal	AM PM	10.3 17.2	B B
8. Reservation Road/De forest Road	Signal	AM PM	15.2 16.0	B B
9. Reservation Road/Crescent Avenue	Signal	AM PM	17.3 17.7	B B
10. Reservation Road/California Avenue	Side-street stop	AM PM	51.4 >80	F F
11. Reservation Road/Imjin Road	Signal	AM PM	31.8 38.7	C D
12. Reservation Road/Blanco Road	Signal	AM PM	32.6 22.5	C C
13. Mortimer Lane/Del Monte Boulevard	Side-street stop	AM PM	16.9 18.0	C C
14. Carmel Avenue/Del Monte Boulevard	Side-street stop	AM PM	23.9 35.8	C E
15. Palm Avenue/Del Monte Boulevard	Signal	AM PM	20.2 16.8	C B
16. Imjin Parkway/SR 1 Southbound Ramps	Signal	AM PM	45.3 21.2	D C
17. Imjin Parkway/SR 1 Northbound Ramps	Signal	AM PM	17.8 30.5	B C
18. Imjin Parkway/2 nd Avenue	Signal	AM PM	18.3 67.3	B E
19. Imjin Parkway/California Avenue – 5 th Avenue	Signal	AM PM	52.9 46.3	D D
20. Abrams Drive/Imjin Road	Signal	AM PM	19.6 27.3	B C
21. Reindollar Avenue/Del Monte Boulevard	Signal	AM PM	15 12.4	B B
22. Golf Boulevard/Del Monte Boulevard (Future Intersection)	Side-street stop	AM PM	34.6 >80	D F
23. Patton Parkway/2 nd Avenue (Future Intersection)	Side-street stop	AM PM	29.5 >80	D F

Notes:

1. Whole intersection weighted average total delay for signalized intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections
2. LOS calculations performed using the 2000 Highway Capacity Manual (HCM) method.
3. For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.

Unacceptable operations are indicated in **bold** type.
 Source: Fehr & Peers, March 2011.



Cumulative Freeway Segment Levels of Service. Cumulative No Project Conditions AM and PM peak hour volumes on the freeway segments are shown in Table 4.2-4. Based on the City of Marina CIP, the new proposed SR 1 interchange will consolidate the two existing interchanges at Imjin Parkway and Del Monte Boulevard. According to the proposed layout, a bridge structure will be constructed to replace the existing Del Monte Boulevard access ramps. The new structure would be connected to the existing Imjin Interchange by a collector-distributor road in each direction to form one full access interchange. In conjunction with the new interchange, the following CIP roadway improvements need to be constructed and functional for the new interchange to operate:

- 2nd Avenue extension as a two-lane arterial between Imjin Parkway and Reindollar Avenue
- Patton (Abrams) Parkway extension as a two-lane collector between California Avenue and Del Monte Boulevard

Based on the layout, all southbound freeway traffic would exit the freeway via the new bridge structure and enter the freeway through the Imjin interchange. All northbound freeway traffic would exit the freeway via the Imjin interchange and enter the freeway through the new bridge structure.

To reflect this new consolidated interchange, all cumulative freeway analysis will consolidate the following freeway segments into one freeway segment:

- SR 1 between Reservation Road and Del Monte Boulevard
- SR 1 between Del Monte Boulevard and Imjin Parkway

The following segments operate at unacceptable levels of service under Caltrans standards under Cumulative Without Project Conditions:

- Northbound SR 1 between Light Fighter Drive and Del Monte Road/Neponset Road during the PM peak hour (three segments)
- Southbound SR 1 between Del Monte Road/Neponset Road and Light Fighter Drive during the AM peak hour (three segments)

All remaining study freeway segments operate at LOS C or better.

**Table 4.2-4.
 Cumulative No Project Peak Hour Freeway Mainline Levels of Service**

Travel Direction	Segment		Roadway Type	Peak Hour	Peak Hour Volume	LOS ²
	From	To				
NB SR 1	Lightfighter Dr	Imjin Pkwy/ Del Monte Road	3-Lane Freeway	AM	2,272	B
				PM	5,370	E
NB SR 1	Imjin Pkwy/ Del Monte Road	Reservation Road	3-Lane Freeway ²	AM	1,707	B
				PM	4,609	E



**Table 4.2-4.
 Cumulative No Project Peak Hour Freeway Mainline Levels of Service**

Travel Direction	Segment		Roadway Type	Peak Hour	Peak Hour Volume	LOS ²
	From	To				
SB SR1	Reservation Rd	Del Monte Blvd- Neponset Rd	two-lane Freeway	AM	1,196	A
				PM	2,913	D
	Del Monte Blvd- Neponset Rd	Reservation Rd	two-lane Freeway	AM	3,141	D
				PM	1,978	B
	Reservation Rd	Imjin Pkwy/ Del Monte Road	3-Lane Freeway ²	AM	4,946	F
				PM	2,815	C
	Imjin Pkwy/ Del Monte Road	Lightfighter Dr	3-Lane Freeway	AM	6,207	F
				PM	3,620	C

Notes:

1 LOS = Level of service.

2 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction.

Unacceptable operations indicated in **bold** type.

Source: Fehr & Peers, March 2011

f. Regulatory Framework. A number of regulatory documents include policies or implementation measures that affect the study area directly or the transportation facilities within the Specific Plan area. These documents provide the standards that are used to identify environmental impacts caused by the proposed Specific Plan. Each pertinent document is discussed below, and key sections relevant to the Specific Plan are noted.

City of Marina General Plan (2000). The Marina General Plan guides daily and long-term land use planning and development decisions in the City, and provides clear documentation of the City's goals and commitments for private developers, homeowners, businesses, investors, and other public entities involved in planning and development activities within the City. The purpose of the General Plan is to enable private developers, homeowners, businesses, investors, public entities, and other organizations to coordinate their actions with each other and with the City, and to undertake their programs in a manner that complements and promotes overall City goals. The General Plan was adopted in October 2000, and was most recently amended in September 2009. Listed below are a few key transportation goals and policies from the General Plan.

- Major Roadways 3.9 A peak period Level of Service (LOS) "D" shall be maintained for all highway segments and major roads within the Marina Planning Area, except that where existing roads and highways are operating a lower LOS standard at the time of plan adoption, the existing LOS will be maintained or improved. (2005-82)
- Vehicular trip reduction 3.22 In addition to the land use and transportation provisions of this chapter, trip reduction measures for major new employers, expansion of existing businesses or relocation of existing businesses within Marina shall be required in order to achieve a minimum 10 percent reduction in estimated peak hour vehicular traffic volume. The threshold at which this trip reduction shall apply is to be determined during preparation and adoption of ordinances required to implement this plan.



- *Transit Facilities and Services 3.23 All future development shall be designed to help promote cost-effective local and regional transit service and minimize dependency on the private automobile for work, shopping, recreation, and other trip purposes.*

City of Marina Downtown Vision. The Marina Downtown Vision was adopted by the City Council in July 2005 to supplement the City's General Plan by identifying the City's expectations for any potential development proposed in the Downtown area. The intent of the Vision is to establish a direction for the physical design of Downtown Marina and to ensure that new development meets or exceeds the City's policies, standards and expectations. Issues addressed include community identity, fiscal health, infrastructure, safety and security, services, design and sources of funding.

City of Marina Downtown Design Guidelines. The Downtown Design Guidelines were developed as a follow-up to the Downtown Vision and adopted by the City Council in July 2005. The guidelines provide greater detail on how the Downtown Vision can be implemented. The guidelines also provide a proactive means of encouraging development that is consistent with the Vision Plan.

City of Marina Capital Improvement Program and Impact Fees. The City of Marina administers a Capital Improvement Program (CIP), which is partially funded by the City's traffic impact fee (TIF). The City's CIP includes the funding necessities and strategies for various intersection, roadway, recreational, public facility, and public safety improvements over a five year timeframe. The CIP includes \$129,749,700 worth of intersection and roadway projects throughout the City, including various intersection signalization projects, the addition of sidewalks and bicycle paths, the widening of Imjin Parkway to either four or six lanes (depending upon the location), and the reconstruction of the SR 1/Imjin Parkway and SR 1/Del Monte Boulevard interchanges. The City TIF funds \$106,259,700 of the cost of these improvements.

City of Marina Pedestrian and Bicycle Master Plan. The City of Marina Pedestrian and Bicycle Master Plan aims to establish a system of bikeways within the City and identifies future bicycle facilities that will connect to existing regional facilities, as well as provide local connections between residential neighborhoods, businesses, schools, and services within the City.

Fort Ord Reuse Authority Capital Improvement Program and Impact Fees. The Fort Ord Reuse Authority (FORA) Capital Improvement Program (CIP) sets forth the FORA Base Reuse Plan required improvements. The current FORA CIP has been structured to cover costs of four regional improvements, five "off-site" improvements (located outside of the former Fort Ord boundaries) and nine onsite improvements (located within the former base boundaries), and two transit capital improvements. In total, FORA is responsible for \$115,725,928, in 2010 dollars, of traffic- and transit-related improvements. Of that amount, FORA would fully fund \$63,036,919 worth of improvements within the former army base itself. The primary sources of revenue expected to cover these costs are Development Fees and Land Sale/Lease proceeds. (As the study project site is located in the former Fort Ord properties governed by FORA, development project sponsors in the DVSP area would be required to pay all necessary FORA fees.)

The Cumulative No Project traffic scenario [refer to Section 4.2.1(d)] street network included improvements as identified in the FORA CIP for Financial Year 2010/11 through 2021/22. The roadway network in the FORA CIP includes the following new or upgraded facilities that would affect operations within the study street network, all of which would be fully funded by FORA:

- Construction of the Patton Parkway extension, between Crescent Avenue and the future 2nd Avenue extension (portions opened in 2008);
- Construction of the Crescent Avenue extension, from the end of Crescent Avenue to Patton Parkway (opened in 2008); and
- Construction of the Salinas Road extension, a new Two-Lane arterial between Carmel Avenue and Abrams Drive.

It should be recognized that the FORA CIP focused more on specific improvements required on the higher order access and mobility routes as listed above. The specific local/neighborhood network improvements will be identified with each of the FORA project developments.

The FORA CIP also contributes some money towards regional improvements (TMAC Regional Fee Project List improvements noted with a “*”), specifically the following:

- Widening of SR 1 to three lanes in each direction between Fremont Boulevard and Del Monte Boulevard;
- Construct the SR 1/Monterey Road interchange, to be located between the Lightfighter Drive and Fremont Boulevard interchanges;
- Highway 68 improvements at the intersections of Laureles Grade, San Benancio Road, and Corral De Tierra Road, including left turn lanes and signal timing improvements;
- Highway 156 widening to a Four-Lane freeway, including construction of new interchanges;
- Construction of a new Two-Lane arterial (Eastside Road) from intersection with Gigling Road northeasterly to intersection with Inter-Garrison Road.
- Widening of Reservation Road to four lanes between the East Garrison gate and Davis Road; and
- Widening of Davis Road to four lanes between Reservation Road and Market Street (Highway 183).

Caltrans Guide for the Preparation of Traffic Impact Studies (2002). This document from the California Department of Transportation (Caltrans) identifies the need for traffic impact studies, the methodologies to be used in these studies, and the standards for measuring impact to facilities operated by Caltrans. Caltrans defines the following LOS standards for its facilities:

- Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D. However, the *Transportation Concept Report for Highway 1* states that Caltrans anticipates future congestion and has set the future level of service standard as LOS C/D for the portions of the highway within the greater Monterey Peninsula. In addition, the Monterey County Regional Transportation Plan identifies LOS C/D as acceptable on the regional roadway network. Therefore, LOS C was used as the acceptable LOS for state facilities.

- If an existing State-operated facility is operating at less than LOS C, the existing LOS should be maintained

SR 1 is maintained and operated by Caltrans, so its standards apply to this roadway.

Other Documents. To a lesser extent than the documents discussed above, the following documents make up the regulatory setting in the area relevant to the Specific Plan:

- The Monterey County *Regional Transportation Plan (RTP) 2010* provides policy guidance, plans, and programs for the next 25 years to attain a balanced comprehensive, multimodal transportation system for the county. The Plan includes a list of regional transportation projects and prioritizes these improvements based on the county's needs. Among other projects, improvements to the Imjin Parkway and widening of SR 1 from four to six lanes between Fremont Boulevard and Canyon Del Rey Boulevard (SR 218) are identified in the RTP.
- *Congestion Management Program.* The Transportation Agency for Monterey County (TAMC) is the designated Congestion Management Agency (CMA) for Monterey County and responsible for the implementation of a Congestion Management Program (CMP). The program is designed to identify and monitor traffic congestion by coordinating regional transportation and land use planning. TAMC's CMP was last updated in 2001. TAMC is currently working toward opting out of the California CMP requirements, as allowed by State law, and pursuing local strategies once a replacement program has been designed.
- *Regional Development Impact Fee.* TAMC, the Congestion Management Agency for Monterey County, has a regional development impact fee to help mitigate impacts of new development projects. The fee program will account for the proportional impact of new developments on regional transportation infrastructure and will require a contribution towards planned improvement measures. The fees generated by the program are applied to intersection and roadway improvements throughout Monterey County.

4.2.2 Impact Analysis

a. Methodology and Impact Criteria. The traffic analysis is based on a study conducted by Fehr & Peers in March 2011 (refer to Appendix B).

Signalized Intersections. The LOS method for signalized intersections described in Chapter 16 of the 2000 *Highway Capacity Manual (HCM)* published by the Transportation Research Board was applied in this analysis. This method evaluates a signalized intersection's operations based on average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using TRAFFIX 8.0 analysis software and correlated to a LOS designation as shown in Table 4.2-5. Signal timings were collected in the field. Table 4.2-5 summarizes the relationship between delay and LOS for signalized intersections. The City of Marina's minimum acceptable level of service for signalized intersections is LOS D. Monterey County maintains a minimum acceptable threshold of LOS C during the peak hours. The intersection of Reservation Road and Blanco Road is controlled by Monterey County.



**Table 4.2-5.
 Level of Service Criteria for Signalized Intersections**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35 to 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55 to 80
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80

Source: *Transportation Research Board, Highway Capacity Manual - Special Report 209, 2000.*

Unsignalized Intersections. Operations of the unsignalized study intersections are evaluated using the method contained in Chapter 17 of the 2000 HCM and calculated using TRAFFIX analysis software. LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side-street stop-controlled intersections, control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, control delay is computed as the average of all movements in that lane. For all-way stop-controlled locations, a weighted average delay for the entire intersection is presented. Table 4.2-6 summarizes the relationship between delay and LOS for unsignalized intersections. The City of Marina’s minimum acceptable LOS for an all-way stop controlled intersection is LOS D and LOS E is considered acceptable for a side-street stop controlled intersection.

Roundabouts. A roundabout is a circular intersection with yield control on entry points with islands to direct traffic through the intersection. Roundabouts provide several key safety benefits such as fewer conflict/collision points and slower intersection speeds that improve safety for pedestrians and bicyclists. Roundabouts also provide environmental benefits since less idling time and delay equates to lower emissions and greenhouse gases, as well as reduced fuel consumption.

Roundabouts are typically designed as one-lane or Two-Lane roundabouts. One-lane roundabouts provide one lane for internal circulation and typically have a diameter between 100 and 150 feet, while Two-Lane roundabouts with two internal circulation lanes are typically between 150 and 230 feet.

Since roundabouts are a relatively new form of intersection control in the United States, existing analysis tools have not been fully calibrated to U.S. driver behavior. The TRAFFIX analysis software was used to analyze the roundabout operations. The TRAFFIX results were compared against planning-level analyses from the Federal Highway Administration’s (FHWA)



roundabout guidelines, the Highway Capacity Manual (2000), and NCHRP 572, a study of existing American roundabouts.

**Table 4.2-6.
 Level of Service Criteria for Unsignalized Intersections**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Transportation Research Board, Highway Capacity Manual - Special Report 209, 2000.

A LOS criterion for unsignalized intersections was determined using the 2000 Highway Capacity Manual. This analysis assumes a queued vehicle length of 25 feet. Capacity calculations are valid for inscribed diameters of 25 to 55 m (80 to 180 feet). This does not account for flared entry lanes or pedestrian effects.

Freeway Segments. The volume threshold planning methodology based on the 2000 HCM was used in the evaluation of operating conditions on freeway mainline segments. Volume thresholds for freeway segments and ramps for the various LOS are presented in Table 4.2-7.

For the purpose of this analysis, mainline segments of SR 1 and its associated ramps and ramp junctions are under the jurisdiction of Caltrans and evaluated based on the Caltrans LOS threshold (LOS C/D). LOS D was used in the traffic study as the minimally acceptable level of service for these facilities, which is consistent with Caltrans' long range goals.

**Table 4.2-7.
 Table of Functional Class and Peak Hour LOS Thresholds**

Roadway Type	LOS A	LOS B	LOS C	LOS D	LOS E
3-Lane Freeway	1,950	2,950	4,250	5,100	5,500
two-lane Freeway + Auxiliary Lane	1,600	2,540	3,610	4,370	4,720
two-lane Freeway	1,300	2,000	2,850	3,450	3,700

Notes:

1. All facilities assume peak hour representing approximately 10 percent of the Average Daily Traffic (ADT).
2. Based on Highway Capacity Manual, Transportation Research Board, 2000.
3. Freeway thresholds are consistent with conditions utilizing a .95 peak hour factor, with 2 percent trucks and slightly over a one-mile average interchange spacing.
4. All volumes are approximate and assume ideal roadway characteristics.

Source: Table A5 (Appendix A) Marina Station Mixed Use Development Transportation Impact Analysis, May 18, 2006.

Signal Warrants. Signal warrant analyses are intended to examine the general correlation between the projected traffic volumes and the need to install new traffic signals. It estimates future development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration *Manual on Uniform Traffic Control Devices* and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic



data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible State or local agency should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

Impact Criteria

The impact criteria standards for intersections and roadway segments vary based on their classification (type of facility) and jurisdiction that controls the transportation facility. The thresholds and impact criteria listed below apply to the analysis of the Specific Plan and were used to determine impact levels and help to develop appropriate mitigation measures if necessary. The impacts of the Specific Plan were evaluated by comparing the results of the LOS calculations under Existing plus Two-Lane Option Conditions and Existing plus Four-Lane Option Conditions to the results under Existing Conditions, as well as comparing the results of the LOS calculations under Cumulative plus Two-Lane Option Conditions and Cumulative plus Four-Lane Option Conditions to the results under Cumulative No Project Conditions.

Intersection Impact Criteria. The City of Marina specifies that a minimum LOS D for the average intersection delay should be maintained for all signalized intersections and LOS E for all side-street stop controlled unsignalized intersections.

The City of Marina does not identify significance criteria in their General Plan. Therefore, for the purpose of this analysis and to be consistent with previous studies, a significant impact at a signalized study intersection in the City of Marina is defined to occur when the addition of Specific Plan traffic causes:

- Operations to degrade from an acceptable level (LOS D or better) under Existing Conditions to an unacceptable level (LOS E or F) under Project Conditions, or
- The addition of project traffic increases the average delay by more than 1.0 second at intersections operating at LOS E or F.

The County of Monterey specifies that a minimum LOS C for the average intersection delay should be maintained for all signalized intersections. Therefore, a significant impact at a County intersection is defined to occur when the addition of Specific Plan traffic causes:

- Operations to degrade from an acceptable level (LOS C or better) under Existing Conditions to an unacceptable level (LOS D or worse) under Project Conditions, or
- The addition of project traffic increases the average delay by more than 1.0 second at intersections operating at LOS D, E, or F.

A significant impact at unsignalized study intersection is defined to occur when the addition of project traffic causes:

- Operations to degrade from an acceptable level (LOS E or better for side-street stop controlled and LOS D or better for all-way stop) to an unacceptable level (LOS F for



side-street stop controlled and LOS E or F for all-way stop), and the peak-hour signal warrant from the Manual on Uniform Traffic Control Devices (MUTCD) is met.

- Unacceptable operations (LOS F for a side-street stop controlled and LOS E or F for all-way stop) to be exacerbated by adding any traffic, and the MUTCD peak-hour signal warrant is met.

California Department of Transportation (Caltrans) Impact Criteria. Impacts on mainline segments are defined to occur when the addition of Specific Plan traffic:

- Causes operations to deteriorate from an acceptable level (LOS C) to an unacceptable level (LOS D or worse), or
- The addition of project traffic causes a mainline segment operating at LOS D to degrade one service level to LOS E, or
- The addition of project traffic over one percent of the segments capacity that are operating at unacceptable LOS.

The cumulative impact criteria standards for intersections and roadway segments are similar to those for project level impacts. The thresholds and impact criteria listed below apply to the analysis of the project and are used to determine cumulative level impacts and help to develop appropriate mitigation measures, if necessary. The impacts of the Specific Plan were evaluated by comparing the results of the level of service calculations under Year 2030 Conditions to the results under Existing Conditions. Then to determine if the impact is cumulatively considerable, the results for the Year 2030 Conditions scenario was compared to the Year 2030 Conditions without Project Conditions.

Intersection Impact Criteria. A significant cumulative impact at a signalized study intersection in the City of Marina is defined to occur under the following scenarios:

- Operations degrade from an acceptable level (LOS D or better) under Existing Conditions to an unacceptable level (LOS E or F) under Year 2030 With Project Conditions, and
- The addition of project traffic increases the average delay by more than 1.0 second comparing Year 2030 without Project Conditions to Year 2030 with Project Conditions, or
- The addition of project traffic increases the average delay by more than 1.0 second between the with- and with-out project scenarios at intersections already operating at LOS E or F under Existing Conditions.

A significant impact at unsignalized study intersection is defined to occur under the following conditions:

- Operations degrade from an acceptable level (LOS D or better) under Existing Conditions to an unacceptable level (LOS E or F) under Year 2030 Project Conditions, and the peak-hour signal warrant from the Manual on Uniform Traffic Control Devices (MUTCD) is met.
- Unacceptable operations (LOS E or F) are exacerbated by adding any traffic, and the MUTCD peak-hour signal warrant is met.



Pedestrian, Bicycle, and Transit Facilities. The Specific Plan would cause a significant impact to pedestrian, bicycle, and transit facilities and services if one of the following would occur:

- An element of the proposed Specific Plan conflicts with existing or planned pedestrian, bicycle, and transit facilities.
- The proposed Specific Plan creates hazardous conditions for pedestrians or bicyclists that currently do not exist.

b. Project Impacts and Mitigation Measures

Impact T-1 When compared to Existing Conditions, buildout of the proposed Specific Plan would cause six intersections to operate at unacceptable levels of service under the Reservation Road Four-Lane option, and eight intersections to operate at unacceptable levels of service under the Reservation Road Two-Lane option. Impacts would be Class II, *significant but mitigable* for the Four-Lane option and Class I, *significant unavoidable* for the Two-Lane option. Impacts to freeway segments would also be Class I, *significant and unavoidable*, for both Reservation Road options.

Peak-hour trip generation estimates are presented in Table 4.2-8. Upon full buildout of the proposed Specific Plan, the Plan is estimated to generate 23,974 net new daily trips, 1,150 net new AM peak-hour trips (475 inbound and 675 outbound) and 1,982 net new PM peak-hour trips (1,044 inbound and 938 outbound). A 20 percent reduction was applied to the commercial trips during the PM peak hour to account for pass-by trips that are already on the adjacent roadways. According to information provided by ITE, the average pass-by percentage for shopping center land uses is 44 percent based on surveyed data. Since the type of commercial space is unknown, a conservative pass-by percentage of 20 percent was applied in this analysis. Other potential reductions could be applied to the trip generation estimates including trip internalization where additional trips would made by transit, bicycling and pedestrian travel because of the mixed-use nature of the project and Specific Plan goals. To a degree, the mixed-use aspects of the development were accounted for by applying trip rates to the total amount of each land use as shown in Table 4.2-8. The rates account for some economy-of-scale with the total amount of land use where internalization represents trips made by transit, walking and biking. In point of fact, each of the proposed land uses would be developed in a series of smaller developments. Thus, the trips used in this study are considered a reasonable worst-case estimate of vehicle traffic.

**Table 4.2-8.
 Trip Generation Estimates**

Land Use ¹ (ITE number)	Size		Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Commercial (820)	252	ksf	12,384	162	104	266	579	603	1,182
<i>Pass-By Trips (20% Reduction)</i>			-236				-118	-118	-236
Office (710)	128	ksf	1,613	201	27	228	38	184	222



**Table 4.2-8.
 Trip Generation Estimates**

Land Use ¹ (ITE number)	Size		Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential (230)	2,400	d.u.	10,213	112	544	656	545	269	814
	<i>Total</i>		23,974	475	675	1,150	1,044	938	1,982

Notes:

1. Rates were obtained from *Trip Generation (8th Edition)* published by the Institute of Transportation Engineers (ITE).

Source: Fehr & Peers, March 2011

Figure 4.2-4 shows the trip distribution pattern for the Specific Plan. Approximately 15 percent of trips are expected to travel north of the City of Marina, 20 percent to destinations south of Marina, and 25 percent to destinations east of Marina. The remaining trips are distributed to destinations within Marina. This trip distribution pattern applies to both Reservation Road options.

Based on the locations of the Reservation and Del Monte SR 1 interchanges and the limited access at the Del Monte Interchange (no northbound on-ramp and southbound off-ramp), project trips are expected to enter/exit the Reservation Interchange when traveling to/from north and the Del Monte interchange when traveling to/from south. Therefore, no project trips are expected travel on the freeway segment between Reservation Road and Del Monte Boulevard.

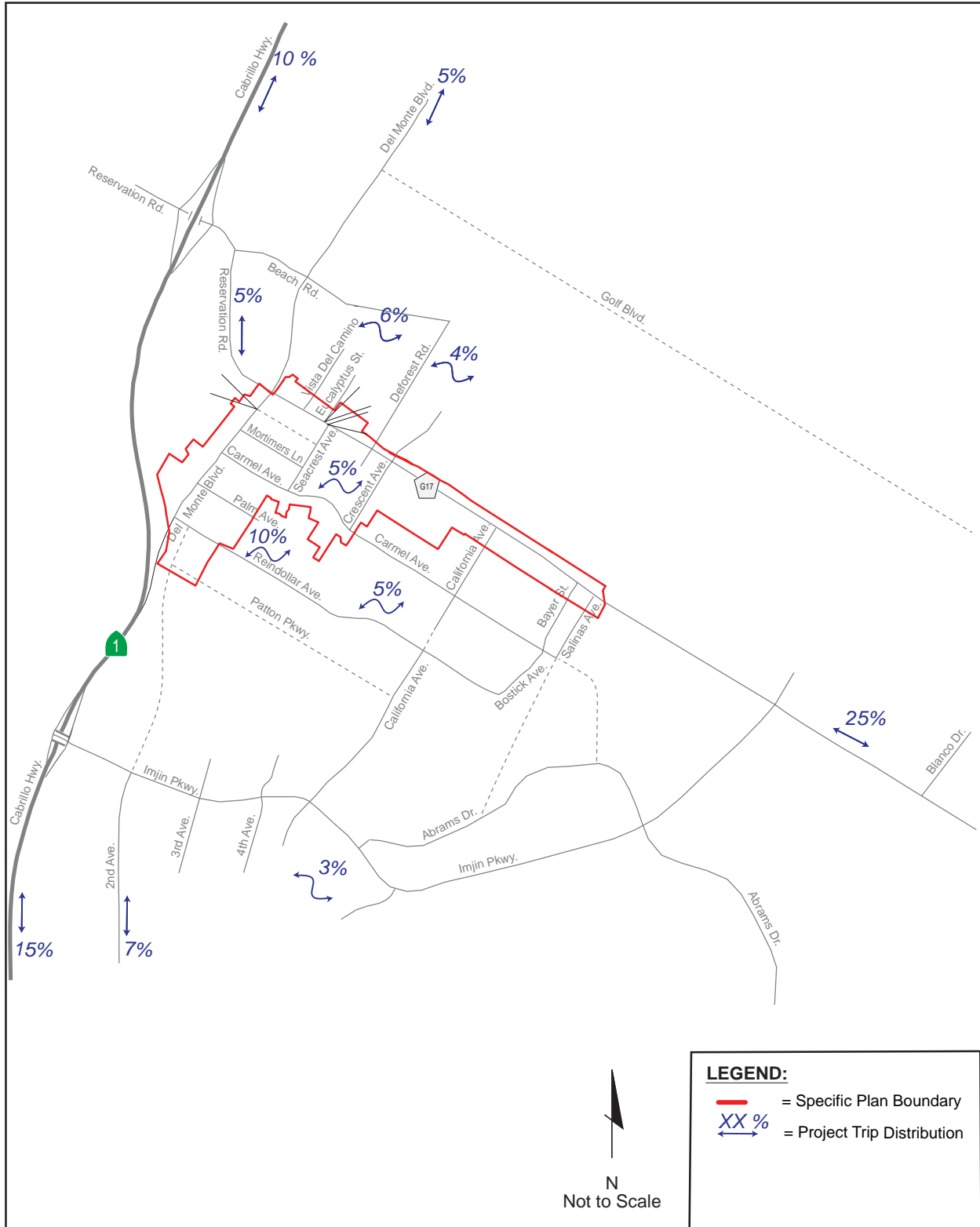
Trips generated by the proposed Specific Plan were assigned to the roadway system based on the directions of approach and departure, as shown in Figures 4.2-5a and 4.2-5b. Specific Plan-generated trips were added to existing traffic volumes to estimate volumes under Existing plus Four-Lane Option and Existing plus Two-Lane Option Conditions, which are shown on Figures 4.2-6 and 4.2-7, respectively.

Reservation Road Four-Lane Option. Traffic volumes for the Reservation Road Four-Lane option (“Existing plus Four-Lane Option Conditions”) were estimated by adding traffic generated by the proposed Specific Plan to Existing Conditions. These volumes are consistent with the volumes shown in Table 4.2-8. Figures 4.2-6a and 4.2-6b illustrate the traffic volumes at the key intersections under the Existing plus Four-Lane Option Conditions.

Intersections. The results of the intersection level of service calculations and peak-hour signal warrant analysis for Existing plus Four-Lane Option Conditions are presented in Table 4.2-9. As shown therein, six intersections would operate at unacceptable levels of service after buildout of the proposed Specific Plan, but only four would meet peak-hour signal warrants.

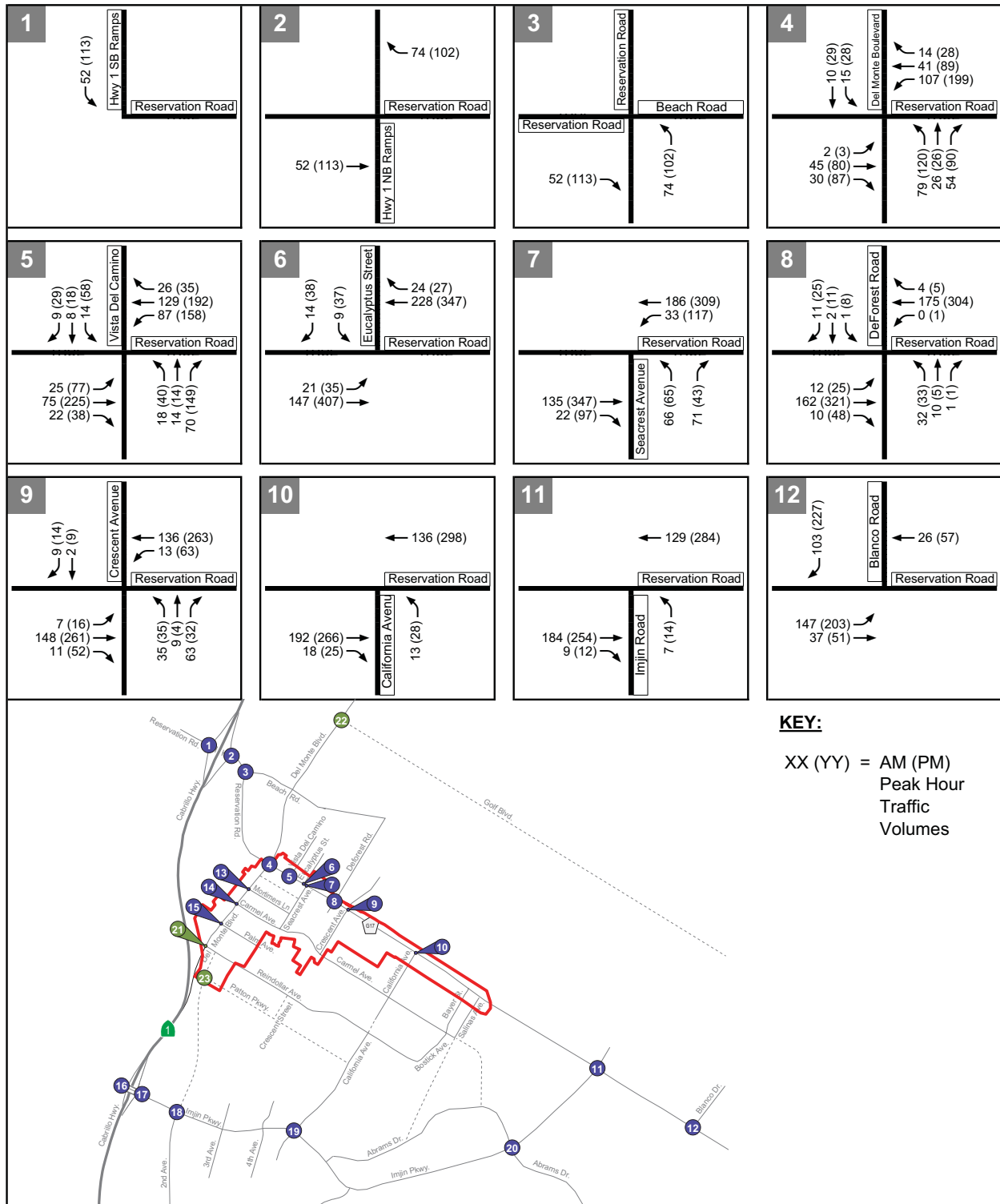
It should be noted that the peak-hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on a thorough study of traffic and roadway conditions. The decision to install a signal should not be based solely upon the warrants, because the installation of signals can lead to certain types of collisions. Regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants should be considered to prioritize and program intersections for signalization.





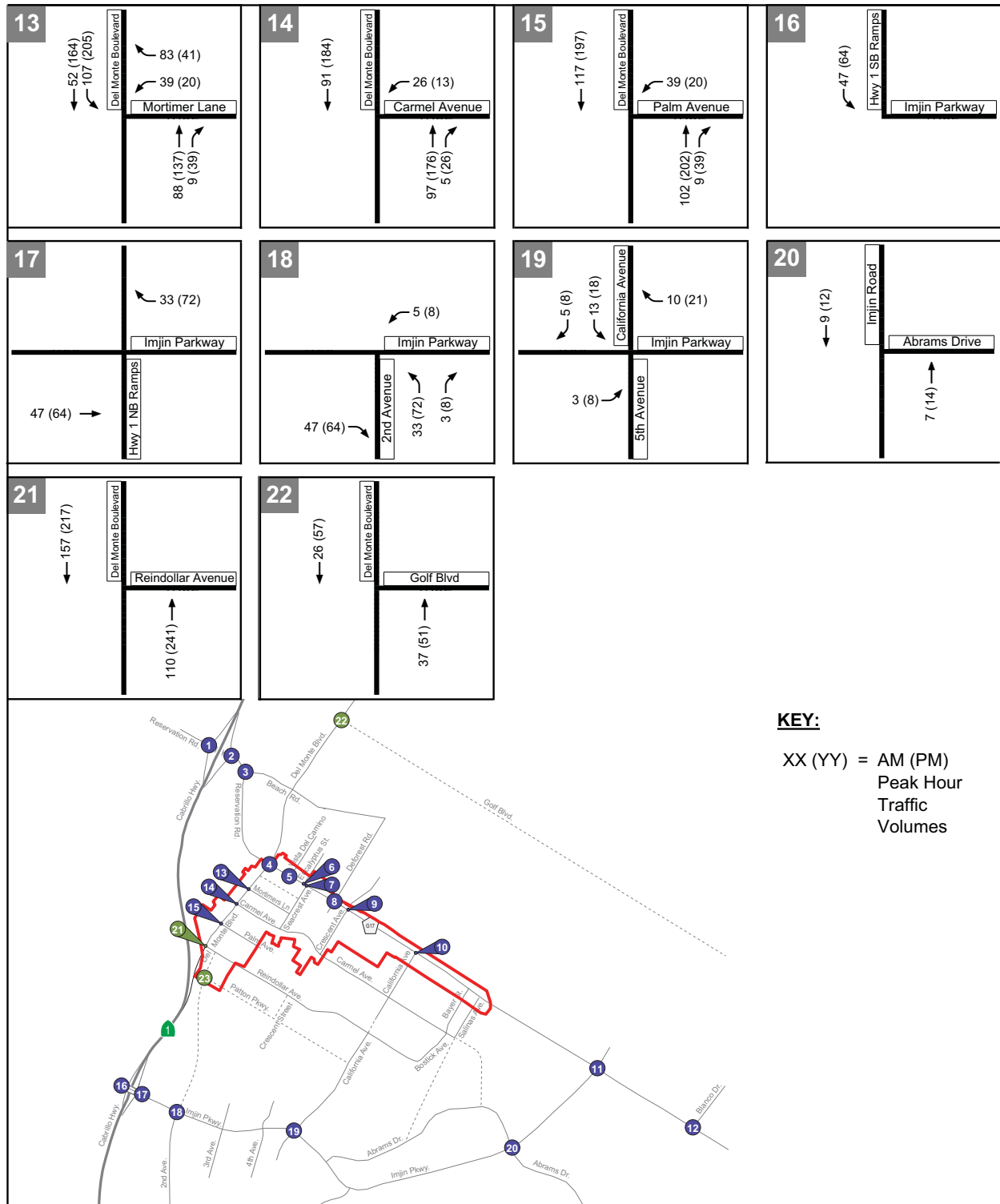
Trip Distribution Pattern

Base map source: Fehr & Peers, 2011.



Specific Plan Trip Assignment
 (Intersections 1-12)

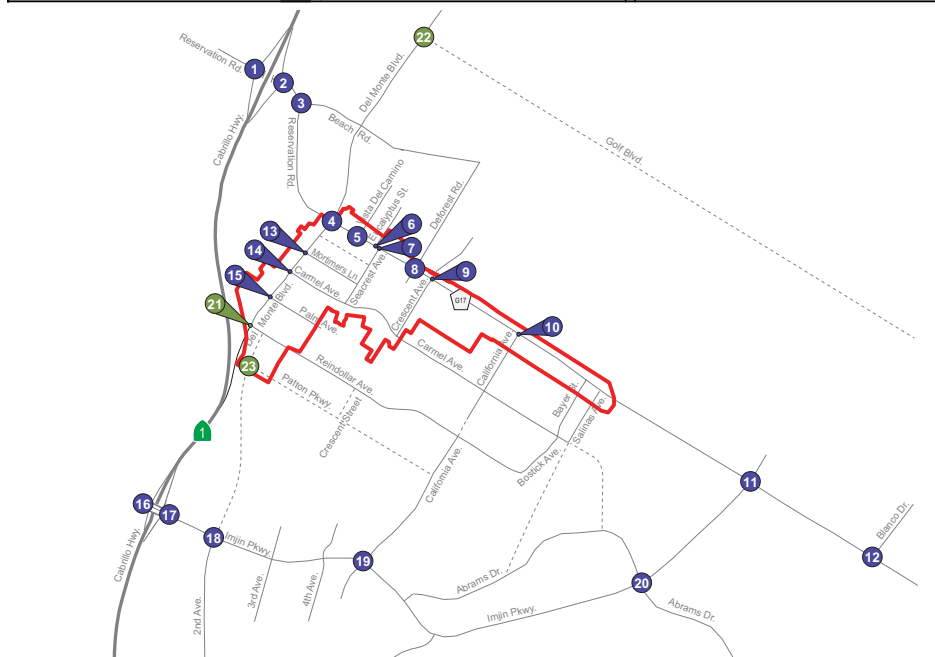
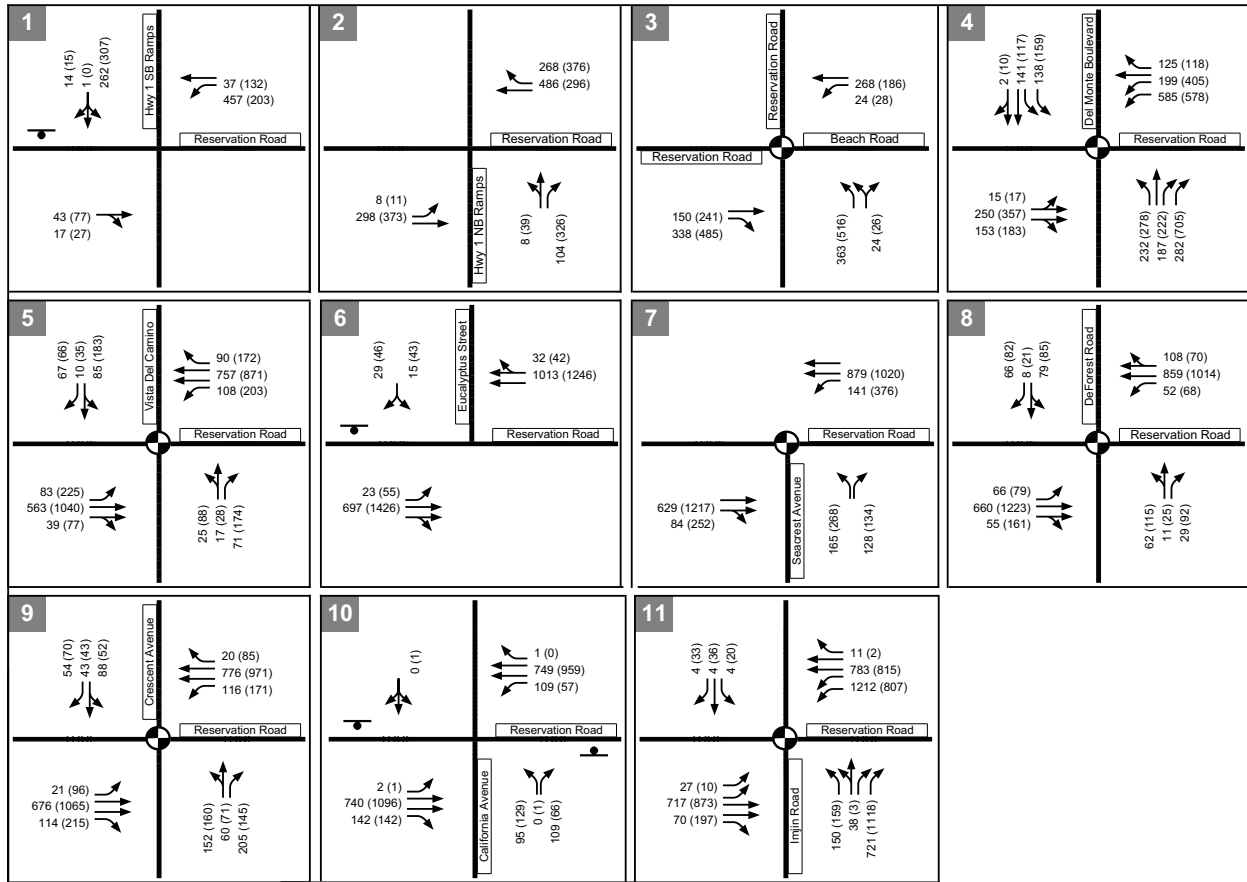
Base map source: Fehr & Peers, 2011.



Specific Plan Trip Assignment
 (Intersections 13-21)

Base map source: Fehr & Peers, 2011.

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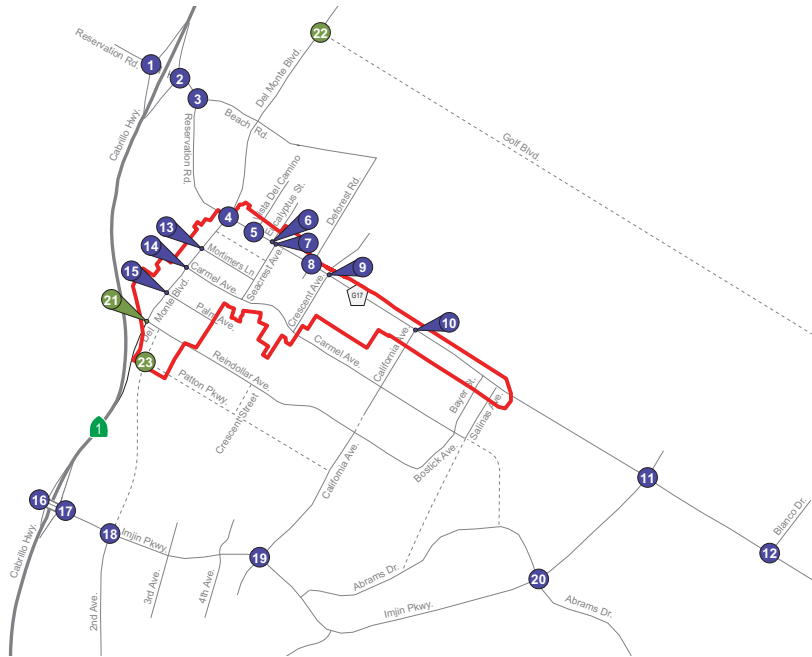
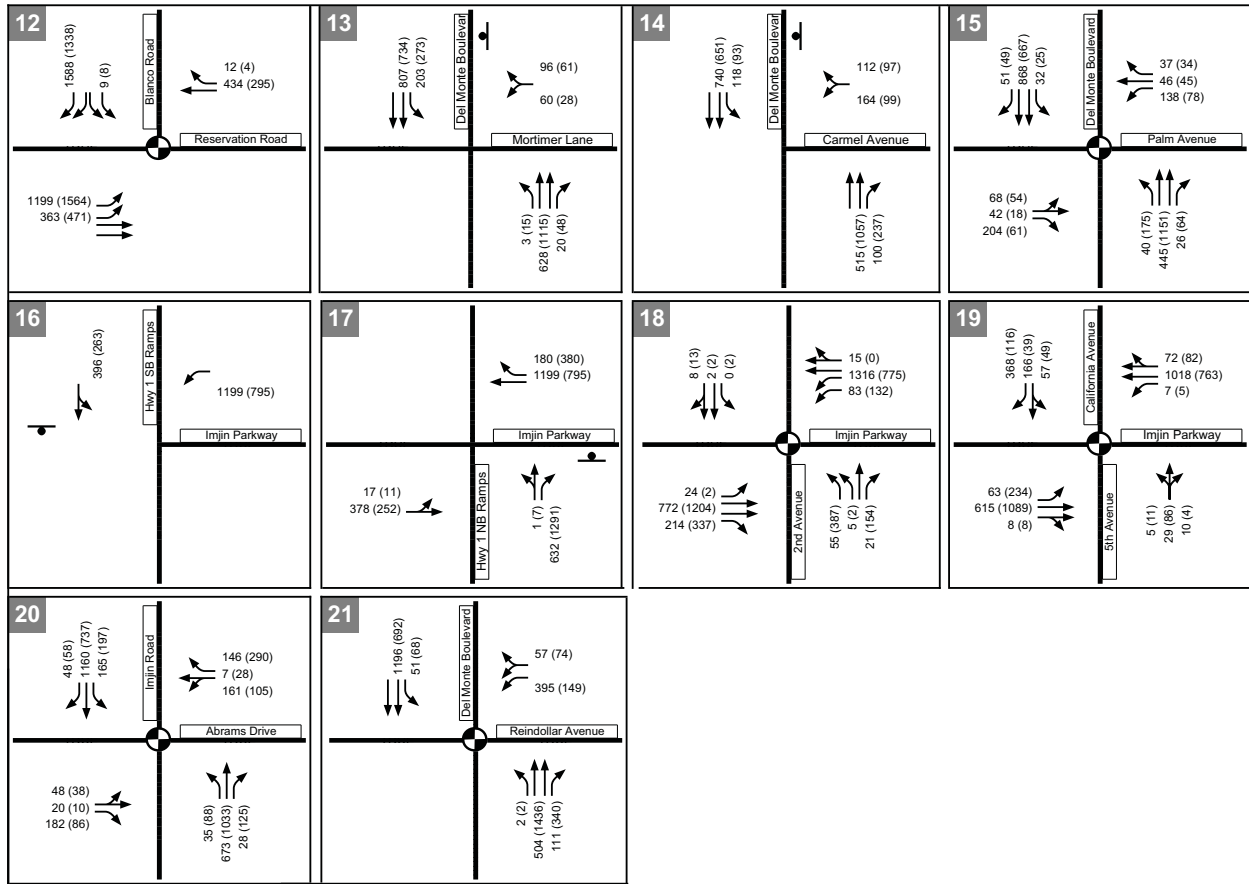


- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - ⊕ = Signalized Intersection
 - ⊖ = Stop Sign

Existing plus 4-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

Marina Downtown Vitalization Specific Plan EIR
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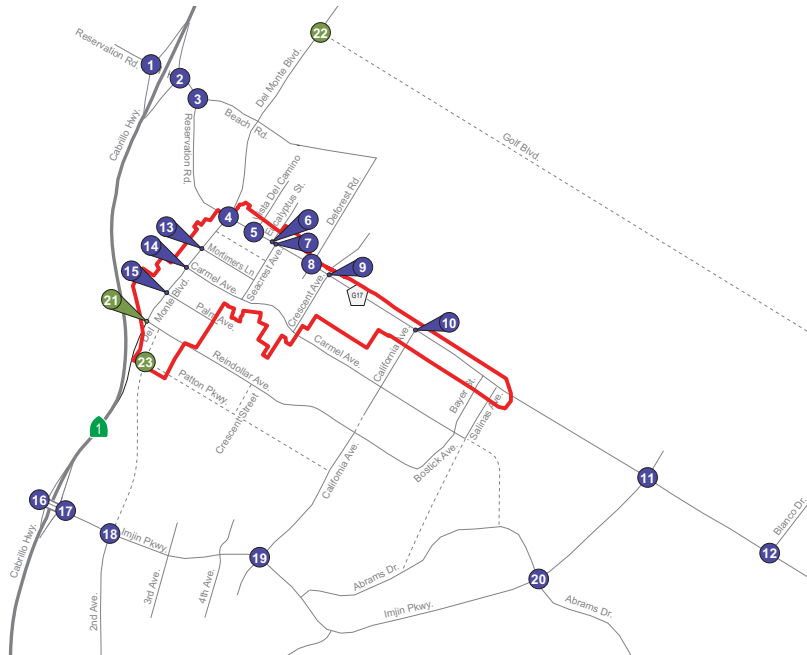
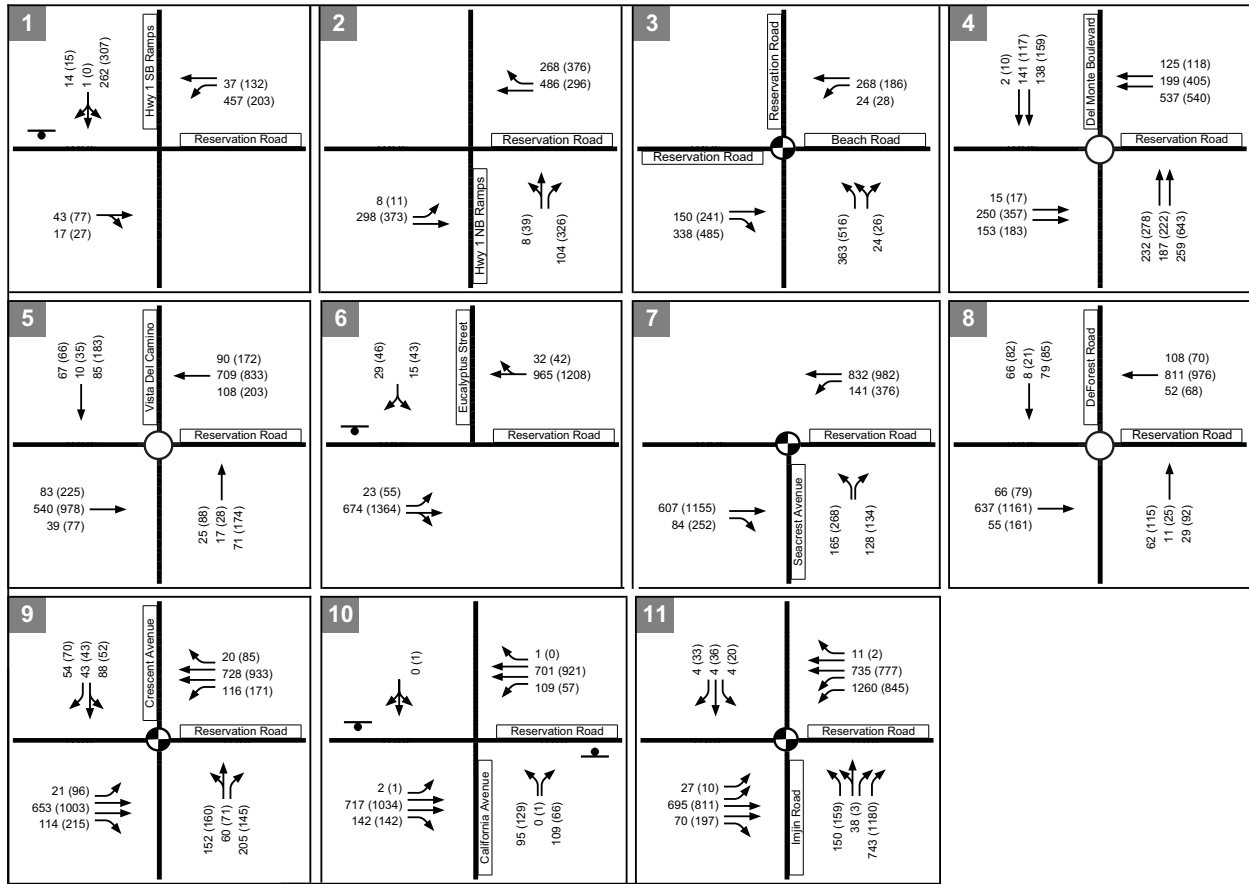


- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - = Signalized Intersection
 - = Stop Sign

Existing plus 4-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 12-21)

Base map source: Fehr & Peers, 2011.

Marina Downtown Vitalization Specific Plan EIR
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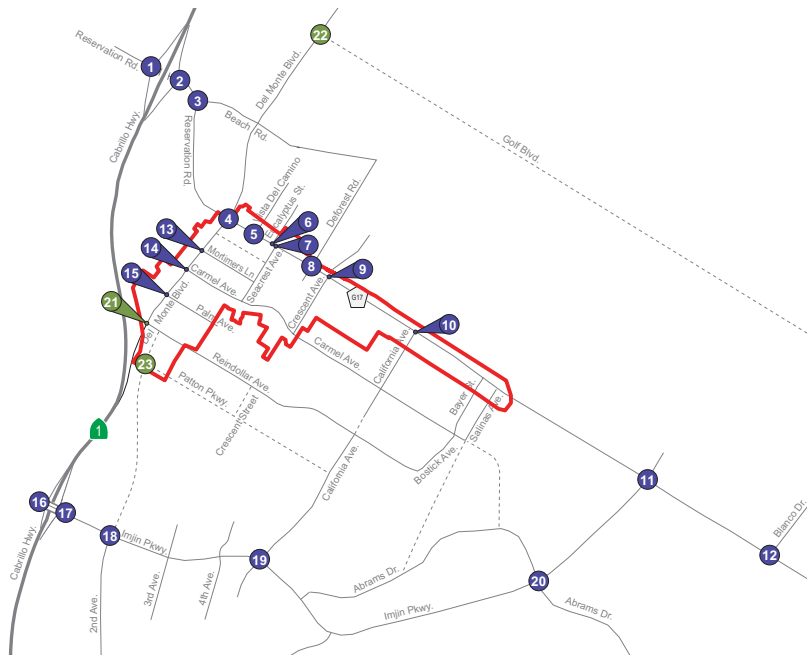
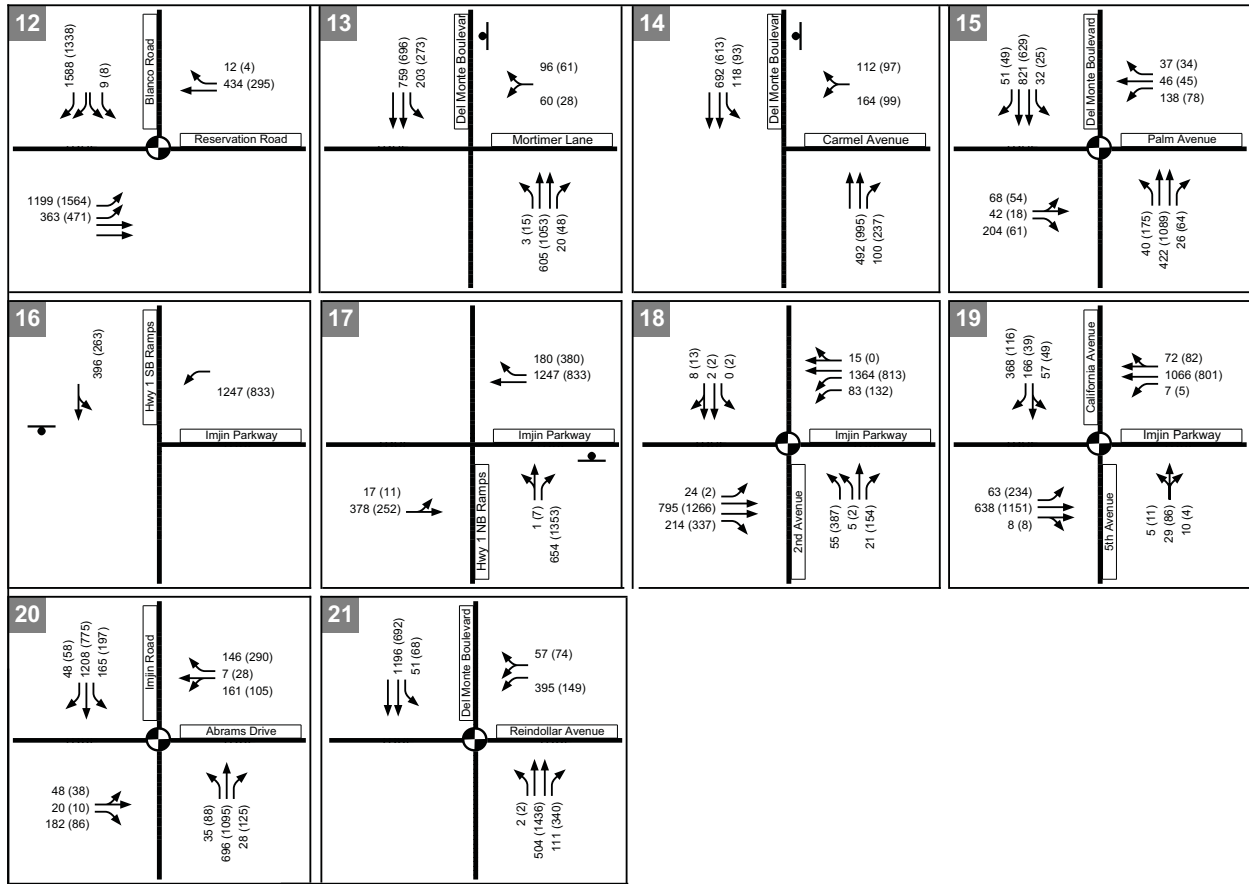


- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - = Signalized Intersection
 - = Stop Sign
 - = Roundabout

Existing plus 2-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

Marina Downtown Vitalization Specific Plan EIR
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- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - = Signalized Intersection
 - = Stop Sign

Existing plus 2-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 12-21)

Base map source: Fehr & Peers, 2011.

**Table 4.2-9
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Existing plus Four-Lane Option Conditions**

Intersection	Peak Hour	Existing Conditions		Project Conditions (4 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
Reservation Road/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	21.7	C	38.1	E	16.4	Yes
Reservation Road/ SR 1 Northbound ramps	AM	10.6	B	11.1	B	0.5	N/A
	PM	13.1	B	15.4	C	2.3	N/A
Reservation Road/ Beach Road	AM	9.8	A	10.4	B	0.6	N/A
	PM	12.7	B	14.6	B	1.9	N/A
Reservation Road/ Del Monte Boulevard	AM	21.7	C	22.9	C	1.2	N/A
	PM	27.8	C	25.1	C	-2.7	N/A
Reservation Road/ Vista Del Camino	AM	12.9	B	14.4	B	1.5	N/A
	PM	15.4	B	22.2	C	6.8	N/A
Reservation Road/ Eucalyptus Street	AM	14.6	B	22.6	C	8	N/A
	PM	23.6	C	>80	F	>80	No
Reservation Road/ Seacrest Avenue	AM	9.3	A	10.8	B	1.5	N/A
	PM	13.2	B	37.2	D	24	N/A
Reservation Road/ DeForest Road	AM	13	B	12.7	B	-0.3	N/A
	PM	13.5	B	14.4	B	0.9	N/A
Reservation Road/ Crescent Avenue	AM	18.4	B	19	B	0.6	N/A
	PM	18.4	B	19.9	B	1.5	N/A
Reservation Road/ California Avenue	AM	21.4	C	45	E	23.6	Yes
	PM	76.1	F	>80	F	>80	Yes
Reservation Road/ Imjin Road	AM	21.3	C	28.2	C	6.9	N/A
	PM	25.4	C	36.3	D	10.9	N/A
Reservation Road/ Blanco Road	AM	15.4	B	17.3	B	1.9	N/A
	PM	12.1	B	16	B	3.9	N/A
Mortimer Lane/ Del Monte Boulevard	AM	14.6	B	21	C	6.4	N/A
	PM	15.3	C	29.4	D	14.1	N/A
Carmel Avenue/ Del Monte Boulevard	AM	21.1	C	30.4	D	9.3	N/A
	PM	24.2	C	39.6	E	15.4	Yes
Palm Avenue/ Del Monte Boulevard	AM	21.7	C	22.4	C	0.7	N/A
	PM	16.2	B	16.1	B	-0.1	N/A
Imjin Parkway/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	>80	F	>80	F	>80	Yes
Imjin Parkway/ SR 1 Northbound Ramps	AM	46.3	E	51.4	F	5.1	No
	PM	28.9	D	34.2	D	5.3	No
Imjin Parkway/ 2nd	AM	13	B	13.3	B	0.3	N/A



**Table 4.2-9
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Existing plus Four-Lane Option Conditions**

Intersection	Peak Hour	Existing Conditions		Project Conditions (4 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
Avenue	PM	19	B	19.9	B	0.9	N/A
Imjin Parkway/ California Avenue – 5th Avenue	AM	26.2	C	26.7	C	0.5	N/A
	PM	19.1	B	20.5	C	1.4	N/A
Abrams Drive/ Imjin Road	AM	29.2	C	29.9	C	0.7	N/A
	PM	25	C	25.6	C	0.6	N/A
Reindollar Avenue/ Del Monte Boulevard	AM	15	B	14.8	B	-0.2	N/A
	PM	11.4	B	11.1	B	-0.3	N/A
Golf Boulevard/ Del Monte Boulevard (Future Intersection)	AM	Future Intersection					
	PM						
Patton Parkway/ 2nd Avenue (Future Intersection)	AM	Future Intersection					
	PM						

Notes:

^{1.} Whole intersection weighted average total delay for signalized and roundabout intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections.

For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.

^{2.} LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method.

^{3.} Change in delay is the reported for average total delay.

5. Unacceptable operations are indicated in **bold** type.

6. Impacted intersection operations are indicated in highlighted cell.

Source: Fehr & Peers, January 2011.

The following intersection locations would operate at unacceptable levels of service after buildout of the proposed Specific Plan, under the Four-Lane Reservation Road option:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM peak hour)
- Intersection 6: Reservation Road/Eucalyptus Street (PM peak hour)
- Intersection 10: Reservation Road/California Avenue (AM and PM peak hour)³
- Intersection 14: Carmel Avenue/Del Monte Boulevard (PM peak hour)
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 17: Imjin Parkway/SR 1 Northbound Ramps (AM peak hour)

³ Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



Despite operating at unacceptable levels, two of the impacted intersections (Reservation Road/Eucalyptus Street and Imjin Parkway/SR 1 Southbound Ramps) would not meet peak hour signal warrants, as shown in Table 4.2-9. Therefore, impacts to these intersections would be considered less than significant without mitigation. Impacts to the remaining four intersections would be potentially significant.

Freeway Segments. The freeway segment analysis for Existing plus Four-Lane Option Conditions is shown in Table 4.2-10.

Table 4.2-10.
Peak Hour Freeway Mainline Levels of Service: Existing plus Four-Lane Option Conditions

Travel Direction	Segment		Roadway Type	Peak Hour	Existing		Existing Plus Four-Lane	
	From	To			Vol	LOS ¹	Vol	LOS ¹
NB SR 1	Light Fighter Dr	Imjin Pkwy	3-Lane Freeway	AM	1,849	A	1,925	A
				PM	5,135	E	5,293	E
	Imjin Pkwy	Del Monte Blvd	3-Lane Freeway ²	AM	1,382	A	1,489	A
				PM	4,157	D	4,383	E
SB SR1	Del Monte Blvd	Reservation Rd	two-lane Freeway	AM	876	A	876	A
				PM	2,622	C	2,622	C
	Reservation Rd	Del Monte Blvd-Neponset Rd	two-lane Freeway	AM	966	A	1,034	A
				PM	2,541	C	2,639	C
	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM	2,638	C	2,689	C
				PM	1,815	B	1,922	B
	Reservation Rd	Del Monte Blvd	two-lane Freeway	AM	2,887	D	2,887	D
				PM	1,837	B	1,837	B
Del Monte Blvd	Imjin Pkwy	3-Lane Freeway ²	AM	4,321	D	4,465	E	
			PM	2,461	B	2,668	C	
Imjin Pkwy	Light Fighter Dr	3-Lane Freeway	AM	5,171	E	5,273	E	
			PM	3,057	C	3,203	C	

Notes:

¹ LOS = Level of service.

² 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction.

Unacceptable operations are indicated in **bold** type.

Impacted freeway operations are indicated in *highlighted* cell.

Source: Fehr & Peers, March 2011

It should be noted that no trips would be added to the segment of SR 1 between Del Monte Boulevard and Reservation Road due to anticipated trip distribution patterns.

The Existing plus Four-Lane Option Conditions would result in significant impacts on the following freeway segments during the specified time periods:

- Northbound SR 1 between Light Fighter Drive and Imjin Parkway (PM peak hour)
- Northbound SR 1 between Imjin Parkway and Del Monte Boulevard (PM peak hour)
- Southbound SR 1 between Del Monte Road and Imjin Parkway (AM peak hour)
- Southbound SR 1 between Imjin Parkway and Light Fighter Drive (AM peak hour)



All other freeway study segments are projected to operate at the same LOS as compared to Existing Conditions.

Reservation Road Two-Lane Option. Traffic volumes for the Reservation Road Two-Lane option (“Existing plus Two-Lane Option Conditions”) were estimated by adding traffic generated by the proposed Specific Plan to Existing Conditions. It should be noted that, because the land use mix proposed in the Reservation Road Two-Lane option would not differ from the Reservation Road Four-Lane option, traffic volumes would be the same under both options. Therefore, traffic volumes for the Existing plus Two-Lane Option Conditions are consistent with the volumes for the Four-Lane option, as discussed above and shown in Table 4.2-8. However, because this option would narrow Reservation Road from four to Two-Lanes and provide roundabouts at three primary intersections (Reservation Road/Del Monte Boulevard, Reservation Road/Vista Del Camino, and Reservation Road/De Forest Road), trip distribution patterns would differ somewhat from the Four-Lane option. For example, some of the existing traffic that currently uses Reservation Road to travel between the Monterey Bay and Salinas would divert to Imjin Parkway if Reservation Road were narrowed to two lanes. The estimate of diverted traffic was factored into the roadway volumes that were used for this scenario. Figures 4.2-7a and 4.2-7b illustrate the traffic volumes at the key intersections under the Existing plus Two-Lane Option Conditions.

Intersection. The results of the intersection level of service calculations and peak-hour signal warrant analysis for Existing plus Two-Lane Option Conditions are presented in Table 4.2-11. As shown therein, eight intersections would operate at unacceptable levels of service after buildout of the proposed Specific Plan.

Under the Reservation Road Two-Lane option, three intersections would be converted to roundabouts: Reservation Road/Del Monte Boulevard, Reservation Road/Vista Del Camino, and Reservation Road/De Forest Road. Two of these (Reservation Road/Vista Del Camino and Reservation Road/De Forest Road) are included in the nine intersections which would operate at unacceptable levels after buildout of the proposed Specific Plan. However, LOS at the third roundabout (at Reservation Road/Del Monte Boulevard) would improve substantially (from LOS C to LOS A) under this scenario, as shown in Table 4.2-11.

**Table 4.2-11.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Existing plus Two-Lane Option Conditions**

Intersection	Peak	Existing Conditions		Project Conditions (2 Lanes)			
	Hour	Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant?
1. Reservation Road/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	21.7	C	38.1	E	16.4	Yes
2. Reservation Road/ SR 1 Northbound ramps	AM	10.6	B	11.1	B	0.5	N/A
	PM	13.1	B	15.4	C	2.3	N/A
3. Reservation Road/ Beach Road	AM	9.8	A	10.4	B	0.6	N/A
	PM	12.7	B	14.6	B	1.9	N/A



**Table 4.2-11.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Existing plus Two-Lane Option Conditions**

Intersection	Peak Hour	Existing Conditions		Project Conditions (2 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant?
4. Reservation Road/ Del Monte Boulevard <i>(Roundabout)</i>	AM	21.7	C	2.6	A	N/A	N/A
	PM	27.8	C	3.5	A	N/A	N/A
5. Reservation Road/ Vista Del Camino <i>(Roundabout)</i>	AM	12.9	B	11	B	N/A	N/A
	PM	15.4	B	112.2	F	N/A	N/A
6. Reservation Road/ Eucalyptus Street	AM	14.6	B	31.6	D	17	N/A
	PM	23.6	C	>80	F	>80	No
7. Reservation Road/ Seacrest Avenue	AM	9.3	A	28.7	C	19.4	N/A
	PM	13.2	B	58.1	E	44.9	N/A
8. Reservation Road/ DeForest Road <i>(Roundabout)</i>	AM	13	B	13.8	B	N/A	N/A
	PM	13.5	B	86.2	F	N/A	N/A
9. Reservation Road/ Crescent Avenue	AM	18.4	B	19.2	B	0.8	N/A
	PM	18.4	B	20	B	1.6	N/A
10. Reservation Road/ California Avenue	AM	21.4	C	25.2	D	18	Yes
	PM	76.1	F	71.9	F	>80	Yes
11. Reservation Road/ Imjin Road	AM	21.3	C	29.7	C	8.4	N/A
	PM	25.4	C	37.6	D	12.2	N/A
12. Reservation Road/ Blanco Road	AM	15.4	B	17.3	B	1.9	N/A
	PM	12.1	B	16	B	3.9	N/A
13. Mortimer Lane/ Del Monte Boulevard	AM	14.6	B	20.2	C	5.6	N/A
	PM	15.3	C	26.9	D	11.6	N/A
14. Carmel Avenue/ Del Monte Boulevard	AM	21.1	C	28.2	D	7.1	N/A
	PM	24.2	C	34.5	D	10.3	N/A
15. Palm Avenue/ Del Monte Boulevard	AM	21.7	C	22.4	C	0.7	N/A
	PM	16.2	B	16.1	B	-0.1	N/A
16. Imjin Parkway/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	>80	F	>80	F	>80	Yes
17. Imjin Parkway/ SR 1 Northbound Ramps	AM	46.3	E	54.8	F	8.5	No
	PM	28.9	D	35.9	E	7	No
18. Imjin Parkway/ 2nd Avenue	AM	13	B	13.5	B	0.5	N/A
	PM	19	B	20.1	C	1.1	N/A
19. Imjin Parkway/ California Avenue – 5th Avenue	AM	26.2	C	27.5	C	1.3	N/A
	PM	19.1	B	19.7	B	0.6	N/A
20. Abrams Drive/ Imjin Road	AM	29.2	C	34.3	C	5.1	N/A



**Table 4.2-11.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Existing plus Two-Lane Option Conditions**

Intersection	Peak	Existing Conditions		Project Conditions (2 Lanes)			
	Hour	Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant?
	PM	25	C	29	C	4	N/A
21. Reindollar Avenue/ Del Monte Boulevard	AM	15	B	14.8	B	-0.2	N/A
	PM	11.4	B	11.1	B	-0.3	N/A
22. Golf Boulevard/ Del Monte Boulevard (Future Intersection)	AM	Future Intersection					
	PM						
23. Patton Parkway/ 2 nd Avenue (Future Intersection)	AM	Future Intersection					
	PM						

Notes:

^{2.} Whole intersection weighted average total delay for signalized and roundabout intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections.

For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.

^{2.} LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method.

^{3.} Change in delay is the reported for average total delay.

7. Unacceptable operations are indicated in **bold** type.

8. Impacted intersection operations are indicated in highlighted cell.

Source: Fehr & Peers, March 2011.

The following intersection locations would operate at unacceptable levels of service after buildout of the proposed Specific Plan, under the Two-Lane Reservation Road option:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM peak hour)
- Intersection 5: Reservation Road/Vista Del Camino (*Roundabout*) (PM peak hour)
- Intersection 6: Reservation Road/Eucalyptus Street (PM peak hour)
- Intersection 7: Reservation Road/Seacrest Avenue (PM peak hour)
- Intersection 8: Reservation Road/De Forest Road (*Roundabout*) (PM peak hour)
- Intersection 10: Reservation Road/California Avenue (AM and PM peak hour)⁴
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 17: Imjin Parkway/SR 1 Northbound Ramps (AM and PM peak hour)

Two of these impacted intersections (Reservation Road/Eucalyptus Street and Imjin Parkway/SR 1 Northbound Ramps) would not meet peak hour signal warrants, as shown in Table 4.2-11. Therefore, impacts to these intersections would be considered less than significant

⁴ Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



without mitigation. Impacts to the remaining six intersections would be potentially significant. Impacts to the Reservation Road/Del Monte Boulevard intersection would be beneficial.

Freeway Segments. The freeway segment analysis for Existing plus Two-Lane Option Conditions is shown in Table 4.2-12.

Table 4.2-12.
Peak Hour Freeway Mainline Levels of Service: Existing plus Four-Lane Option Conditions

Travel Direction	Segment		Roadway Type	Peak Hour	Existing		Existing Plus Two-Lane	
	From	To			Vol	LOS ¹	Vol	LOS ¹
NB SR 1	Light Fighter Dr	Imjin Pkwy	3-Lane Freeway	AM	1,849	A	1,925	A
				PM	5,135	E	5,293	E
	Imjin Pkwy	Del Monte Blvd	3-Lane Freeway ²	AM	1,382	A	1,489	A
				PM	4,157	D	4,383	E
SB SR1	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM	876	A	876	A
				PM	2,622	C	2,622	C
	Reservation Rd	Del Monte Blvd-Neponset Rd	two-lane Freeway	AM	966	A	1,034	A
				PM	2,541	C	2,639	C
SB SR1	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM	2,638	C	2,689	C
				PM	1,815	B	1,922	B
	Reservation Rd	Del Monte Blvd	two-lane Freeway	AM	2,887	D	2,887	D
				PM	1,837	B	1,837	B
	Del Monte Blvd	Imjin Pkwy	3-Lane Freeway ²	AM	4,321	D	4,465	E
				PM	2,461	B	2,668	C
	Imjin Pkwy	Light Fighter Dr	3-Lane Freeway	AM	5,171	E	5,273	E
				PM	3,057	C	3,203	C

Notes:

¹ LOS = Level of service.

² 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction.

1. Unacceptable operations are indicated in **bold** type.

Impacted freeway operations are indicated in highlighted cell.

Source: Fehr & Peers, March 2011

It should be noted that no trips would be added to the segment of SR 1 between Del Monte Boulevard and Reservation Road due to anticipated trip distribution patterns.

The Existing plus Two-Lane Option Conditions would result in significant impacts on the following freeway segments during the specified time periods:

- Northbound SR 1 between Light Fighter Drive and Imjin Parkway (PM peak hour)
- Northbound SR 1 between Imjin Parkway and Del Monte Boulevard (PM peak hour)
- Southbound SR 1 between Del Monte Road and Imjin Parkway (AM peak hour)
- Southbound SR 1 between Imjin Parkway and Light Fighter Drive (AM peak hour)



All other freeway study segments are projected to operate at the same LOS as compared to Existing Conditions.

Local Roadway Cut-through Analysis. With the narrowing of Reservation Road to a two-lane roadway, there is a potential for vehicles to bypass Reservation Road and use other local roadways. The two-lane segment between Del Monte Boulevard and De Forest Road is approximately 1/3 mile. This relatively short distance would not typically create a situation where drivers would divert to other routes. One potential option for vehicles using the transportation system to the south of Reservation Road is to use Crescent Avenue and Carmel Avenue. This route would require the driver to travel an extra ½ mile and travel through two stop signs. This extra distance as well as the delays associated with the stop signs could discourage drivers from using this route.

A possible route that would access local roads to the north of Reservation Road would be De Forest Road to Beach Road. This route would involve traveling approximately ¾ mile extra and traveling through one stop sign. This route would also not provide a very convenient option to Reservation Road.

While some vehicles may use other local roadways to by-pass Reservation Road, the volume of these vehicles is not expected to be substantial.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes goals and policies that would reduce transportation-related impacts. These include:

- *Land Use and Development Goals and Policies:*
 - Land Use and Development Goal 3. Allow for and promote higher residential densities and a compact development pattern in accordance with Transit Oriented Development (TOD) to accommodate an intensification of existing residential and commercial land uses within the context of multiple use development.
 - Land Use and Development Goal 4. Create pedestrian- and transit-oriented civic and public spaces within Downtown where people can gather and enjoy various social, cultural, educational and recreational opportunities.
 - Land Use and Development Goal 5. Develop a land use pattern for Downtown that embraces and enhances the unique character of the City of Marina, provides opportunities for a variety of uses within a pedestrian friendly environment and minimizes the consumption or degradation of natural resources to the greatest extent feasible.
 - LUD-3. Ensure parking is adequate to meet demand and develop strategically placed areas for public parking that encourages visitors to park vehicles and utilize pedestrian pathways and/or public transit, rather than depend on the automobile.
- *Mobility Goals and Policies:*
 - Mobility Goal 1. Provide for the safe and efficient movement of people and vehicles within



and through Downtown Marina, while facilitating economic growth.

- *Mobility Goal 2. Create visually pleasing pedestrian and bicycle circulation that safely, efficiently, and effectively serves the Downtown, making it a place where people prefer to walk, bike, or use public transit rather than use a vehicle.*
- *Mobility Goal 4. Continue to upgrade streets to meet current demands and accommodate new development.*
- *Mobility Goal 5. Create a transportation system that allows a viable choice in travel modes.*
- *M-1. Design and redevelop streets to provide convenient and safe traffic flow and to support transit, bicycle, and pedestrian movement.*
- *M-2. Recognize that Reservation Road must be designed to convey through traffic, and to provide safe pedestrian and bicycle access to serve multiple use development within the Downtown core.*
- *M-4. Develop efficient pedestrian pathways and bicycle circulation throughout Downtown.*
- *M-12. Encourage walking, bicycling, and greater use of transit, as well as ridesharing, telecommuting, and flexible work schedules, to reduce overall parking demand. (Implements Goals 1, 2 and 3)*
- *Infrastructure Goals and Policies:*
 - *Infrastructure Goal 1. Maintain a sufficient level of public infrastructure and utilities to serve existing and future anticipated development in the Specific Plan Area.*
 - *Infrastructure Goal 2. Continue to upgrade streets, drainage facilities, and utility services to meet existing City Standards.*
 - *INF-4. Improve crosswalks and intersections within the Plan Area to enhance the pedestrian environment and encourage pedestrian mobility.*
 - *INF-5. Ensure that all streets accommodate pedestrians with continuous sidewalks on both sides of the street, and curb ramps for people with mobility impairments. Ensure existing sidewalks are repaired or replaced as necessary, and meet City code.*
- *Sustainability Goals and Policies:*
 - *Sustainability Goal 1. Support sustainable development and redevelopment in Downtown Marina.*
 - *Sustainability Goal 2. Allow for compact form and multiple use patterns of development that reduce dependency on the automobile, and support other modes of transportation.*



- *SUS-1. Reduce residents' and workers' dependence on fossil fuels, and other non-renewable natural resources.*
- *SUS-2. Create high-density and high-intensity, multiple use areas that promote travel by transit, walking and bicycling.*
- *Design Goal:*
 - *Design Goal 2. Design pedestrian-oriented buildings and spaces with a focus on physical and visual connectivity, clear relationships to the street, and strong aesthetic appeal.*

In addition to the goals and policies outlined above, the Specific Plan contains Plan area-wide design guidelines, design guidelines by land use (for multiple use and commercial, residential, and civic uses), streetscape guidelines, and landscape guidelines (refer to Specific Plan Chapter 4, *Design Guidelines*). The intent of these guidelines is to create a well-connected downtown environment that fosters a pedestrian and bicycle transportation, which would generally reduce dependence on the automobile, thereby reducing impacts to the street network.

It should also be noted that roundabouts have substantial vehicular safety benefits over other forms of traffic control, capacities that meet or exceed those provided by signals, create substantially lower emissions and fuel consumption, and effectively regulate vehicle speeds to 15 to 20 miles per hour without requiring most drivers to stop. Roundabouts at the three intersections along Reservation Road under the Two-Lane option would therefore help to regulate vehicle speeds along the street. The speed reduction would help to address an existing concern of residents who have experienced conflicts in the past with speeding drivers on Reservation Road.

Mitigation Measures. Mitigation measures are required for both the Reservation Road Four-Lane and Two-Lane options. Mitigation measures for each scenario are described below.

It should also be noted that both the Four-Lane Option and Two-Lane Option Scenarios would degrade the level of service from acceptable to unacceptable at the segment of SR 1 between Del Monte Boulevard and Imjin Parkway Northbound and Southbound. Mitigating this impact would require an additional travel lane on SR 1 along this segment. However, the addition of a lane in this location would not improve operations on the SR 1 corridor above identified thresholds, and would therefore not be recommended.

Reservation Road Four-Lane Option. Mitigation measure T-1(a) is required for the Reservation Road Four-Lane option.

T-1(a) Intersection Signalization Four-Lane Option. Signals shall be installed at the following intersections:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps
- Intersection 14: Carmel Avenue/Del Monte Boulevard
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps



All of these intersections are currently identified in the City of Marina Capital Improvement Program (CIP) and Impact Fee (TIF) Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.

It should be noted that the above analysis also indicated that a signal would be warranted at Intersection 10 (Reservation Road/California Avenue). However, since completion of the traffic counts, field observation, and analysis in the TIF, a signal has been installed at this intersection. It has therefore been excluded from mitigation measure T-1(a).

Reservation Road Two-Lane Option. Mitigation measure T-1(b) is required for the Reservation Road Two-Lane option. The Reservation Road/Vista Del Camino and Reservation Road/De Forest Road intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. Similarly, mitigating the impact to the Reservation Road/Seacrest Avenue intersection would require the installation of additional lanes, which is not feasible under the Reservation Road Two-Lane option. Mitigation for these three intersections is therefore not feasible.

T-1(b) Intersection Signalization Two-Lane Option. Signals shall be installed at the following intersections:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps

Both of these intersections are currently identified in the City of Marina Capital Improvement Program (CIP) and Impact Fee (TIF) Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.

It should be noted that the above analysis also indicated that a signal would be warranted at Intersection 10 (Reservation Road/California Avenue). However, since completion of the traffic counts, field observation, and analysis in the TIF, a signal has been installed at this intersection. It has therefore been excluded from mitigation measure T-1(b).

Significance after Mitigation. Installing signals at the locations identified in mitigation measures T-1(a) and T-1(b) would result in acceptable operations at these intersections during both the AM and PM peak hours, under both the Existing plus Two-Lane Option and the Existing plus Four-Lane Option Conditions and impacts would be Class II *significant but mitigable*. However, the Two-Lane Option would degrade LOS at the Reservation Road/Vista Del Camino Intersection Roundabout and the Reservation Road/De Forest Road Roundabout to unacceptable levels. Because these intersections would be roundabouts, signalization is not feasible and therefore impacts would be Class I *significant and unavoidable*. Mitigation for impacts to freeway segments would require one additional travel lane on SR 1 in both directions. However, these improvements alone would not improve the overall operations on the SR 1 corridor without additional physical improvements to upstream/downstream segments to accommodate the added capacity. Because the expanded improvements would be regional in nature and beyond the scope of a single development project, no physical mitigation is considered feasible, and this impact is considered Class I, *significant and unavoidable*.



It should be noted that to partially mitigate the Specific Plan's impact on SR 1, the City should consider implementation of a Transportation Demand Management (TDM) plan to reduce the overall vehicle trip generation in the downtown area. A TDM plan is a set of strategies, measures and incentives to encourage people to walk, bicycle, use public transportation, carpool, or use other alternatives to driving alone. As a result, the amount of traffic generated by land uses and their associated impacts could be reduced. TDM measures produce more mobility using existing transportation systems, boost economic efficiency of the current transportation infrastructure, improve air quality, save energy, and reduce traffic congestion. Examples of TDM measures that new development in the downtown area may include in their TDM plans or programs are:

- Subsidized transit passes
- Car sharing / Van pool program
- Free trolley bus or shuttle
- Preferential carpool parking
- Parking cash-out programs

TDM measures are usually implemented through the formation of a Transportation Management Association (TMA) that coordinates programs and is responsible for obtaining funding through member contributions and grants. Members can include businesses, homeowner's associations, public agencies and other stakeholders. Because TDM measures are not required as part of the Specific Plan and to provide a reasonable worst-case scenario, this analysis does not take into account a reduction in automobile trips that would be attributable to the implementation of TDM strategies.

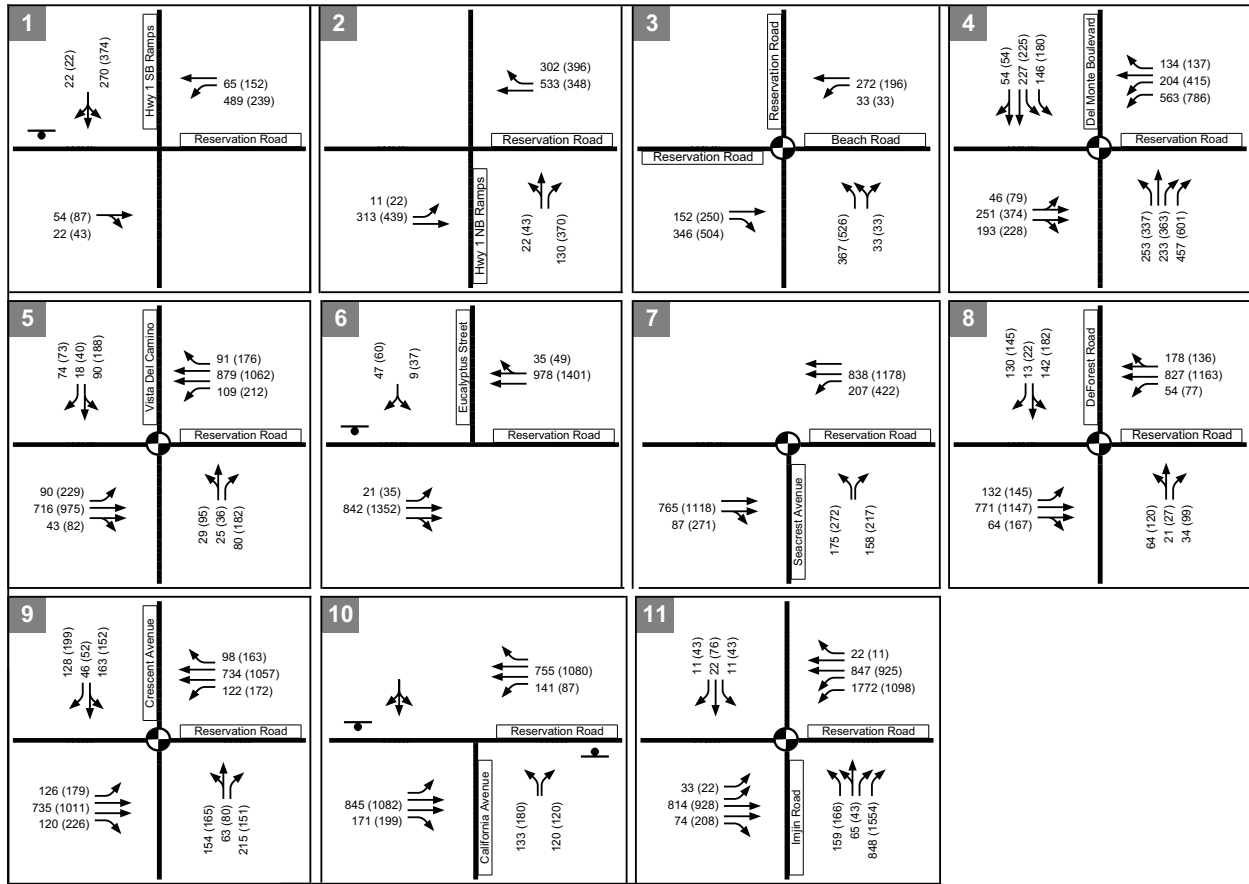
Impact T-2 **When compared to Cumulative No Project Condition, full buildout of the proposed Specific Plan would cause eight intersections to operate at unacceptable levels of service under the Reservation Road Four-Lane option, and 11 intersections to operate at unacceptable levels of service under the Reservation Road Two-Lane option. Impacts would be Class II, *significant but mitigable* for the Four-Lane option and Class I, *significant unavoidable* for the Two-Lane option.. Impacts to freeway segments would also be Class I, *significant and unavoidable*, for both Reservation Road options.**

Reservation Road Four-Lane Option. Traffic volumes for the Cumulative plus Four-Lane Option Conditions were estimated by adding traffic generated by the proposed Specific Plan to Cumulative No Project Conditions. Figures 4.2-8a and 4.2-8b illustrate the traffic volumes at the key intersections under the Cumulative plus Four-Lane Option Conditions.

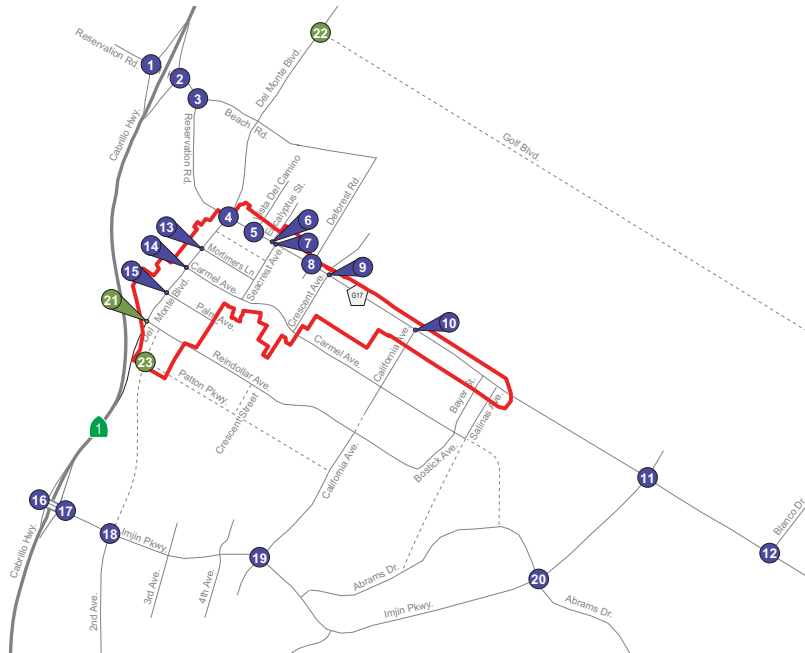
Intersections. The results of the intersection level of service calculations and peak-hour signal warrant analysis for Cumulative plus Four-Lane Option Conditions are presented in Table 4.2-13. As shown therein, eight intersections would operate at unacceptable levels of service under Cumulative plus Four-Lane Option Conditions (two more intersections than under the Existing plus Four-Lane Option Conditions). Six of the eight intersections would meet signal warrants.



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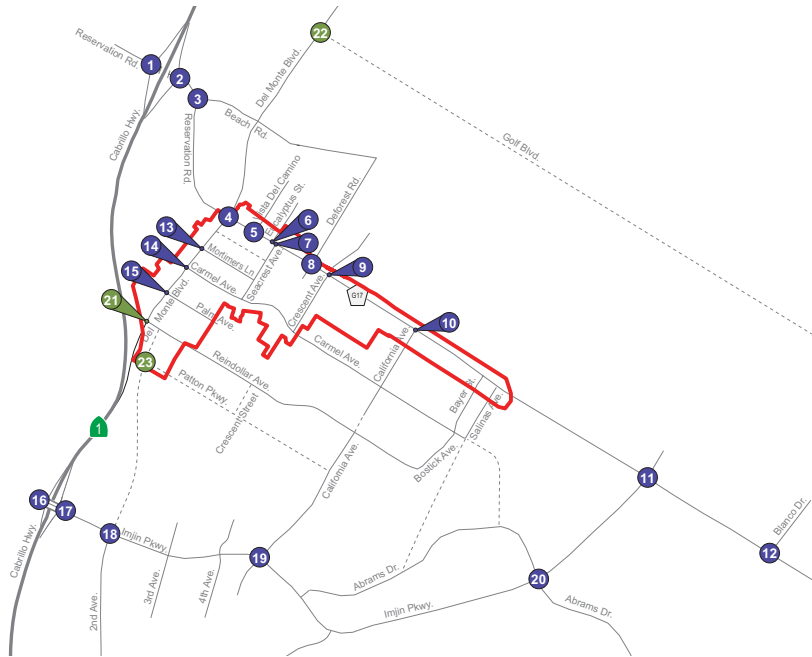
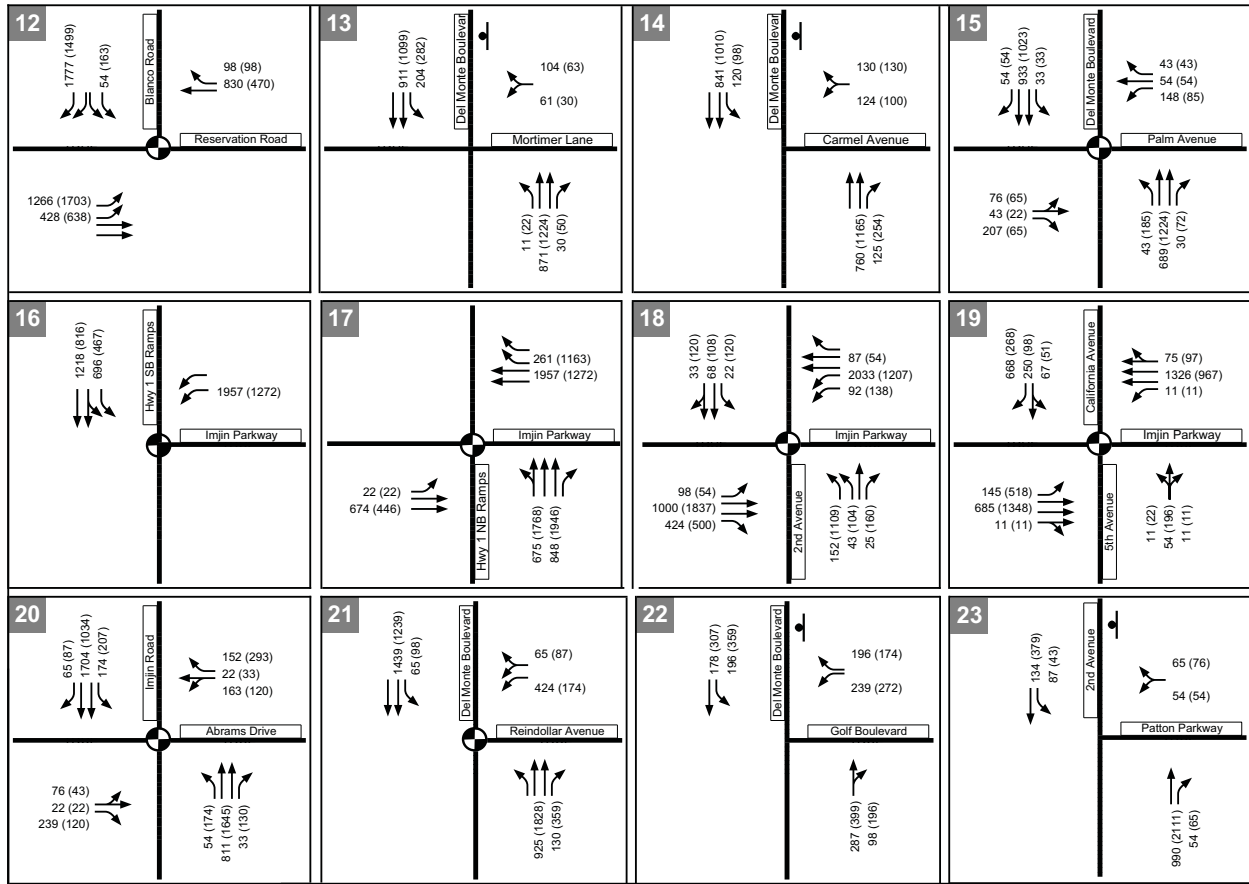
- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - = Signalized Intersection
 - = Stop Sign



Cumulative plus 4-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

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KEY:
 XX (YY) = AM (PM) Peak Hour Traffic Volumes
 = Signalized Intersection
 = Stop Sign

Cumulative plus 4-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 12-23)

Base map source: Fehr & Peers, 2011.

**Table 4.2-13.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Cumulative plus Four-Lane Option Conditions**

Intersection	Peak Hour	Year 2030 No Project		Year 2030 Conditions (4 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
1. Reservation Road/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	44.6	E	>80	F	76.8	Yes
2. Reservation Road/ SR 1 Northbound ramps	AM	11.6	B	12.3	B	0.7	NA
	PM	15.5	C	19.2	C	3.7	NA
3. Reservation Road/ Beach Road	AM	10	B	10.6	B	0.6	NA
	PM	12.9	B	15.1	B	2.2	NA
4. Reservation Road/ Del Monte Boulevard	AM	21.2	C	23.9	C	2.7	NA
	PM	30.2	C	37.6	D	7.4	NA
5. Reservation Road/ Vista Del Camino	AM	11.8	B	13.2	B	1.4	NA
	PM	15	B	22.3	C	7.3	NA
6. Reservation Road/ Eucalyptus Street	AM	11.1	B	17.6	C	6.5	NA
	PM	12.6	B	>80	F	>80	Yes
7. Reservation Road/ Seacrest Avenue	AM	10.3	B	12.1	B	1.8	NA
	PM	17.2	B	29	C	11.8	NA
8. Reservation Road/ DeForest Road	AM	15.2	B	15.3	B	0.1	NA
	PM	16	B	18.9	B	2.9	NA
9. Reservation Road/ Crescent Avenue	AM	17.3	B	17.8	B	0.5	NA
	PM	17.7	B	20.6	C	2.9	NA
10. Reservation Road/ California Avenue	AM	51.4	F	>80	F	>80	Yes
	PM	>80	F	>80	F	>80	Yes
11. Reservation Road/ Imjin Road	AM	31.8	C	37.8	D	6	NA
	PM	38.7	D	48.4	D	9.7	NA
12. Reservation Road/ Blanco Road	AM	32.6	C	38.3	D	5.7	NA
	PM	22.5	C	27.5	C	5	NA
13. Mortimer Lane/ Del Monte Boulevard	AM	16.9	C	30.4	D	13.5	N/A
	PM	18	C	47.9	E	29.9	No
14. Carmel Avenue/ Del Monte Boulevard	AM	23.9	C	37.5	E	13.6	Yes
	PM	35.8	E	73.2	F	37.4	Yes
15. Palm Avenue/ Del Monte Boulevard	AM	20.2	C	21.5	C	1.3	NA
	PM	16.8	B	17.1	B	0.3	NA
16. Imjin Parkway/ SR 1 Southbound Ramps	AM	45.3	D	50.9	D	5.6	NA
	PM	21.2	C	22.1	C	0.9	NA
17. Imjin Parkway/ SR 1	AM	17.8	B	19.4	B	1.6	NA



**Table 4.2-13.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Cumulative plus Four-Lane Option Conditions**

Intersection	Peak Hour	Year 2030 No Project		Year 2030 Conditions (4 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
Northbound Ramps	PM	30.5	C	32.9	C	2.4	NA
18. Imjin Parkway/ 2nd Avenue	AM	18.3	B	19.1	B	0.8	NA
	PM	67.3	E	67.6	E	0.3	NA
19. Imjin Parkway/ California Avenue – 5th Avenue	AM	52.9	D	53.6	D	0.7	NA
	PM	46.3	D	47.6	D	1.3	NA
20. Abrams Drive/ Imjin Road	AM	19.6	B	19.7	B	0.1	NA
	PM	27.3	C	27.5	C	0.2	NA
21. Reindollar Avenue/ Del Monte Boulevard	AM	15	B	15.3	B	0.3	NA
	PM	12.4	B	13.1	B	0.7	NA
22. Golf Boulevard/ Del Monte Boulevard (Future Intersection)	AM	34.6	D	43.8	E	9.2	Yes
	PM	>80	F	>80	F	>80	Yes
23. Patton Parkway/ 2 nd Avenue (Future Intersection)	AM	29.5	D	40.2	E	10.7	Yes
	PM	>80	F	>80	F	>80	Yes

Notes:

1. Whole intersection weighted average total delay for signalized intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections. For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.
 2. LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method.
 3. Change in delay is the reported for average total delay.
2. Unacceptable operations are indicated in **bold** type.

Source: Fehr & Peers, March 2011

As shown in Table 4.2-13 the following intersection locations would operate at unacceptable levels of service after buildout of the proposed Specific Plan, under Cumulative plus Four-Lane Option Conditions:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 6: Reservation Road/Eucalyptus Street (PM peak hour)
- Intersection 10: Reservation Road/California Avenue (AM and PM peak hour)⁵
- Intersection 13: Mortimer Lane/Del Monte Boulevard (PM peak hour)
- Intersection 14: Carmel Avenue/Del Monte Boulevard (AM and PM peak hour)
- Intersection 16: Imjin Parkway/2nd Avenue (PM peak hour)

⁵ Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



Intersection 22: Golf Boulevard/Del Monte Boulevard (AM and PM peak hour)
 Intersection 23: Patton Parkway/2nd Avenue (AM and PM peak hour)

The intersection of Imjin Parkway and 2nd Avenue is projected to operate unacceptably under Cumulative No Project and Cumulative plus Four-Lane Option Conditions. However, the increase in delay between these two scenarios is less than one second. Therefore, this impact is not considered cumulatively considerable.

Impacts to the remaining seven intersections listed above would be potentially significant.

Freeway Segments. The freeway segment analysis for Cumulative plus Four-Lane Option Conditions is shown in Table 4.2-14.

**Table 4.2-14.
 Peak Hour Freeway Mainline Levels of Service: Cumulative plus Four-Lane Option Conditions**

Travel Direction	Segment		Roadway Type	Peak Hour	Cumulative No Project		Cumulative Plus Four-Lane Option Conditions	
	From	To			Vol	LOS ¹	Vol	LOS ¹
NB SR 1	Light Fighter Dr	Imjin Pkwy/Del Monte Road	3-Lane Freeway	AM	2,272	B	2,348	B
				PM	5,370	E	5,528	F
	Imjin Pkwy/Del Monte Road	Reservation Rd	3-Lane Freeway ²	AM	1,707	B	1,707	B
			PM	4,609	E	4,609	E	
	Reservation Rd	Del Monte Blvd-Neponset Rd	two-lane Freeway	AM	1,196	A	1,263	A
			PM	2,913	D	3,011	D	
SB SR1	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM	3,141	D	3,192	D
			PM	1,978	B	2,085	C	
	Reservation Rd	Imjin Pkwy/Del Monte Road	3-Lane Freeway ²	AM	4,946	F	4,946	F
			PM	2,815	C	2,815	C	
	Imjin Pkwy/Del Monte Road	Light Fighter Dr	3-Lane Freeway	AM	6,207	F	6,309	F
			PM	3,620	C	3,766	C	

Notes:
¹ LOS = Level of service.
² 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction.
 1. Unacceptable operations are indicated in **bold** type.
 Impacted freeway operations are indicated in **highlighted** cell.
 Source: Fehr & Peers, March 2011

It should be noted that no trips would be added to the segment of SR 1 between Del Monte Road/Imjin Parkway and Reservation Road due to anticipated trip distribution patterns.

Under Cumulative plus Four-Lane Option Conditions, SR 1 between Lightfighter Drive and Imjin Parkway during the PM peak hour in the northbound direction. Impacts would be potentially significant along this segment.

All other freeway study segments are projected to operate at the same LOS as compared to Cumulative Conditions.

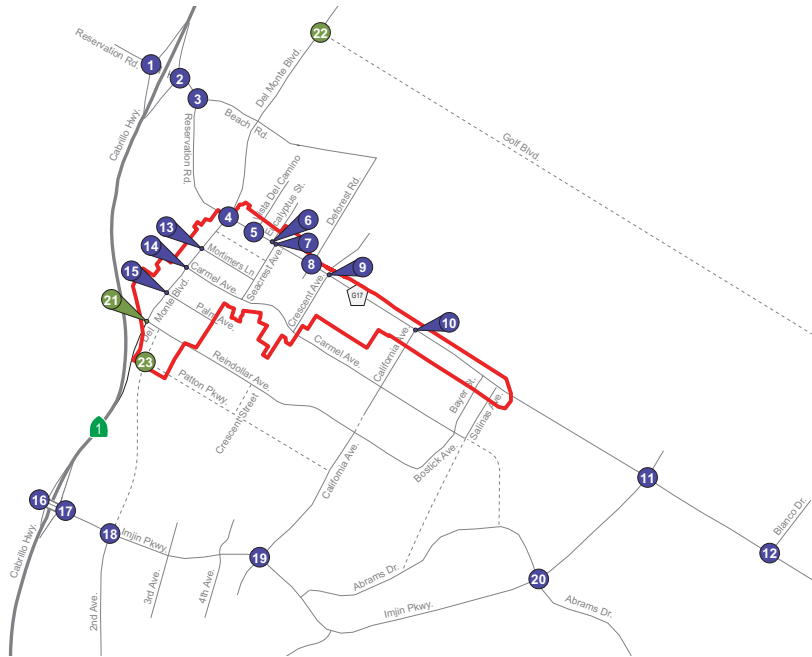
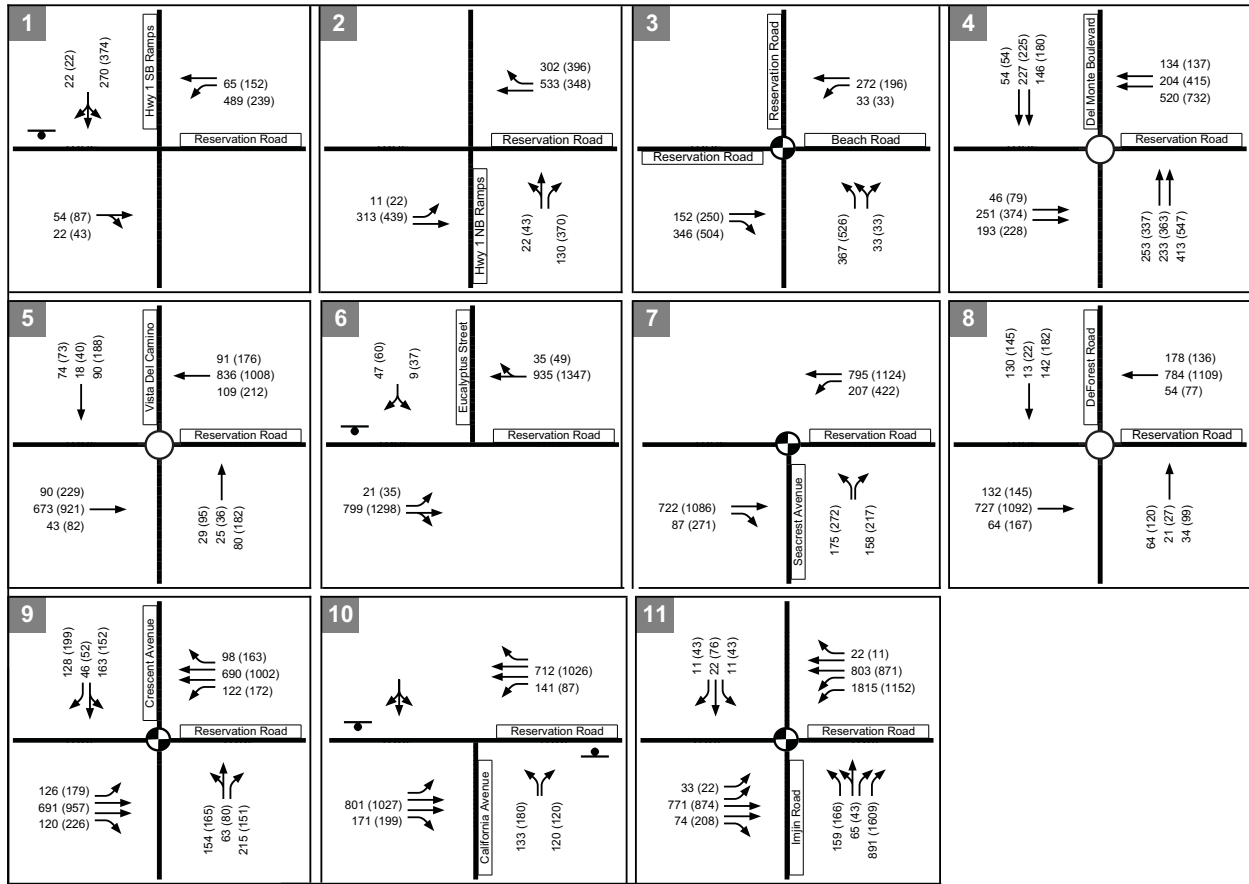


Reservation Road Two-Lane Option. Traffic volumes for the Cumulative plus Two-Lane Option Conditions were estimated by adding traffic generated by the proposed Specific Plan to Cumulative No Project Conditions. Figures 4.2-9a and 4.2-9b illustrate the traffic volumes at the key intersections under the Cumulative plus Two-Lane Option Conditions.

Intersection. The results of the intersection level of service calculations and peak-hour signal warrant analysis for Cumulative plus Two-Lane Option Conditions are presented in Table 4.2-15. As shown therein, 11 intersections would operate at unacceptable levels under Cumulative plus Two-Lane Option Conditions (one more than under the Existing plus Two-Lane Option Conditions). Six of these impacted intersections would meet peak-hour signal warrants.

Under the Reservation Road Two-Lane option, three intersections would be converted to roundabouts: Reservation Road/Del Monte Boulevard, Reservation Road/Vista Del Camino, and Reservation Road/De Forest Road. Two of these (Reservation Road/Vista Del Camino and Reservation Road/De Forest Road) are included in the 11 intersections which would operate at unacceptable levels after buildout of the proposed Specific Plan. However, LOS at the third roundabout (at Reservation Road/Del Monte Boulevard) would improve substantially (from LOS C to LOS A) under this scenario, as shown in Table 4.2-15.

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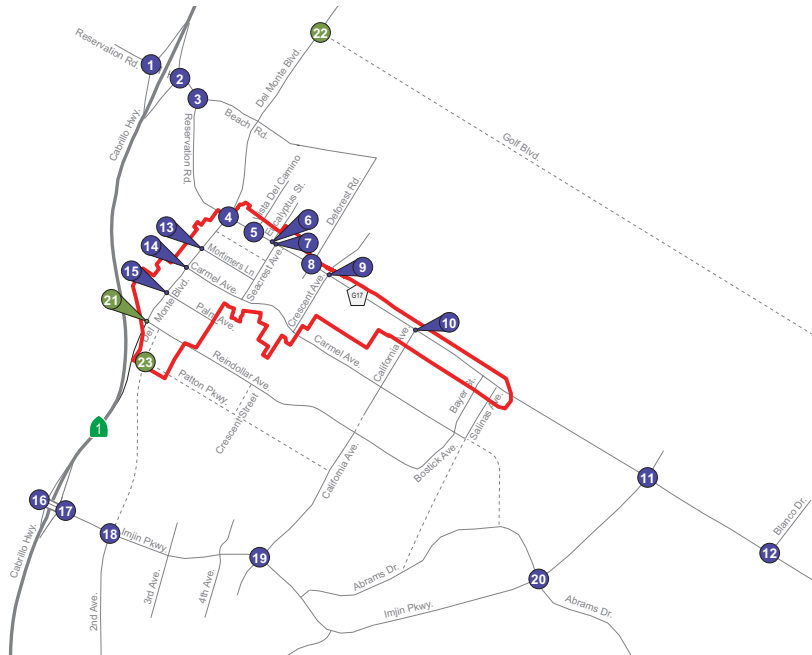
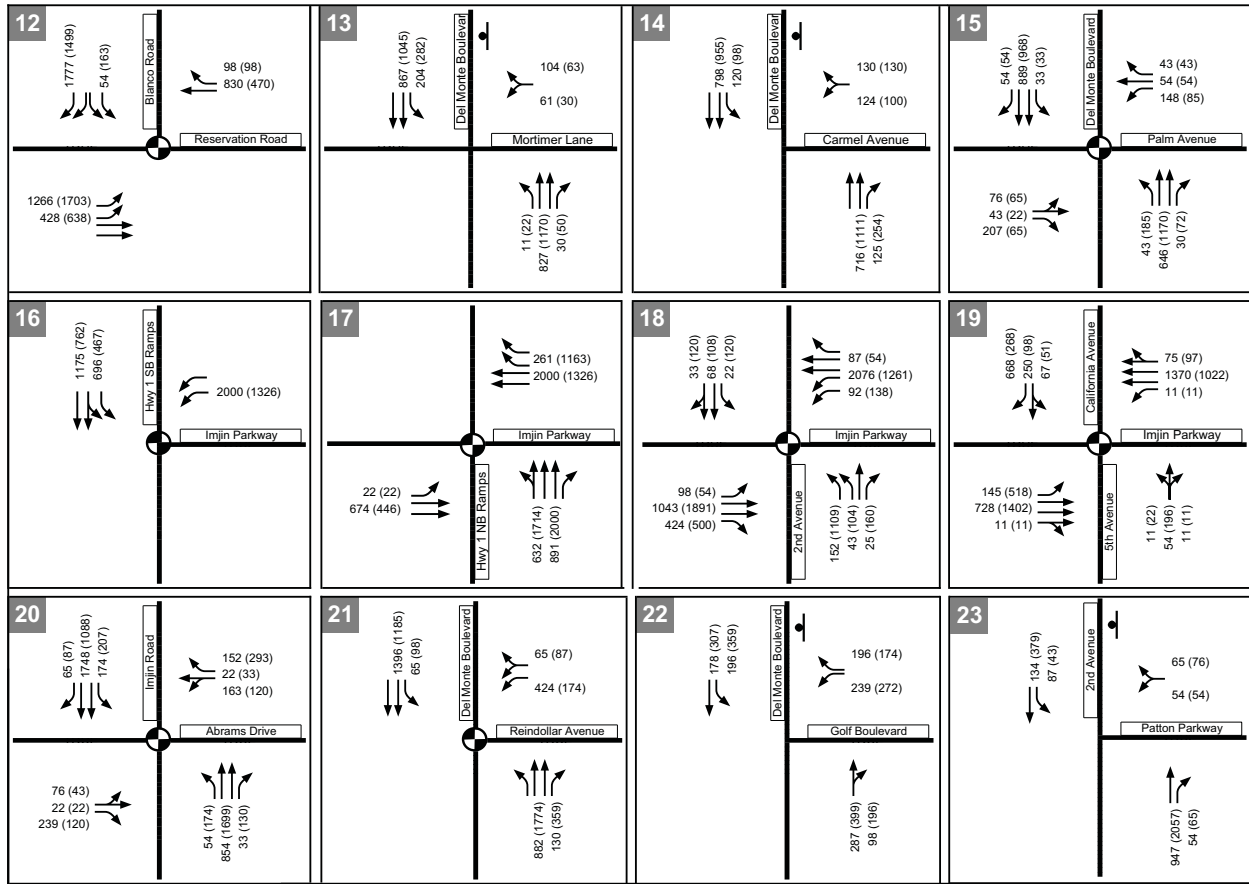


- KEY:**
- XX (YY) = AM (PM) Peak Hour Traffic Volumes
 - = Signalized Intersection
 - = Stop Sign
 - = Roundabout

Cumulative plus 2-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 1-11)

Base map source: Fehr & Peers, 2011.

Marina Downtown Vitalization Specific Plan EIR
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KEY:
 XX (YY) = AM (PM) Peak Hour Traffic Volumes
 = Signalized Intersection
 = Stop Sign

Cumulative plus 2-Lane Option Peak-Hour Turning Movement Volumes, Lane Geometry, and Signal Control (Intersections 12-23)

Base map source: Fehr & Peers, 2011.

**Table 4.2-15.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Cumulative plus Two-Lane Option Conditions**

Intersection	Peak Hour	Year 2030 No Project		Year 2030 Plus Project Conditions (2 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
1. Reservation Road/ SR 1 Southbound Ramps	AM	>80	F	>80	F	>80	Yes
	PM	44.6	E	>80	F	76.8	Yes
2. Reservation Road/ SR 1 Northbound ramps	AM	11.6	B	12.3	B	0.7	N/A
	PM	15.5	C	19.2	C	3.7	N/A
3. Reservation Road/ Beach Road	AM	10	B	10.6	B	0.6	N/A
	PM	12.9	B	15.1	B	2.2	N/A
4. Reservation Road/ Del Monte Boulevard (Roundabout)	AM	21.2	C	2.9	A	N/A	N/A
	PM	30.2	C	5	A	N/A	N/A
5. Reservation Road/ Vista Del Camino (Roundabout)	AM	11.8	B	18.2	C	N/A	N/A
	PM	15	B	>120	F	N/A	N/A
6. Reservation Road/ Eucalyptus Street	AM	11.1	B	26.1	D	15	N/A
	PM	12.6	B	>80	F	>80	Yes
7. Reservation Road/ Seacrest Avenue	AM	10.3	B	16.7	B	6.4	N/A
	PM	17.2	B	58.4	E	41.2	N/A
8. Reservation Road/ DeForest Road (Roundabout)	AM	15.2	B	21.4	C	NA	N/A
	PM	16	B	>120	F	NA	N/A
9. Reservation Road/ Crescent Avenue	AM	17.3	B	21.7	C	4.4	N/A
	PM	17.7	B	23.9	C	6.2	N/A
10. Reservation Road/ California Avenue	AM	51.4	F	>80	F	>80	Yes
	PM	>80	F	>80	F	>80	Yes
11. Reservation Road/ Imjin Road	AM	31.8	C	44.4	D	12.6	N/A
	PM	38.7	D	49.1	D	10.4	N/A
12. Reservation Road/ Blanco Road	AM	32.6	C	38.3	D	5.7	N/A
	PM	22.5	C	27.5	C	5	N/A
13. Mortimer Lane/ Del Monte Boulevard	AM	16.9	C	28.1	D	11.2	N/A
	PM	18	C	42	E	24	No
14. Carmel Avenue/ Del Monte Boulevard	AM	23.9	C	33.4	D	9.5	N/A
	PM	35.8	E	61.2	F	25.4	Yes
15. Palm Avenue/ Del Monte Boulevard	AM	20.2	C	22.5	C	2.3	N/A
	PM	16.8	B	17	B	0.2	N/A
16. Imjin Parkway/ SR 1 Southbound Ramps	AM	45.3	D	53.3	D	8	N/A
	PM	21.2	C	22	C	0.8	N/A
17. Imjin Parkway/ SR 1 Northbound Ramps	AM	17.8	B	18.7	B	0.9	N/A
	PM	30.5	C	32.3	C	1.8	N/A
18. Imjin Parkway/ 2nd Avenue	AM	18.3	B	19.7	B	1.4	N/A
	PM	67.3	E	71.3	E	4	N/A
19. Imjin Parkway/	AM	52.9	D	50.1	D	-2.8	N/A



**Table 4.2-15.
 Intersection Levels of Service and Peak-Hour Signal Warrant:
 Cumulative plus Two-Lane Option Conditions**

Intersection	Peak Hour	Year 2030 No Project		Year 2030 Plus Project Conditions (2 Lanes)			
		Average Delay ¹	LOS ²	Average Delay	LOS	Δ in Delay ³	Meets Warrant
California Avenue – 5th Avenue	PM	46.3	D	45.1	D	-1.2	N/A
20. Abrams Drive/ Imjin Road	AM	19.6	B	20	C	0.4	N/A
	PM	27.3	C	28.6	C	1.3	N/A
21. Reindollar Avenue/ Del Monte Boulevard	AM	15	B	15.2	B	0.2	N/A
	PM	12.4	B	13	B	0.6	N/A
22. Golf Boulevard/ Del Monte Boulevard (Future Intersection)	AM	34.6	D	43.8	E	9.2	Yes
	PM	>80	F	>80	F	>80	Yes
23. Patton Parkway/ 2 nd Avenue (Future Intersection)	AM	29.5	D	36.2	E	6.7	Yes
	PM	>80	F	>80	F	>80	Yes

Notes:

^{1.} Whole intersection weighted average total delay for signalized and roundabout intersections (expressed in seconds per vehicle). Total control delay for the worst movements is presented for side-street stop-controlled intersections.

For locations operating at LOS F, the level of service methodology does not necessarily provide an accurate calculation of the delay associated with excessive congestion (i.e., volume that is well beyond an intersection's theoretical capacity). To avoid publishing information that may be unrealistic or inaccurate, delays in excess of 120 seconds at signalized intersections and 80 seconds at unsignalized intersections have been listed as simply "greater than" those thresholds.

^{2.} LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method.

^{3.} Change in delay is the reported for average total delay.

2. Unacceptable operations are indicated in **bold** type.

Source: Fehr & Peers, March 2011.

The following intersection locations would operate at unacceptable levels of service after buildout of the proposed Specific Plan, under Cumulative plus Two-Lane Option Conditions:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps (AM and PM peak hour)
- Intersection 5: Reservation Road/Vista Del Camino (PM peak hour)
- Intersection 6: Reservation Road/Eucalyptus Street (PM peak hour)
- Intersection 7: Reservation Road/Seacrest Avenue (PM peak hour)
- Intersection 8: Reservation Road/De Forest Road (PM peak hour)
- Intersection 10: Reservation Road/California Avenue (PM peak hour)⁶
- Intersection 14: Carmel Avenue/Del Monte Boulevard (PM peak hour)
- Intersection 18: Imjin Parkway/2nd Avenue (PM peak hour)
- Intersection 22: Golf Boulevard/Del Monte Boulevard (AM and PM peak hour)
- Intersection 23: Patton Parkway/2nd Avenue (AM and PM peak hour)

⁶ Note that a signal was installed at this intersection after completion of the traffic counts and field observations on which the TIF is based. The discussion herein represents conditions at the time the NOP was released (December 28, 2009).



Six of these impacted intersections would meet peak hour signal warrants, as shown in Table 4.2-15. Impacts to all ten intersections would be potentially significant.

Impacts to the Reservation Road/Del Monte Boulevard intersection would be beneficial.

Freeway Segments. The freeway segment analysis for Cumulative plus Two-Lane Option Conditions is shown in Table 4.2-16.

**Table 4.2-16
Peak Hour Freeway Mainline Levels of Service: Cumulative plus Two-Lane Option Conditions**

Travel Direction	Segment		Roadway Type	Peak Hour	Cumulative No Project		Cumulative Plus Two-Lane	
	From	To			Vol	LOS ¹	Vol	LOS ¹
NB SR 1	Light Fighter Dr	Imjin Pkwy/Del Monte Road	3-Lane Freeway	AM PM	2,272 5,370	B E	2,348 5,528	B F
	Imjin Pkwy/Del Monte Road	Reservation Rd	3-Lane Freeway ²	AM PM	1,707 4,609	B E	1,707 4,609	B E
	Reservation Rd	Del Monte Blvd-Neponset Rd	two-lane Freeway	AM PM	1,196 2,913	A D	1,263 3,011	A D
SB SR1	Del Monte Blvd-Neponset Rd	Reservation Rd	two-lane Freeway	AM PM	3,141 1,978	D B	3,192 2,085	D C
	Reservation Rd	Imjin Pkwy/Del Monte Road	3-Lane Freeway ²	AM PM	4,946 2,815	F C	4,946 2,815	F C
	Imjin Pkwy/Del Monte Road	Light Fighter Dr	3-Lane Freeway	AM PM	6,207 3,620	F C	6,309 3,766	F C
Notes: ¹ LOS = Level of service. ² 3-Lane Freeway includes two (2) mixed-flow lanes and one (1) auxiliary lane in the northbound direction. 1. Unacceptable operations are indicated in bold type. Impacted freeway operations are indicated in highlighted cell. Source: Fehr & Peers, March 2011.								

It should be noted that no trips would be added to the segment of SR 1 between Del Monte Road/Imjin Parkway and Reservation Road due to anticipated trip distribution patterns.

Under Cumulative plus Two-Lane Option Conditions, SR 1 between Lightfighter Drive and Imjin Parkway during the PM peak hour in the northbound direction. Impacts would be potentially significant along this segment.

All other freeway study segments are projected to operate at the same LOS as compared to Cumulative Conditions.

Specific Plan Policies which Reduce Impacts. Proposed Specific Plan goals and policies that would reduce transportation-related impacts are outlined under Impact T-1.

Mitigation Measures. Mitigation measure T-1(a) (Intersection Signalization for the Four-Lane Option) requires the installation of signals at the following intersections:



- Intersection 1: Reservation Road/SR 1 Southbound Ramps
- Intersection 14: Carmel Avenue/Del Monte Boulevard
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps

Mitigation measure T-1(b) (Intersection Signalization for the Two-Lane Option) requires the installation of signals at the following intersections:

- Intersection 1: Reservation Road/SR 1 Southbound Ramps
- Intersection 16: Imjin Parkway/SR 1 Southbound Ramps

It should also be noted that both the Cumulative plus Four-Lane Option and Cumulative plus Two-Lane Option Scenarios would degrade the level of service from acceptable to unacceptable at the segment of SR 1 between Lightfighter Drive and Imjin Parkway (northbound during the PM peak-hour and southbound during the AM peak-hour). Mitigating this impact would require an additional travel lane on SR 1 along this segment. However, the addition of a lane in this location would likely not improve operations on the SR 1 corridor above identified thresholds, and would therefore not be recommended.

Additional mitigation measures required for both the Reservation Road Four-Lane and Reservation Two-Lane options under the Cumulative Scenario are described below.

Reservation Road Four-Lane Option. In addition to the improvements identified in mitigation measure T-1(a), the following is required for the Four-Lane Option.

T-2(a) Cumulative Intersection Signalization for the Four-Lane Option.

Signals shall be installed at the following intersections:

- Intersection 6: Reservation Road/Eucalyptus Street. This signal shall be coordinated with the signal at Reservation Road/Seacrest Avenue due to the proximity of the two intersections.
- Intersection 22: Golf Boulevard/Del Monte Boulevard (future intersection).
- Intersection 23: Patton Parkway/2nd Avenue (future intersection).

Two of these intersections (Golf Boulevard/Del Monte Boulevard, and Patton Parkway/2nd Avenue) are currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.

If the City of Marina adds the remaining intersection (Reservation Road/Eucalyptus Street) to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then

future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.

T-2(b) Mortimer Lane/Del Monte Boulevard Left Turn Restriction. The westbound turn from Mortimer Lane to Del Monte Boulevard shall be restricted.

This improvement is not identified in the CIP or TIR. If the City of Marina adds this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.

Reservation Road Two-Lane Option. In addition to the improvements identified in mitigation measure T-1(a), the following is required for the Two-Lane Option.

T-2(c) Cumulative Intersection Signalization for the Four-Lane Option. Signals shall be installed at the following intersections:

- Intersection 6: Reservation Road/Eucalyptus Street
- Intersection 14: Carmel Avenue/Del Monte Boulevard
- Intersection 22: Golf Boulevard/Del Monte Boulevard (future intersection)
- Intersection 23: Patton Parkway/2nd Avenue (future intersection)

Three of these intersections (Carmel Avenue/Del Monte Boulevard, Golf Boulevard/Del Monte Boulevard, and Patton Parkway/2nd Avenue) are currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.

If the City of Marina adds the remaining intersection (Reservation Road/Eucalyptus Street) to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.

- T-2(d) Geometry Improvements to Imjin Parkway/2nd Avenue.** Imjin Parkway east of 2nd Avenue shall be widened from four lanes to six lanes.

The widening of Imjin Parkway from four to six lanes between 2nd Avenue and Imjin Road is currently identified in the City of Marina CIP and TIF Study. Future project applicants shall pay the City's traffic impact fee to mitigate the impact at these locations.

- T-2(e) Mortimer lane/Del Monte Boulevard Left Turn Restriction.** The westbound turn from Mortimer Lane to Del Monte Boulevard shall be restricted.

This improvement is not identified in the CIP or TIR. If the City of Marina adds this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then applicant payment of the TIF would fully mitigate the impact at this location. If the City does not add this improvement to its CIP and TIF prior to future development pursuant to the proposed Specific Plan, then future applicants shall be required to implement the improvement, subject to reimbursement from third parties, as and when available, for all but its proportional share of the cost of implementation.

The Two-Lane option would result in potentially significant impacts to two additional intersections: Reservation Road/Vista Del Camino and Reservation Road/De Forest Road. Both of these intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. In addition, to operate at acceptable LOS, Reservation Road/Seacrest Avenue would require additional lanes, which is in direct conflict with the goals of the Two-Lane Option. Therefore, mitigation for this intersection under the Two-Lane Option is infeasible.

Significance after Mitigation. Implementation of mitigation measures T-2(a) and T-2(b) [in addition to mitigation measure T-1(a)] would result in acceptable operations at the mitigated intersections during the AM and PM peak hours, under the Four-Lane Option. Impacts to these intersections under the Four-Lane Option would be Class II, *significant but mitigable*.

Mitigation measures T-2(c) through T-2(e) would result in acceptable operations at these applicable intersections under the Two-Lane Option. Impacts to these intersections would be Class II, *significant but mitigable*. However, the Two-Lane option would result in potentially significant impacts to Reservation Road/Vista Del Camino and Reservation Road/De Forest Road. Both of these intersections would be roundabouts under this scenario, thereby making mitigation (i.e. signalization) infeasible. In addition, to operate at acceptable LOS, Reservation Road/Seacrest Avenue would require additional lanes, which is in direct conflict with the goals of the Two-Lane Option. Therefore, mitigation for this intersection under the Two-Lane Option is infeasible and impacts to these intersections would be Class I, *significant and unavoidable*.

Mitigation for impacts to freeway segments would require one additional travel lane on SR 1 in both directions for the Four-Lane and Two-Lane Options. However, these improvements alone



would not improve the overall operations on the SR 1 corridor without additional physical improvements to upstream/downstream segments to accommodate the added capacity. Because the expanded improvements would be regional in nature and beyond the scope of a single development project, no physical mitigation is considered feasible, and this impact is considered Class I, *significant and unavoidable*.

It should be noted that to partially mitigate the Specific Plan's impact on SR 1, the City should consider implementation of a Transportation Demand Management (TDM) plan to reduce the overall vehicle trip generation in the downtown area, as described under Impact T-1.

Impact T-3 **Future development anticipated under the proposed Specific Plan would increase demand for alternative transportation modes, such as walking, bicycling, and public transit. Implementation of the Plan would improve availability of sidewalks, bicycle routes, and transit opportunities, thereby meeting anticipated demand. Impacts would be Class IV, beneficial.**

Future development under the proposed Specific Plan would result in an increased population and associated demand on pedestrian and bicycle facilities as well as the public transportation system. In addition to population increases, the Specific Plan emphasizes intensification and reuse of the urbanized downtown area. Higher intensity land use patterns are generally supportive of alternative transportation since residences, employment centers, and services are generally closer together. Research indicates that in compact neighborhoods, where destinations are nearer to one another, people are more willing to walk, bicycle and ride transit. According to one study, every time a neighborhood doubles in compactness, the number of vehicle trips residents make is reduced by 25 to 30 percent. Demand for walking, bicycling, and transit facilities is therefore expected to increase substantially in the downtown area.

Implementation of the policies and actions included in the proposed Specific Plan would be expected to improve the availability of sidewalks, bicycle routes, and transit. By making these transportation alternatives more attractive, Plan implementation is expected to foster a gradual transition toward greater use of alternatives over the single-occupant automobile. Facilities provided by the Plan would be expected to meet anticipated demand. This impact is therefore considered Class IV, *beneficial*.

Specific Plan Policies which Reduce Impacts. One of the primary objectives of the proposed Specific Plan is to establish central Marina as a vital destination center that accommodates a mix of uses in a pedestrian-friendly environment (refer to Section 2.0, *Project Description*). Some of the specific goals and policies that promote and support alternative forms of transportation, including walking, bicycling, and transit, are listed under Impact T-1. In addition, the fundamental concepts contained in the City's Pedestrian and Bicycle Master Plan are incorporated into the Specific Plan and will be implemented by the various goals, policies and design standards set forth by the Chapter 3, *Mobility* (refer to Section 2.0, *Project Description*, and Section 4.1, *Land Use, Population, and Housing*). Specifically, the proposed Specific Plan requires that all streets in the downtown area have continuous sidewalks on both sides of the street, and that bikeways be provided in accordance with the Pedestrian and Bicycle Master



Plan. Further, traffic calming elements are called for in the Plan, which would establish an environment that is safe and inviting to pedestrians, and street design features of the plan would enhance the comfort and appeal of the pedestrian environment. Chapter 4, *Design Guidelines*, additionally contains specific regulations pertaining to pedestrian and bicycle circulation within the Plan Area.

Mitigation Measures. No mitigation measures are required, beyond adherence to goals, policies, and design guidelines contained in the Specific Plan.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane option.

Significance after Mitigation. Impacts would be beneficial.

c. Cumulative Impacts. Cumulative impacts of the proposed Specific Plan and foreseeable future development in the area are described in Impact T-2. As discussed therein, impacts to intersection levels of service under the Two-Lane Reservation Road Option would be Class I, *significant unavoidable*. Impacts to freeway segments would also be Class I, *significant and unavoidable*, for both Reservation Road options.

4.3 AIR QUALITY

4.3.1 Environmental Setting

The proposed Downtown Vitalization Specific Plan is located in the North Central Coast Air Basin (NCCAB), which includes Monterey, Santa Cruz, and San Benito Counties. Although the NCCAB is in attainment of all federal air quality ambient air quality standards (AAQS), it is designated as nonattainment with respect to the more stringent state PM₁₀ AAQS and is designated as nonattainment with respect to the state's eight-hour ozone AAQS.

a. Climate and Topography. Ambient air quality is commonly determined by climatological conditions, the area's topography, and the quantity and type of pollutants released. The proposed Specific Plan is located in the NCCAB, which covers an area of 5,159 square miles along the central California coast. The northwest sector of the NCCAB is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary. The Santa Clara Valley extends into the northeastern tip of the basin. Further south, the Santa Clara Valley becomes the San Benito Valley, which traverses northwest-southeast, with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to south of King City. The coastal Santa Lucia Range defines the western side of the valley.

A semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends from the Pacific High, forming a stable temperature inversion of warm air over a cooler coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid that inhibits vertical air movement and allows air pollutants to concentrate in the lower level.

The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure that intensifies the onshore air flow during the afternoon and evening.

In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that north or east winds develop, which transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

The Pacific High migrates southward during the winter and so has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito

Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.



The City of Marina is located adjacent to Monterey Bay on a coastal plain that is generally well ventilated by persistent sea breezes. This year-round marine airflow maintains good air quality within the City.

b. Air Pollutants of Primary Concern. The state and federal Clean Air Acts mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency and the California Air Resources Board (CARB) have established ambient air quality standards for certain “criteria” pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, as well as by the climactic and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants (such as CO and PM₁₀) is proximity to major sources. Ambient CO levels in particular usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of primary criteria pollutants follows:

Ozone. Ozone is a colorless gas with a pungent odor. Most ozone in the atmosphere is formed as a result of the interaction of ultraviolet light, reactive organic gases (ROG), and oxides of nitrogen (NO_x). ROG (the organic compound fraction relevant to ozone formation, and sufficiently equivalent for the purposes of this analysis to volatile organic compounds, or VOC¹) is composed of non-methane hydrocarbons (with some specific exclusions), and NO_x is made of different chemical combinations of nitrogen and oxygen, mainly NO and NO₂. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO_x levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant.

Carbon Monoxide (CO). CO is an odorless, colorless, gas. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the state CO standard are generally associated with major intersections during peak hour traffic conditions.

Suspended Particulate Matter. Suspended particulate matter (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter includes particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. Health effects studies resulted in revision of the Total Suspended Particulate (TSP) standard in 1987 to focus on particulates that are small enough to be considered “inhalable,” i.e. 10 microns or less in size (PM₁₀). In July of 1997, a further revision of the federal standard added criteria for PM_{2.5}, reflecting recent studies that suggested that particulates less than 2.5 microns in diameter are of particular concern.

Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead, and fine particulates (PM₁₀ and PM_{2.5}). Table 4.3-1 summarizes the current federal and state standards for each of these pollutants. Standards have

¹ ROG is equivalent to volatile organic compounds (VOC) per MBUAPCD Rule 101, 2.32



been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 4.3-1. Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.075 $\mu\text{g}/\text{m}^3$	0.070 $\mu\text{g}/\text{m}^3$
Carbon Monoxide	8-Hour	9 ppm	9.0 ppm
	1-Hour	35 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.1 ppm	0.18 ppm
Sulfur Dioxide	24-Hour	---	0.04 ppm
	3-Hour	0.5 ppm	---
	1-Hour	0.075 ppm	0.25 ppm
PM ₁₀	Annual	---	20 $\mu\text{g}/\text{m}^3$
	24-Hour	150 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
PM _{2.5}	Annual	15 $\mu\text{g}/\text{m}^3$	12 $\mu\text{g}/\text{m}^3$
	24-Hour	35 $\mu\text{g}/\text{m}^3$	---
Lead	30-Day Average	---	1.5 $\mu\text{g}/\text{m}^3$
	3-Month Average	0.15 $\mu\text{g}/\text{m}^3$	---

ppm = parts per million
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 Source: CARB, September 2010

Regional Attainment Status. Sustained sources of air pollution in the Specific Plan vicinity include motor vehicle traffic, especially along Highway 1, Del Monte Boulevard, and Reservation Road. The only nearby major stationary source of air pollution is the Monterey Regional Water Pollution Control Agency's Regional Treatment Plant and Tertiary Facilities, located approximately 3,000 feet north of the closest approach of the northern Specific Plan boundary (CARB Community Health Air Pollution Information System).

Ambient air quality is monitored at six Monterey Bay Unified Air Pollution Control District (MBUAPCD) operated monitoring stations located in Salinas, Hollister, Carmel Valley, Santa Cruz, Watsonville, and Davenport. In addition, the National Park Service operates a station at the Pinnacles National Monument and an industry consortium operates a station in King City.

Table 4.3-2 depicts the annual air quality data for the NCCAB over the past three years for the station closest to the Specific Plan area that collects data on the full range of criteria air pollutants (the Salinas Monitoring Station at 855 East Laurel Drive). The Salinas Monitoring Station is approximately nine miles east of the Plan area.

Table 4.3-2. Ambient Air Quality at the Salinas Monitoring Station

Pollutant	2007	2008	2009
Ozone (ppm), Worst Hour	0.067	0.078	0.077
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-hr average	0.059	0.068	0.067
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.08 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	1.15	0.89	0.90
Number of days of above State or Federal standard (>9.0 ppm)	0	0	0



Table 4.3-2. Ambient Air Quality at the Salinas Monitoring Station

Particulate Matter <10 microns, $\mu\text{g}/\text{m}^3$, Worst 24 Hours	39.0	52.0	41.0
Number of days above State standard ($>50 \mu\text{g}/\text{m}^3$)	0	2	0
Number of days above Federal standard ($>150 \mu\text{g}/\text{m}^3$)	0	0	0
Particulate Matter <2.5 microns, $\mu\text{g}/\text{m}^3$, Worst 24 Hours	19.2	17.8	18.7
Number of days above Federal standard ($>65 \mu\text{g}/\text{m}^3$)	0	0	0

Source: ARB Top Four Summary available at www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start

As indicated in the above table, the state standard for PM_{10} was exceeded twice in 2008. No other exceedances of state or federal AAQS were recorded at the Salinas Monitoring Station.

Based on monitoring data from the other regional ambient monitoring stations, ozone concentrations exceeded the state AAQS on 17 days in 2007, 26 days in 2008, and seven days in 2009 (CARB Air Quality Data Statistics website, accessed 18 May 2010). The majority of these violations occurred at the Pinnacles monitoring station, where the state AAQS was exceeded on 49 days between 2007 and 2009. Ozone concentrations exceeded the federal 8-hour ozone standard on three days in 2007, 12 days in 2008, and no days in 2009. As with the state standards, most of these federal exceedances also occurred at the Pinnacles monitoring station. There were no recorded violations of the federal PM_{10} 24-hour AAQS at District monitoring stations from 2007 to 2009 (CARB Air Quality Data Statistics website, accessed 18 May 2010). Table 4.3-3 summarizes the State and federal attainment status for criteria pollutants.

Table 4.3-3. Attainment Status of the North Central Coast Air Basin

Pollutant	State Standard	Federal Standard
Ozone (O_3)	Nonattainment ¹	Attainment ²
Inhalable Particulates (PM_{10})	Nonattainment	Attainment
Fine Particulates ($\text{PM}_{2.5}$)	Attainment	Unclassified/Attainment ³
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_x)	Attainment	Attainment
Sulfur Dioxide (SO_x)	Attainment	Attainment
Lead	Attainment	Unclassified/Attainment ⁴

¹ Effective July 26, 2007, the ARB designated the NCCAB a nonattainment area for the State ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.

² On March 12, 2008, EPA adopted a new 8-hour ozone standard of 0.075 ppm, while temporarily retaining the existing 8-hour standard of 0.08 ppm. EPA is expected to issue new designations by March 2010.

³ In 2006, the Federal 24-hour standard for $\text{PM}_{2.5}$ was revised from 65 to 35 $\mu\text{g}/\text{m}^3$. Although final designations have yet to be made, it is expected that the NCCAB will remain designated unclassified/attainment.

⁴ On October 15, 2008 EPA substantially strengthened the national ambient air quality standard for lead by lowering the level of the primary standard from 1.5 $\mu\text{g}/\text{m}^3$ to 0.15 $\mu\text{g}/\text{m}^3$. Initial recommendations for designations are to be made by October 2009 with final designations by January 2012.

Note: Nonattainment pollutants are highlighted in **Bold**.

The primary criteria pollutants of concern in the NCCAB are ozone and PM_{10} .

Prescribed Burning on the Former Fort Ord. Burning wildland vegetation causes emissions of many different chemical compounds such as small particles, NO_x , CO and organic compounds. A program of prescribed burning has been initiated within the boundaries of the former Fort Ord, generally south of the Specific Plan area and ranging in distance from about one to eight miles. Such burns are planned to continue into the future. At this point, burns have only been performed under the auspices of the U.S. Army for purposes of clearing vegetation in advance of removing potential un-detonated ordnance and explosives. The first burn was performed in October 19, 2006, west of the center of the former Fort Ord and about five miles south of the Specific Plan area. Several air pollutant monitoring stations were arrayed around



the targeted burn area, though none were as far north as the proposed Specific Plan area. During the initial burn (“active ignition”) day and the subsequent (“smolder”) day, PM₁₀ concentrations measured at all or nearly all of the monitoring stations exceeded the applicable state standard. Concentrations of selected toxic air contaminants (TACs) were also monitored, but no substantial increases to background concentrations of those compounds were measured during the burn. In February 2005, the U.S. Department of Health and Human Services published a Health Consultation relating to the prescribed burns and determined that a burn does not create an “apparent public health hazard.”

c. Regulatory Setting. The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (EPA) is the federal agency designated to administer air quality regulation, while the CARB is the state equivalent in California. Local control in air quality management is provided by the CARB through county-level or regional (multi-county) air pollution control districts (APCDs). The CARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The CARB has established 14 air basins statewide.

Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead, and fine particulates (PM₁₀ and PM_{2.5}). Table 4.3-4 summarizes the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 4.3-4. Current Federal and State Ambient Air Quality Standards

Pollutant	Federal Standards	California Standards
Ozone	0.075 ppm (8-hr avg)	0.07 ppm (8-hr avg) 0.09 ppm (1-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg) 0.100 ppm (1-hr avg)	0.030 ppm (annual avg) 0.18 ppm (1-hr avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1-hr avg)
Lead	1.5 µg/m ³ (calendar qtr)	1.5 µg/m ³ (30-day avg)
Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hr avg)	20 µg/m ³ (annual avg) 50 µg/m ³ (24-hr avg)
Particulate Matter (PM _{2.5})	15 µg/m ³ (annual avg) 35 µg/m ³ (24-hr avg)	12 µg/m ³ (annual avg) --

ppm = parts per million
 µg/m³ = micrograms per cubic meter
 Source: CARB, February 16, 2010

The MBUAPCD regulates air quality in the NCCAB, and is responsible for attainment planning related to criteria air pollutants, and for district rule development and enforcement. It also reviews air quality analyses prepared for CEQA assessments, and has published the *CEQA Air Quality Guidelines* document (last revised February 2008) for use in evaluation of air quality



impacts.

Air Quality Management Plan. In accordance with the California Clean Air Act, the MBUAPCD has developed the 2008 Air Quality Management Plan for the Monterey Bay Region (2008 AQMP). The 2008 AQMP is a transitional plan shifting focus of MBUAPCD's efforts from achieving the 1- hour component of the state AAQS to achieving the new 8-hour requirement. The plan includes an updated air quality trends analysis, which reflects both the 1- and 8-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources

City of Marina General Plan. Primary Policy 3.3.5 addresses air quality protection in the context of managing through-traffic to protect residential areas from pollution. No specific policies have been established concerning construction emissions, toxic air contaminants (TACs), or consistency with regional plans.

4.3.2 Impact Analysis

a. Methodology and Impact Criteria. To assist in determining whether a project will have a significant effect on the environment, the CEQA Guidelines identify criteria that may be deemed to constitute a substantial or potentially substantial adverse change in air quality.

Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Violate any air standard or contribute substantially to an existing or projected air quality violation;*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or*
- *Expose sensitive receptors to substantial pollutant concentration.*

The MBUAPCD has issued criteria for determining the level of significance for project specific impacts within its jurisdiction in accordance with the above thresholds. Based on criteria applied in or adapted from the MBUAPCD *CEQA Air Quality Guidelines*, the Specific Plan's impacts on criteria air pollution would be significant if the Specific Plan would:

- *Be inconsistent with the adopted AQMP.*
- *During construction, cause a violation of PM₁₀ AAQS at nearby or upwind of sensitive receptors, based on whether the project would:*
 - *Emit greater than 82 lb/day of PM₁₀ if located nearby or upwind of sensitive receptors (require minimal earthmoving on 8.1 or more acres per day or grading and excavation on 2.2 or more acres per day are likely to exceed this threshold); or*
 - *Use equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBUAPCD CEQA Guidelines.*
- *During operations:*



- *Generate direct (area source, or stationary) plus indirect (operational, or mobile) emissions of either ROG or NO_x that exceed 137 lb/day;*
- *Generate on-site emissions of PM₁₀ exceeding 82 lb/day;*
- *Generate direct emissions of CO exceeding 550 lb/day; or*
- *Generate direct emissions of SO_x exceeding 150 lb/day.*
- *Cause or substantially contribute to a violation of a CO standard.*

The MBUAPCD's *CEQA Air Quality Guidelines* indicate that the following traffic effects should be assumed to generate a significant CO impact, unless CO dispersion modeling demonstrates otherwise:

- *Intersections or road segments that operate at LOS D or better that would operate at LOS E or F with the project's traffic.*

The URBEMIS 2007 Version 9.2.4 computer model was used to estimate construction emission factors for the proposed Specific Plan and is based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment use during construction.

It should be noted that the proposed Specific Plan is not expected to create any objectionable odors. As a result, the environmental threshold related to this condition was excluded from the above list.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 **Buildout of the Downtown Vitalization Specific Plan would support an increase in Marina's population. Anticipated population growth would not exceed AMBAG forecasts for the City, and would therefore be consistent with the MBUAPCD's 2008 Air Quality Management Plan. This would be a Class III, less than significant impact.**

According to the MBUAPCD Guidelines, a significant impact finding should be made if a population-generating project (including commercial, industrial, or institutional projects intended to meet the needs of the population) would be inconsistent with the population projections adopted by the Association of Monterey Bay Area Governments (AMBAG) and used in developing the AQMP. The Specific Plan is anticipated to accommodate up to 2,400 new residences at full buildout. Based on the average number of persons per household in Marina (2.804 persons per household, Department of Finance, 2010) this would generate a population increase of approximately 6,730.

Buildout of the proposed Downtown Vitalization Specific Plan would add an estimated 6,730 residents to the City (based on 2.804 persons per household and 2,400 new housing units). This total includes all new development that would occur within the Specific Plan area if the Specific Plan is adopted. When added to the existing population of Marina (19,445 in 2010), the Specific Plan would increase Marina's total population to an estimated 26,175 residents. This estimate is 3,099 less than AMBAG's population forecast for 2020 (29,274), and 5,835 less than AMBAG's population forecast for 2030 (32,010). Buildout of the Specific Plan would occur over a 30-year period, and is not expected to be completed until 2040. Because total buildout of the Specific Plan would not exceed AMBAG's population forecasts for either 2020 or 2030, the population



increase anticipated from development under the Specific Plan would be within AMBAG projections. In accordance with MBUAPCD Guidelines, MBUAPCD staff reviewed the proposed Specific Plan and concurred that the Plan would not exceed the applicable AMBAG population forecasts (Personal Communication, Jean Getchell, March 22, 2011).

In addition, the proposed Specific Plan is intended to encourage a mix of uses in the downtown area, promoting infill development. The Specific Plan incorporates many of the concepts of the most recent *Pedestrian and Bicycle Master Plan*, which are intended to encourage walking and bicycling within the City, and reduce trip lengths and overall vehicle miles traveled. Vehicle trips and associated emissions would therefore be reduced, further improving consistency with the 2008 AQMP. Therefore, impacts would be less than significant.

Reservation Road Four-Lane Option. The population generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Impacts associated with AQMP consistency under this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The population generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. Impacts associated with AQMP consistency under this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes goals and policies that would reduce air pollutant emissions from Plan area land uses, which would further ensure that emissions remain within the scope of the AQMP. These include:

- *Land Use and Development Goals and Policies:*
 - *Land Use and Development Goal 3. Allow for and promote higher residential densities and a compact development pattern in accordance with Transit Oriented Development to accommodate an intensification of existing residential and commercial land uses within the context of multiple use development.*
 - *Land Use and Development Goal 4. Create pedestrian- and transit-oriented civic and public spaces within Downtown where people can gather and enjoy various social, cultural, educational and recreational opportunities.*
 - *Land Use and Development Goal 5. Develop a land use pattern for Downtown that embraces and enhances the unique character of the City of Marina, provides opportunities for a variety of uses within a pedestrian friendly environment and minimizes the consumption or degradation of natural resources to the greatest extent feasible.*
 - *LUD-1. Ensure development standards and design guidelines result in high quality development, which reflects the cultural diversity of Marina and is consistent with a pedestrian-oriented scale and character.*

- *LUD-5. Encourage lot consolidation to allow for added flexibility in multiple use, commercial, and residential development.*
- *Mobility Goals and Policies:*
 - *Mobility Goal 2. Create visually pleasing pedestrian and bicycle circulation that safely, efficiently, and effectively serves the Downtown, making it a place where people prefer to walk, bike, or use public transit rather than use a vehicle.*
 - *Mobility Goal 5. Create a transportation system that allows a viable choice in travel modes.*
 - *M-1. Design and redevelop streets to provide convenient and safe traffic flow and to support transit, bicycle, and pedestrian movement.*
 - *M-4. Develop efficient pedestrian pathways and bicycle circulation throughout Downtown.*
- *Infrastructure Policies:*
 - *INF-4. Improve crosswalks and intersections within the Plan Area to enhance the pedestrian environment and encourage pedestrian mobility.*
 - *INF-5. Ensure that all streets accommodate pedestrians with continuous sidewalks on both sides of the street, and curb ramps for people with mobility impairments. Ensure existing sidewalks are repaired or replaced as necessary, and meet City code.*
- *Sustainability Goals and Policies:*
 - *Sustainability Goal 1. Support sustainable development and redevelopment in Downtown Marina.*
 - *Sustainability Goal 2. Allow for compact form and multiple use patterns of development that reduce dependency on the automobile, and support other modes of transportation.*
 - *Sustainability Goal 3. Employ green building practices that reduce overall environmental impacts associated with development.*
 - *SUS-1. Reduce residents' and workers' dependence on fossil fuels, and other non-renewable natural resources.*
 - *SUS-2. Create high-density and high-intensity, multiple use areas that promote travel by transit, walking and bicycling.*
 - *SUS-3. Encourage green building techniques that conserve resources and produce more healthful living and working environments.*



- *SUS-4. Encourage development to use renewable energy sources and meaningful energy conservation measures.*
- *SUS-9. Utilize construction materials and methods appropriate to the local area. Materials should be locally available (within 200 miles) wherever possible, and preferably have at least some recycled components.*
- *Design Goals:*
 - *Design Goal 4. Respond to environmental constraints and energy savings throughout the design process.*

In addition to the design-oriented goals and policies outlined above, the Specific Plan contains Plan area-wide design guidelines, design guidelines by land use (for multiple use and commercial, residential, and civic uses), streetscape guidelines, and landscape guidelines (refer to Specific Plan Chapter 4, *Design Guidelines*). The intent of these guidelines is to create a well-connected downtown environment that fosters pedestrian and bicycle transportation and other energy-saving measures that would generally reduce impacts to regional air quality.

Mitigation Measures. No mitigation is required.

Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road two-lane option.

Significance after Mitigation. Both the four-lane and two-lane Reservation Road options would be consistent with the AQMP, and impacts are less than significant without mitigation.

Impact AQ-2 **Future development under the Specific Plan would increase long-term operational air pollutant emissions within the Monterey County portion of the North Central Coast Air Basin. These emissions would exceed recommended thresholds for ROG and NO_x. Impacts would be Class I, significant and unavoidable.**

Ozone and PM₁₀ are the main regional pollutants of concern to the MBUAPCD based on the local attainment status. Daily activity in the Specific Plan area would generate emissions of criteria pollutants. These criteria pollutants would be created by vehicles traveling to and from land uses within the Specific Plan area and stationary sources in the Specific Plan area. Examples of stationary emission sources include laundry facilities and small service shops that may require permitting through the MBUAPCD. Other stationary sources include heating and cooling equipment, wood burning stoves and fireplaces, or other individual appliances known as “area sources.”

Specific Plan-related vehicle emissions were calculated using the URBEMIS 2007 air quality model. Table 4.3-5 summarizes the emissions from area sources and vehicular traffic associated



with the proposed Specific Plan under buildout conditions. Trip generation factors from the traffic study were used to determine vehicle trips generated by Plan area land uses. No changes were made to the MBUAPCD default values for average trip type, length, vehicle speed, cold/hot start percentage, or vehicle fleet mix. The Specific Plan proposes multiple-use development throughout the Plan area, including locations along Reservation Road and Reindollar Avenue. Multiple- or mixed-use development, by design, generates fewer trips than a similar amount of conventional residential and commercial development occurring separately from each other. These emissions-reducing factors, including the proposed mix of uses and local serving retail, were accounted for in the model.

Table 4.3-5. Operational Emissions Associated with Marina Downtown Vitalization Specific Plan (lbs/day)

Emission Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)³	SO_x (lbs/day)	PM₁₀ (lbs/day)
Specific Plan Emissions¹					
Mobile Emissions (operational)	176.84	256.96	- ²	- ²	- ²
Stationary Emissions (area sources)	128.21	21.45	15.11	0.00	0.06
Total Specific Plan Emissions	305.05	278.41	15.11	0.00	0.06
<i>MBUAPCD Recommended Thresholds</i>	<i>137 (stationary + mobile)</i>	<i>137 (stationary + mobile)</i>	<i>550 (stationary only)</i>	<i>150 (stationary only)</i>	<i>82 (stationary only)</i>
<i>Emissions Exceed Threshold?</i>	Yes	Yes	No	No	No

See Appendix C for calculations

¹ Total emissions represent buildout under existing/proposed land use within the Specific Plan area boundary.

² Thresholds for CO, SO_x, and PM₁₀ apply only to stationary sources. Therefore, mobile emissions of CO, SO_x, and PM₁₀ are excluded from this table. For reference, mobile emissions of CO, SO_x, and PM₁₀ are shown in Appendix C.

³ Potential impacts from localized CO levels are analyzed in Impact AQ-4, below.

As shown in Table 4.3-5, when compared to the MBUAPCD thresholds of significance, the proposed Specific Plan would be significant for ROG and NO_x. Most of these emissions are due to the motor vehicle trips that would be associated with future development pursuant to the Specific Plan. The estimated emissions from the Plan area would exceed MBUAPCD thresholds; therefore, impacts would be potentially significant.

With regard to diesel particulate emissions and associated TAC risk, the vehicle fleet associated with the proposed Specific Plan would consist mainly of automobiles used by residents, employees, and visitors to the Specific Plan and small- to mid-sized trucks used for deliveries to the retail/commercial and office research businesses. These types of vehicles would be mainly gasoline-fueled automobiles and light trucks that have very little diesel exhaust emissions. The planned uses in the Plan area are not the types of facilities such as truck depots, bus terminals, and distribution centers whose vehicle fleet consists mainly of diesel-fueled vehicles and which contribute the highest TAC risk. Furthermore, as noted above, State-wide emissions of diesel exhaust are expected to decrease in the future with implementation of the State's Risk Reduction Plan.

In addition, MBUAPCD's 2008 CEQA Guidelines note that localized impacts from programmatic projects, such as Specific Plans, should be assessed by identifying whether build-out would



create or substantially contribute to carbon monoxide “hotspots” where federal or state AAQS are exceeded. This potential impact is discussed under Impact AQ-4, below.

Reservation Road Four-Lane Option. Under this scenario, the streetscape along Reservation Road would be enhanced with design elements such as gateway and intersection treatments, a customized landscaped median, 15 to 20 foot sidewalks, and pedestrian-oriented amenities. The potential criteria pollutant emissions from the Specific Plan area are based on proposed land uses, which are unaffected by this option; therefore, emissions from Reservation Road four-lane option would be consistent with the description above.

Reservation Road Two-Lane Option. Under this scenario, the streetscape along Reservation Road would be enhanced with design elements such as gateway and intersection treatments, a customized landscaped median, ten foot sidewalks, and pedestrian-oriented amenities. In addition, roundabouts would be provided at three major intersections under this scenario (Reservation Road and Del Monte Boulevard, Reservation Road and Vista Del Camino, and Reservation Road and DeForest Road). Roundabouts provide emission reductions, as compared to conventional intersections, due to the reduction in vehicle idling times. In one study this reduction in hydrocarbon emissions was shown to be between 18% and 65% during the AM and PM peak hours (Mandavilli, et. al., 2003). The potential reduction in emissions is not expected to substantially reduce the overall emissions from buildout of the Specific Plan in the description above. The potential criteria pollutant emissions from the Specific Plan area are based on proposed land uses, which are otherwise unaffected by this option; therefore, emissions of the Reservation Road two-lane option would be consistent with the description above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes several goals and policies that would reduce air pollutant emissions from Plan area land uses, described above under Impact AQ-1. These goals and policies would further reduce criteria pollutant emissions to the extent possible. In addition, the following green building design standards are described in Chapter 6.0, *Sustainability*, of the Specific Plan. These measures are intended for new development and redevelopment within the Specific Plan area, and are recommended to be applied within the Plan area to the greatest extent feasible.

Site Design.

- Incorporate passive solar orientation to optimize solar access.
- Use water conservation measures whenever possible.

Building HVAC and Appliance.

- Insulate all hot water pipes and install On-Demand Hot Water Circulation System
- Use engineered parallel piping
- Install High Efficiency Toilets²
- Install ENERGY STAR® Appliances
- Install separate garage exhaust fans
- Design and install HVAC System to ACCA recommendations
- Install Sealed Combustion (Direct Vent) furnaces and water heaters
- Install ENERGY STAR® ceiling fans with CFLs

² Toilets that use less than 1.3 gallons per flush



- Install Ventilation System for

Refrigerants

- Install High Efficiency HVAC Filter
- Install Zoned, Hydronic Radiant Heating with Slab Edge Insulation
- Install tankless water heaters
- Install water heaters with Energy Factor >0.62
- Install High Efficiency Furnace (AFUE 90 % or higher)
- Install High Efficiency Air Conditioner (SEER >13) with a Thermostatic Expansion Valve (TXV)

Building Architecture and Materials

- All new buildings should incorporate sustainable building design and meet LEED certification criteria to the maximum extent feasible.
- Every structure should incorporate multiple sustainability aspects in roof design, including “green roofs” and rooftop patios as appropriate.
- Solar hot-water heating, photovoltaic and “cool roof” design shall be incorporated if necessary by modifying building design and orientation.
- Include adequate storage for waste and recycling.
- Design and build Energy STAR®’s High Performance Homes
- Meet ENERGY STAR®’s Indoor Air Quality Package Requirements
- Reduce solar heat gain through exterior surfaces by using light exterior colors or paints with reflective pigments
- Apply Optimal Value Engineering (Advanced Framing)
- Use Engineered Lumber
- Use FSC-Certified Wood for framing
- Use Oriented Strand Board (OSB) for subfloor and sheathing
- Use recycled-content decking (avoid virgin plastic)
- Install recycled-content insulation
- Install Insulation that is low emitting for formaldehyde and volatile organic compounds (Certified Section 01350)
- Use Low-VOC or Zero-VOC Paint
- Use Low-VOC, water-based wood finishes
- Use Low-VOC Adhesives and Caulks
- Provide permanent walk-off mats at building entrances
- Use rapidly renewable trim materials
- Use recycled-content materials
- Reduce Formaldehyde in Interior Finishes
- Use rapidly renewable flooring materials
- Use recycled-content ceramic tiles
- Use flooring that is low-emitting (Section 01350 or Green Label Plus)

Furthermore, the Specific Plan contains area-wide design guidelines, design guidelines by land use (for multiple use and commercial, residential, and civic uses), streetscape guidelines, and landscape guidelines (refer to Specific Plan Chapter 6.0, *Design Guidelines*). The intent of these guidelines is to create a well-connected downtown environment that fosters a pedestrian and bicycle transportation and other energy-saving measures that would generally reduce criteria pollutant emissions.



Mitigation Measures. Implementation of MBUAPCD recommended mitigation measures is required to reduce impacts to the extent feasible:

AQ-2(a) MBUAPCD Recommended Mitigation Measures. Future development in the Specific Plan area shall apply MBUAPCD recommended mitigation measures for commercial, industrial, and institutional (civic) land uses (listed in Table 8-5 of the MBUAPCD 2008 CEQA Guidelines) to the extent appropriate for the specific land uses proposed. These measures may include:

- Provide preferential carpool/vanpool parking spaces in office uses.
- Provide bicycle storage/parking facilities and shower/locker facilities.
- Provide onsite child care centers.
- Provide transit design features within development.
- Develop park-and-ride lots.
- Employ a transportation/rideshare coordinator.
- Implement a rideshare program.
- Provide incentives to employees to rideshare or take public transportation.
- Implement compressed work schedules.
- Implement telecommuting program.
- Implement a parking surcharge for single occupant vehicles.
- Provide for shuttle/mini bus service if demand warrants.

Reservation Road Four-Lane Option. No additional mitigation specific to the Reservation Road four-lane option is feasible.

Reservation Road Two-Lane Option. No additional mitigation specific to the Reservation Road two-lane option is required.

Significance after Mitigation. Emissions associated with the proposed Specific Plan project would be reduced through implementation of required mitigation at commercial, industrial, and civic land uses developed under the Specific Plan. However, due to the substantial exceedance of MBUAPCD thresholds, emissions would remain above thresholds of significance for criteria pollutant emissions, and no additional mitigation is feasible. Consequently, the Specific Plan would have a Class I, *significant and unavoidable* impact.

Impact AQ-3 **Future development projects under the Specific Plan would generate demolition- and construction-related emissions. Although temporary in nature, construction activities would contribute to the current exceedances of the state standard for PM₁₀. This would be a Class II, significant but mitigable impact.**

Demolition and construction in the Specific Plan area would result in temporary air quality impacts due to the use of heavy construction equipment and generation of fugitive dust. Ozone



precursors NO_x and ROG would be emitted by the operation of construction equipment, while PM₁₀ would be emitted by activities that disturb the soil, such as grading and excavation, road construction, and building construction. Emissions would also be generated by construction employees traveling to and from the construction site, as well as trucks hauling materials to and from the site.

MBUAPCD has published criteria for determining construction impacts, including emissions thresholds and inventory methodologies in their *2008 CEQA Guidelines*. These guidelines are summarized in Section 4.3.2(a), above. Section 7.8 of the *2008 CEQA Guidelines* explains that CEQA analysis for programmatic projects, such as Specific Plans, should defer unknown impacts for subsequent EIRs or negative declarations. Although the Specific Plan describes potential generalized development in the area, buildout of the Specific Plan is expected to take place over a 30-year period. The amount or timing of construction activity that will take place at any given time is subject to future market conditions and cannot be predicted with an appropriate level of certainty to quantify and compare to the MBUAPCD's quantitative construction emissions thresholds.

Individually, small construction activities are not generally considered to have significant air quality impacts because of their short-term and temporary nature. However, given the amount of development that the Specific Plan would accommodate, it is reasonable to conclude that major construction activity could occur at any given time over the life of the Specific Plan. Impacts would also be complicated by the fact that multiple construction projects may occur simultaneously in any portion of the City and/or NCCAB. In addition, earlier phases of Specific Plan implementation may be affected by construction occurring during later phases. Therefore, construction-related impacts associated with implementation of the Specific Plan are considered potentially significant.

The demolition of existing on-site structures would create emissions and road dust from trucks hauling debris from the site. In addition, some of the existing structures within the Specific Plan area were constructed before 1980. Structures built prior to 1980 could potentially contain asbestos-containing materials (ACMs), and, if constructed prior to 1978, could potentially contain lead-based paint (LBP). If these existing structures were demolished as part of future redevelopment within the plan area, this could pose a potential health risk to people if these materials were not properly handled and disposed. This impact is discussed in Section 4.12, *Hazards and Hazardous Materials*.

Reservation Road Four-Lane Option. The total level of development accommodated by the Downtown Vitalization Specific Plan would not change from the above description under the Reservation Road four-lane option. Emissions from construction of future projects under the Reservation Road four-lane option would therefore be consistent with the above description.

Reservation Road Two-Lane Option. The total level of development accommodated by the Downtown Vitalization Specific Plan would not change from the above description under the Reservation Road two-lane option. Emissions from construction of future projects under the Reservation Road two-lane option would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. The Specific Plan does not include goals or policies that would further reduce emissions from construction activities.



Mitigation Measures. Because all construction projects can produce dust emissions, dust mitigation measures are required for all construction activities. The following mitigation measure is required to minimize emissions and to reduce the amount of dust that drifts onto adjacent properties:

AQ-3(a) Specific Plan Construction/Demolition Performance Standard and Emissions Reduction Measures. Construction/demolition activity within the Specific Plan area should be limited to 8.1 acres per day with minimal earthmoving, or 2.2 acres per day with demolition or grading/excavation, consistent with the screening-level thresholds in the MBUAPCD's 2008 *CEQA Air Quality Guidelines*, or consistent with any updated air quality guidelines approved by the MBUAPCD. Any individual construction project that would exceed these screening-level area-based limits shall implement the following emissions reduction measures:

- *Application of Standard Best Available Control Technology for Construction Equipment (CBACT).* Best available control technology for construction equipment (CBACT) shall be applied to the piece of construction equipment estimated to cause the highest level of combustion emissions during any proposed construction. CBACT technology may include the following: fuel injection timing retard of two degrees; installation of high pressure injectors; coating of internal combustion surfaces (cylinder head, pistons, and valves); and/or use of reformulated diesel.
- *Dust Control.* The following measures shall be implemented to reduce PM₁₀ emissions during project construction/demolition:
 - Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Water shall be applied depending on conditions. Reclaimed (non-potable) water should be used whenever possible.
 - All dirt-stock-pile areas shall be sprayed daily and/or covered as needed.
 - Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast-germinating native grass seed and watered until vegetation is established.
 - All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the MBUAPCD.

- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to MBUAPCD prior to land use clearance for map recordation and land use clearance for finish grading for the structure.

The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress.

Reservation Road Four-Lane Option. No additional mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No additional mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. With application of mitigation measure AQ-3(a), construction-related PM₁₀ emissions would be reduced below the MBUAPCD's thresholds of significance for both the four-lane and two-lane Reservation Road options.

Impact AQ-4 **The proposed Specific Plan could increase localized carbon monoxide (CO) levels above federal or state ambient air quality standards, creating CO "hotspots." This would be a Class III, less than significant impact.**

Unlike ozone, which is a regional pollutant, CO impacts tend to be localized. Localized carbon monoxide "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal AAQS of 35.0 parts per million (ppm) or the state



AAQS of 20.0 ppm. According to the MBUAPCD *CEQA Air Quality Guidelines*, this would likely occur at intersections that currently operate at LOS D or better that would operate at LOS E or F with a project’s traffic, or intersections that operate at LOS E or F under existing conditions where delay would increase by 10 seconds or more with a project’s traffic. According to the Traffic Impact Analysis prepared for the project (Fehr & Peers; Appendix B), this would occur at multiple Plan area intersections along Reservation Road, Del Monte Boulevard, and Imjin Parkway. For these affected intersections, screening level dispersion modeling was conducted according to the CalTrans CO Protocol, as recommended by the MBUAPCD’s CEQA Air Quality Guidelines, Section 7.5.

The CalTrans CO Protocol relies on local environmental data and traffic information to assess local CO concentrations. For this analysis, 20% cold starts, a 10 meter distance to sensitive receptors, 50% “red time” (the percentage of time during which a traffic light is red) were selected as reasonable assumptions for Marina area roadways. CO produced by intersection traffic was added to the 2007 NCCAB peak 8-hour indicator CO concentration of 1.0 ppm. The results of this screening-level modeling are shown in Tables 4.3-6 and 4.3-7, and discussed below.

Reservation Road Four-Lane Option. CO concentrations under the Reservation Road four-lane option for intersections that currently operate at LOS D or better that would operate at LOS E or F with a project’s traffic, or intersections that operate at LOS E or F under existing conditions where delay would increase by 10 seconds or more with a project’s traffic are shown in Table 4.3-6 below. As shown therein, none of the affected intersections would exceed the federal or state AAQS for carbon monoxide. Therefore, no hotspots would be created, and impacts would be Class III, *less than significant*.

**Table 4.3-6.
 Intersection LOS and CO Concentration: Existing plus Four-Lane Option Conditions**

Intersection	Peak Hour	LOS		Increase in Delay	Peak Hour CO Concentration (ppm)	Exceeds State or Federal AAQS?
		Existing Conditions	Existing plus 4-Lane Option			
Reservation Road/SR 1 Southbound Ramps	AM	F	F	32.7	2.0	No
	PM	C	E	8.8		
Reservation Road/Eucalyptus Street	AM	B	C	0.5	4.7	No
	PM	C	F	7.2		
Reservation Road/California Avenue	AM	C	E	2.1	4.7	No
	PM	F	F	32.8		
Mortimer Lane/Del Monte Boulevard	AM	C	E	4.7	7.4	No
	PM	C	F	8.6		
Carmel Avenue/Del Monte Boulevard	AM	E	F	10.3	7.4	No
	PM	F	F	14.0		
Imjin Parkway/SR 1 Southbound Ramps	AM	F	F	>100	2.7	No
	PM	F	F	>100		

Source: LOS data from Fehr & Peers Transportation Consultants, CO concentration data from CalTrans CO Protocol screening model.

Reservation Road Two-Lane Option. The expected increase in CO concentrations at intersections that currently operate at LOS D or better that would operate at LOS E or F with a project’s traffic, or intersections that operate at LOS E or F under existing conditions where



delay would increase by 10 seconds or more with a project's traffic are shown in Table 4.3-7. Compared to the four-lane option, four additional intersections would be affected: Reservation Road/Vista Del Camino, Reservation Road/Seacrest Avenue, Reservation Road/DeForest Road, Imjin Parkway/SR 1 Northbound Ramps, and Imjin Parkway/2nd Avenue. The Reservation Road/Vista Del Camino and Reservation Road/DeForest Road intersections would both be roundabouts under this configuration. The Caltrans CO Protocol does not accurately account for roundabout intersections; however, roundabouts can produce 21% to 41% less CO than conventional intersections (Mandavilli, et. al., 2003), and would therefore not be expected to result in CO hotspots. CO concentrations at affected intersections would be generally similar to those discussed above, and would not exceed the federal or state AAQS for carbon monoxide. Therefore, no hotspots would be created, and impacts under this option would remain Class III, *less than significant*.

**Table 4.3-7.
 Intersection LOS and CO Concentration: Existing plus Two-Lane Option Conditions**

Intersection	Peak Hour	LOS		Increase in Delay	Peak Hour CO Concentration (ppm)	Exceeds State or Federal AAQS?
		Existing Conditions	Existing plus 2-Lane Option			
Reservation Road/SR 1 Southbound Ramps	AM	F	F	32.7	2.0	No
	PM	C	E	8.8		
Reservation Road/Eucalyptus Street	AM	B	D	0.7	3.5	No
	PM	C	F	24.4		
Reservation Road/Seacrest Avenue	AM	A	C	19.4	4.0	No
	PM	B	E	44.9		
Reservation Road/California Avenue	AM	C	E	1.7	4.7	No
	PM	F	F	26.2		
Mortimer Lane/Del Monte Boulevard	AM	C	E	4.3	7.4	No
	PM	C	F	6.8		
Imjin Parkway/SR 1 Southbound Ramps	AM	F	F	>100	3.0	No
	PM	F	F	>100		
Imjin Parkway/SR 1 Northbound Ramps	AM	E	F	0	8.5	No
	PM	D	E	0		
Imjin Parkway/2 nd Avenue	AM	B	F	0.5	6.3	No
	PM	B	E	1.1		

Source: LOS data from Fehr & Peers Transportation Consultants, CO concentration data from CalTrans CO Protocol screening model.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes several goals and policies that would reduce traffic congestion and localized CO concentrations at Plan area intersections, including Mobility Goal 2, Mobility policies M-1 and M-4, Sustainability Goal 2, and Sustainability policy SUS-2, described above under Impact AQ-1. In addition to these goal and policies, the following goals and policies would further reduce carbon monoxide emissions.

- *Mobility Goals and Policies:*
 - *Mobility Goal 4. Continue to upgrade streets to meet current demands and accommodate new development.*



- *M-2. Recognize that Reservation Road must be designed to convey through traffic, and to provide safe pedestrian and bicycle access to serve multiple use development within the Downtown core.*

Mitigation Measures. No mitigation is required.

Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation for both the four-lane and two-lane Reservation Road options.

c. Cumulative Impacts. Buildout of the City of Marina General Plan would gradually contribute to the cumulative degradation of regional air quality. Much of these impacts would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). The NCCAB is currently in non-attainment for state PM₁₀ and O₃ standards. Increases in automobile traffic resulting from General Plan buildout would cause increases in ozone precursor and PM₁₀ emissions. In addition, cumulative construction-related emissions would contribute to the cumulative exceedance of the state and federal ozone standard.

This project is a Specific Plan that encompasses long-range development in Marina, and is generally consistent with the provisions of the General Plan, and consistent with the growth forecasts contained in the 2008 AQMP. However, the Specific Plan would result in a significant and unavoidable impact related to operational emissions of ROG and NO_x. Mitigation measure AQ-2(a) would reduce this impact. Due to the substantial exceedance of MBUAPCD thresholds, emissions would remain above thresholds of significance for criteria pollutant emissions, and no additional mitigation is feasible. Consequently, the Specific Plan would have a Class I, *significant and unavoidable* cumulative impact.

4.4 NOISE

4.4.1 Environmental Setting

a. Fundamentals of Sound and Environmental Noise. Sound is technically described in terms of the amplitude (loudness) and frequency (pitch). The standard unit of measurement of sound amplitude measurement is the Decibel (dB). The decibel scale is a logarithmic scale that describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) does this by placing more importance frequencies that are more noticeable to the human ear.

Noise is typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 4.4-1 lists representative environmental noise levels.

Table 4.4-1. Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 100 feet	100	
Gas Lawnmower at 3 feet	90	
Diesel Truck going 50 mph at 50 feet	80	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		Vacuum Cleaner at 10 feet
Gas Lawnmower at 100 feet	70	Normal Speech at 3 feet
Commercial Area		
Heavy Traffic at 300 feet	60	Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	30	Library
	20	Bedroom at Night, Concert Hall (background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 1998.

Several rating scales have been developed to analyze the adverse effect of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:



- L_{eq} , the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{dn} , the Day Night Average Level, is a 24-hour average L_{eq} with a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime.
- L_{min} , the minimum instantaneous noise level experienced during a given period of time.
- L_{max} , the maximum instantaneous noise level experienced during a given period of time.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{eq} is below 60 dBA, moderate in the 60-to 70-dBA range, and high above 70 dBA.

Examples of settings with low daytime background noise levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most people living or working in urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses.

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior- to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

b. Fundamentals of Groundborne Vibration. Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured in the U.S. as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people.

Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table 4.4-2.

Table 4.4-2. Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Federal Railroad Administration, 1998.

c. Existing Noise Environment. The major source of noise in the Specific Plan area is motor vehicle traffic on roadways. The main roadways of concern in the Specific Plan area include Reservation Road and Del Monte Boulevard, but several other streets carry high volumes of traffic, which may generate unacceptable noise levels. The primary roadways in the Specific Plan area include:

- Reservation Road
- Del Monte Boulevard
- Carmel Avenue
- Palm Avenue
- Reindollar Avenue
- Seacrest Avenue
- Crescent Avenue
- California Avenue

Existing traffic noise levels from major roadways within the Plan area were calculated using a simplified version of the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (TNM). The FHWA Model is an analytical method utilized by many state and local agencies, including Caltrans, for highway traffic noise prediction. To predict noise levels, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The FHWA Model assumes a clear view of traffic with no shielding at the receiver location.



Average Daily Traffic (ADT) volumes used for modeling of traffic noise for existing conditions were estimated based upon peak hourly traffic volumes from the transportation study prepared by Fehr & Peers Transportation Consultants (Appendix B).

Table 4.4-3 shows data relative to the existing roadway traffic noise for major roadways in the vicinity of the downtown Marina area, expressed as the distance to L_{dn} contour from centerline of the roadway.

Table 4.4-3. Existing (2010) Traffic Noise Levels

Roadway Segment	Traffic (ADT)	Distance to L_{dn} Contour from Centerline (feet)		
		70 dB	65 dB	60 dB
Reservation Road	9,635	30	76	165
Carmel Avenue	2,435	N/A	N/A	37
Palm Avenue	1,520	N/A	N/A	N/A
Reindollar Avenue	3,155	N/A	N/A	48
Del Monte Boulevard	8,881	28	72	156
Seacrest Avenue	3,535	N/A	N/A	52
Crescent Avenue	3,050	N/A	N/A	46
California Avenue	1,710	N/A	N/A	26

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. The noise levels presented in this table should therefore be considered conservative estimates of future roadway noise levels.

N/A: Not applicable (noise level not achieved).

Source: Traffic volumes from Fehr & Peers Transportation Consultants (May 2010). See Appendix D for noise data and noise modeling worksheets.

Existing Groundborne Vibration. Usually, the most substantial existing source of groundborne vibration at a project site is roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels could reach 72 VdB where trucks and buses pass over bumps in the road. Reservation Road and Del Monte Boulevard, the main arterials in the Specific Plan Area, currently experience the greatest volumes of bus and truck traffic.

Marina Municipal Airport. Future noise contours for the Marina Airport are shown in the Fort Ord Reuse Plan, 2015 Airport Noise Contours, and 1996 Airport Comprehensive Land Use Plan (ACLUP). The project site is located outside of the future 60 CNEL noise contour projected for operations at the Marina Airport. Early in 2006 the City of Marina retained an airport consultant to assist with an update of the Marina ACLUP, in recognition that the currently adopted 1996 plan is obsolete in terms of forecasts, noise modeling software, and statewide adopted safety zone methodology. Noise modeling was prepared using an early version of the FAA's Integrated Noise Model. The updated noise contours presented in the Draft 2006 ACLUP indicate that the 65 and 60 CNEL noise contours for year 2025 are outside of the Specific Plan area.

Sensitive Noise Receptors. Sensitive noise receptors are, in general, those areas of human habitation or substantial use where the intrusion of noise has the potential to adversely impact the occupancy, use, or enjoyment of the environment. These can include residences, schools, hospitals, parks, and places of business requiring low levels of noise. Sensitive noise receptors in Marina include single- and multi-family residences, schools, churches, and parks. Commercial land uses are generally less sensitive to noise due to their noise mitigating features, often present to mitigate their own noise sources. As indicated in Table 4.4-3, existing sensitive



receptors within 50 feet of Reservation Road, Del Monte Boulevard, and Seacrest Avenue are currently exposed to noise levels which may exceed 60 dBA L_{dn}.

d. Regulatory Setting. The following discussion summarizes federal, State and local regulatory authorities pertaining to noise.

State. Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings. Dwellings are to be designed so that interior noise levels would meet this standard for at least ten years from the time of building permit application.

City of Marina Municipal Code. The City of Marina Municipal Code chapter 9.24 contains ordinances pertaining to noise regulation. While chapter 9.24 does not identify specific noise limits, it does prohibit excessive, unnecessary or unusually loud noises and vibrations in the community. This applies to any noise whose volume, level, or duration disturbs, injures or endangers the comfort, repose, health, peace or safety of Marina residents. Section 9.24.040 lists specific nuisances. Included in this list are many hand-powered, fuel-powered, and electric-powered tools that could be used during construction projects. Section 9.24.040 limits the operation of the listed equipment to after seven a.m. and before seven p.m. on a daily basis except for Sundays and holidays when their use is prohibited before ten a.m. and after seven p.m. During daylight savings, this equipment may be operated until eight p.m.

The City Municipal Code chapter 15.04 sets construction allowable hours and noise levels. Construction may only occur between seven a.m. and seven p.m. when the construction is adjacent to residential uses. On Sundays and holidays, construction can only occur between ten a.m. and seven p.m. Section 15.04.055 also limits overall construction noise to no more than 60 dB for twenty-five percent of an hour at any receiving property line:

- *15.04.055 Construction hours and noise. Unless performing emergency work as defined in Section 15.04.010, it is unlawful for any person within the city to conduct any outside construction, repair work or related activities requiring a building, grading, demolition, use or other permit from the city when construction noise is produced adjacent to residential uses, including transient lodging, except between the hours of seven a.m. and seven p.m. (standard time), and on Sundays and holidays between the hours of ten a.m. and seven p.m. (standard time). During daylight savings time, the hours of construction may be extended one hour to eight p.m. For the purposes of this section, "holidays" shall include New Year's Day, July 4th, Thanksgiving and Christmas. However, during the hours of construction, no construction, tools or equipment shall produce a decibel level of more than sixty decibels for twenty-five percent of an hour at any receiving property line.*

City of Marina General Plan. The California Government Code requires that a noise element be included in the general plan of each county and city in the state. The purpose of the noise element is to ensure that noise control is incorporated into the planning process. The noise element can help the City achieve and maintain consistent noise levels for existing and proposed land uses.



- *Policy 4.106 The land use policies contained in the Community Land Use Element are designed to avoid conflicts between noise-sensitive uses (in particular, residences and schools) and major noise sources. Accordingly, land designated for such noise-sensitive purposes has been limited to locations which are unlikely to be exposed to excessive noise. At such time that future development of residences, schools and parks is proposed, more site-specific noise analysis shall be conducted for parcels that are in close proximity to major roadways or that lie in areas affected by aircraft-generated noise. If specific uses are found to be affected by noise levels greater than the standards set forth in Table 4.1 of the General Plan [Table 4.4-4 herein] or, within the Airport Planning Area, Table 4-1 (see Appendix C) of the Airport Comprehensive Land Use Plan (CLUP), the mitigation measures identified in the following sections shall be required.*
- *Policy 4.107 The maximum allowable exterior noise exposure, as measured in L_{dn} (dBA), (or CNEL for the Airport CLUP noise standards) shall not exceed the “acceptable use” standards shown in Table 4.1 of the General Plan [Table 4.4-4 herein], or, where applicable, the “permitted use” standards of Table 4-1 of the Airport CLUP. In the Airport Planning Area, the noise standards of Table 4-1 of the Airport CLUP shall apply where such standards are more stringent than those of this plan. Where existing or projected exterior noise levels exceed the acceptable limit, construction shall be conditionally permitted only when appropriate mitigation measures are employed, including measures to attenuate exterior noise levels where development of schools, parks and playgrounds is proposed, and, within the Airport Planning Area, as conditionally allowed by Table 4-1 of the Airport CLUP.*
- *Policy 4.108 These measures must reduce interior noise to the maximum allowable limits shown in Table 4.1 of the General Plan [Table 4.4-4 herein], and, within the Airport Planning Area, to CNEL 45 dB for all uses which are conditionally permitted as indicated by Table 4-1 of the Airport CLUP. In such instances, the developer of a new building shall provide the City with proof from a professional acoustical consultant that exterior noise levels have been mitigated such that building occupants will not be subject to interior noise levels greater than those in Table 4.1, and, within the Airport Planning Area, in Table 4-1 of the CLUP. Except in the Airport Planning Area, if the City finds the project to be in the public interest, the City may approve a project where the exterior noise level exceeds the conditionally acceptable level. Such approval shall be contingent upon a detailed analysis by a qualified acoustical engineer showing that specific measures included in the project will reduce interior noise to the maximum interior levels shown in Table 4.1.*
- *Policy 4.109 The construction of new or the improvement of existing arterials and collectors as identified in this plan shall require discretionary approval. A cumulative noise impact analysis shall be undertaken prior to approval of all new major new roads or improvements of existing arterials and collectors which would result in significant increases in traffic volumes. If projected cumulative traffic increases in traffic volumes would result in a substantial increase in ambient noise levels which would adversely affect existing noise sensitive uses or subject future receptors to exterior noise levels in excess of the “acceptable” exterior noise standards of Table 4.1 [Table 4.4-4 herein], appropriate noise abatement measures shall be identified and implemented, including increased setbacks for any new sensitive receptors, appropriate architectural design and construction techniques and the use of landscaped earth berms.*
- *Policy 4.110 Site-planning measures such as sound walls along roadways shall be the mitigation measure of last resort so as to avoid the adverse visual impacts of such structures. Where they are necessary, sound walls shall include landscaped earth berms at their bases to minimize visible*



wall height. Sound wall designs shall also incorporate provisions for screening landscaping and for coverage of walls by plant materials. Sound walls shall be built of attractive, durable materials.

- *Policy 4.111 New and modified stationary noise sources adjoining or in close proximity to residential and other noise-sensitive uses shall adhere to the standards in Table 4.2 of this plan.*

**Table 4.4-4. City of Marina
 Allowable Noise Standards Measured in L_{dn} (dBA)**

Land Use	Maximum Acceptable Exterior	Maximum Conditionally Acceptable Exterior	Maximum Acceptable Interior ¹
Residential	60	70	45
Live/Work	65	75	50
Hotel/Motel	65	75	50
Office	67	77	55
Other Commercial	70	80	60
Industrial/Agriculture	70	80	60
Schools, Libraries, Theaters, Churches, Nursing Homes	60	70	45
Parks and Playfields	65	70	NA
Golf Courses, Riding Stables, Cemeteries	70	75	NA

1. It is preferred that the interior noise standard be attained with open windows. However, where the interior noise standard is attainable only with closed windows and doors, mechanical ventilation shall be required.

Source: City of Marina General Plan

4.4.2 Impact Analysis

a. Methodology and Impact Criteria. The following thresholds of significance are based on Appendix G of the CEQA Guidelines and the City of Marina Municipal Code. For purposes of this EIR, implementation of the proposed Specific Plan may have a significant adverse impact on noise if it would result in any of the following:

- *Permanently expose nearby sensitive uses to excessive groundborne vibration levels. While CEQA states that the potential for any excessive groundborne vibration levels must be analyzed, it does not define "excessive", and there are no federal, State or local standards for groundborne vibration. Consequently, this analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and day care facility) and 83 VdB at institutional buildings;*
- *Cause buildings to experience structural damage as a result of construction activity vibration;*
- *Conflict with Section 9.24 or Section 15.04 of the City of Marina Municipal Code; or*
- *Cause exterior or interior noise levels for new land uses to exceed the conditionally acceptable noise levels shown in Table 4.1 in the City of Marina General Plan (Table 4.4-4 in this EIR). For uses where ambient noise is already above these levels, significance would be determined by whether noise levels are increased by 5 dBA L_{dn} or more.*

Construction Noise. Construction noise levels were estimated by data published by the U.S. EPA. The EPA has developed typical noise levels for construction equipment such as that



which would be used during the construction under the Specific Plan. Using the EPA noise level data, potential noise levels were estimated at existing receptors near the project site.

Project-Related Traffic Noise. To assess traffic noise impacts, traffic noise levels were estimated at 50 feet from roadway centerlines under Existing, Existing plus Four-Lane Option, and Existing plus Two-Lane Option Conditions. This allows roadway noise impacts to be identified at potentially affected existing receptors. Noise impacts at future land uses located within the Specific Plan area were also evaluated based on the road segments analyzed in the traffic study.

Traffic-related noise level projections were made using the Federal Highway Administration, Traffic Noise Prediction Model, Version 2.5 and traffic volumes from the transportation study provided by Fehr & Peers Transportation Consultants (Appendix B). Noise model data is provided in Appendix D.

b. Project Impacts and Mitigation Measures.

Impact N-1 Construction activities in the Specific Plan area could intermittently generate noise levels above City standards at locations on and adjacent to construction sites, some of which may be near residences or other noise-sensitive facilities. Impacts would be Class I, significant and unavoidable.

Individual construction projects that could be facilitated by the proposed Specific Plan would require the use of heavy equipment that would create temporary noise level increases on and adjacent to individual construction sites. Impacts related to groundborne vibration that may be generated during construction is addressed in Impact N-2. Due to the programmatic nature of the proposed Specific Plan, it is not possible to determine exact noise levels, equipment, or time periods for construction. Tractors, jackhammers, and pile-drivers, if used, would produce the highest noise levels. Other intensive construction activity, such as the use of bulldozers, would generate less noise than pile-driving. The EPA has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. These data are presented in Tables 4.4-5 and 4.4-6. Specifically, Table 4.4-5 illustrates equivalent noise levels associated with the use of heavy equipment at construction sites can range from about 77 to 89 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and the phase of construction. Noise would typically diminish with distance from construction sites at a rate of approximately 6 dBA per doubling of distance; therefore, noise levels would be about 6 dBA lower than shown in the table at 100 feet from the noise source and 12 dB lower at a distance of 200 feet from the noise source.

Table 4.4-5. Noise Ranges of Typical Construction Equipment

Construction Equipment	Noise Levels in dBA L_{eq} at 50 feet ¹
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88



Table 4.4-5. Noise Ranges of Typical Construction Equipment

Construction Equipment	Noise Levels in dBA L _{eq} at 50 feet ¹
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back-Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

1: Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as shown in this table.

Source: Bolt, Beranek, and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, 1971.

Table 4.4-6. Typical Outdoor Construction Noise Levels

Construction Phase	Noise Level at 50 feet (dBA L _{eq})	Noise Level at 50 feet with Mufflers (dBA L _{eq})
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: Bolt, Beranek, and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, 1971.

Because the Specific Plan would be built out over a period of approximately 30 years, residential uses developed earlier in this period would be affected by construction occurring later. Construction noise, however, would be limited by the City's Municipal Code. Section 15.04.055 of the Municipal Code limits construction activities adjacent to residential uses to between the hours of 7:00 a.m. and 7:00 p.m. during weekdays and Saturdays, and between 10:00 a.m. and 7:00 p.m. on Sundays and holidays. Section 15.04.055 also stipulates that during the hours of construction, no construction activities, tools, or equipment shall produce a decibel level of more than 60 dBA for a consecutive 15 minute period at any receiving property line. This 60 dBA limit is at or below the maximum acceptable exterior noise levels for all land uses as shown in Table 4.4-4. However, existing sensitive receptors within up to 1,500 feet of construction activities may intermittently be exposed to noise levels that exceed City thresholds during construction during those hours.

It is not known at this time if pile-driving would occur or where it may occur. Pile-driving normally occurs when the soil profile requires additional stabilization or when buildings would be at least five stories tall. If pile-driving activity occurs during construction, maximum noise levels could reach 107 dBA L_{eq} at 50 feet from the development site boundary, and would be audible at 60 dBA up to two miles from the source. It should be noted that this analysis also does not account for attenuating factors, such as topography, structures, or vegetation. Actual site conditions may decrease the noise levels at sensitive receptors.

In summary, construction activity would generate noise levels above the City's 60 dBA limit for consecutive 15 minute periods, as well as City standards (shown in Table 4.4-4) at receptors



within and outside of the Specific Plan area, including residences developed in earlier phases of the Specific Plan. This noise would be temporary, and would also be limited to non-sleep hours. However, because high levels of noise could still be generated in close proximity to sensitive receptors, this would be a short term Class I, *significant and unavoidable*, impact.

Reservation Road Four-Lane Option. The level of construction anticipated under the Downtown Vitalization Specific Plan would not change under the Reservation Road Four-Lane Option. Construction noise impacts under this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The level of residential and non-residential construction anticipated under the Downtown Vitalization Specific Plan would not change under the Reservation Road 2-Lane Option. Some additional construction could occur as a result of road narrowing and subsequent installation of sidewalks and other improvements. However, construction noise impacts under this option would be generally consistent with the description above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to construction noise impacts.

Mitigation Measures. The following mitigation measures are required for construction projects facilitated by the Specific Plan:

- N-1(a) Construction Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA L_{dn} at the boundaries of adjacent residential properties shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.
- N-1(b) Construction Timing.** The City shall ensure that notes for grading plans and/or site improvement plans clearly state the noise limitation requirements of Municipal Code Section 15.04.055.
- N-1(c) Pre-Drilling.** Pre-drilling shall be required prior to any pile-driving.

Reservation Road Four-Lane Option. No additional mitigation specific to the Reservation Road Four-Lane Option is required.

Reservation Road Two-Lane Option. No additional mitigation specific to the Reservation Road Two-Lane Option is required.

Significance after Mitigation. Implementation of the above mitigation measures would reduce the noise impact of construction activity, except for pile-driving, to less than significant levels for both the Reservation Road Four-Lane and Reservation Road Two-Lane Option. Pile-driving noise would be reduced as well, but this noise would still be significant if occurring in



close proximity to noise-sensitive receptors. Consequently, potential noise exposure from pile-driving would remain a significant and unavoidable impact.

Impact N-2 Construction activities in the Specific Plan area could intermittently generate groundborne vibration, which can result in structural damage to existing buildings. This impact would be Class II, significant but mitigable.

Construction activities have the potential to generate groundborne vibration. This is almost exclusively an issue during the nighttime when people are trying to sleep. However, as stated above, Section 15.04.055 of the Marina Municipal Code would prohibit construction from occurring during recognized sleep hours. However, potential structural damage to existing buildings could result from excessive groundborne vibration. The Federal Railway Administration has determined the annoyance threshold from vibration to be 81 VdB. This analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and day care facility) and 83 VdB at institutional buildings.

The only construction activity that could produce sufficient vibration to cause structural damage to existing buildings is pile-driving. 100 VdB is the general threshold where minor damage can occur in fragile buildings. Generally, existing structures within 50 feet of pile-driving activity are susceptible to structural damage because pile drivers provide sufficient time between impacts to allow a building's resonant effects to decay before the next vibration effect¹. Existing and future structures in the Specific Plan area could be affected if pile-driving occurs in close proximity to these uses. Therefore, this would be a Class II, *significant but mitigable impact*.

Reservation Road Four-Lane Option. The level of construction anticipated under the Downtown Vitalization Specific Plan would not change under the Reservation Road Four-Lane Option. Construction vibration impacts under this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The level of construction anticipated under the Downtown Vitalization Specific Plan would not change under the Reservation Road Two-Lane Option. Construction vibration impacts under this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to construction vibration impacts.

Mitigation Measures. Mitigation measure N-1(c) would reduce this impact to a less than significant level by reducing the extent and duration of installing driven piles, which would reduce the risk of vibration-generated structural damage.

Reservation Road Four-Lane Option. No additional mitigation specific to the Reservation Road Four-Lane Option is required.

¹ Federal Transit Administration Transit Noise and Vibration Impact Assessment, DOT-T-95-16, April 1995.



Reservation Road Two-Lane Option. No additional mitigation specific to the Reservation Road Two-Lane Option is required.

Significance after Mitigation. The distance at which pile-driving produces potentially significant groundborne vibration impacts is substantially lower than the corresponding distance for noise impacts (refer to Impact N-1). Therefore, implementation of mitigation measure N-1(c) would reduce this impact to a less than significant level.

Impact N-3 **Development facilitated by the Specific Plan would increase traffic and associated noise levels along roadways in the Specific Plan vicinity, thereby exposing existing land uses to increased noise levels. However, receptors along the affected roadways would not experience a noise level increase that exceeds the applicable threshold. Impacts would be Class III, less than significant.**

Development pursuant to the Specific Plan would increase traffic noise along area roadways over the life of the Specific Plan. This has implications for existing uses within and adjacent to the Specific Plan area. Tables 4.4-7 and 4.4-8 compare calculated noise levels along major roadways in Marina under existing conditions to those that could occur with traffic levels associated with buildout under the Reservation Road Four-Lane Option (Existing plus Four-Lane Option Conditions) and the Reservation Road Two-Lane Option (Existing plus Two-Lane Option Conditions). The following discussion evaluates noise affecting existing receptors in the Specific Plan area.

In order to provide a point of comparison for existing and future noise conditions, noise levels were calculated at a distance of 50 feet from the roadway centerline for all roadways. As such, the noise levels shown in the table would generally reflect noise at the edge of the roadway. Noise further than 50 feet from the roadway centerline would be lower than shown in the table. As discussed in Section 4.4.2(a)(Methodology and Impact Criteria) for uses where ambient noise is already above these levels, significance would be determined by whether noise levels are increased by 5 dBA L_{dn} or more.

Reservation Road Four-Lane Option. As shown in Table 4.4-7, roadway noise would increase along the roads analyzed as a result of development under the Specific Plan. However, none of the expected increases in traffic noise levels along these roads would increase by more than 5 dBA L_{dn} over existing conditions. Therefore, these incremental increases in Plan area roadway noise would not constitute a substantial increase to existing receptors. Impacts under this option would be Class III, *less than significant*.

**Table 4.4-7. Reservation Road Four-Lane Option:
 Comparison of Existing and Future Noise Levels along Major Roadways**

Roadway Segment	Projected Noise Level (dBA L _{dn})			Increase In Noise Level (dBA L _{dn})	
	Existing (1)	Existing + 4-Lane Conditions (2)	Cumulative + 4-Lane Conditions (3)	4-Lane Conditions Only (2 minus 1)	Cumulative + 4-Lane Conditions (3 minus 1)
Reservation Road	67.8	69.1	69.4	1.3	1.6
Carmel Avenue	58.7	59.0	59.5	0.3	0.8
Palm Avenue	56.6	57.0	57.6	0.4	1.0
Reindollar Avenue	59.8	59.8	60.4	0.0	0.6
Del Monte Boulevard	67.4	68.4	69.5	1.0	2.1
Seacrest Avenue	60.3	61.8	62.4	1.5	2.1
Crescent Avenue	59.7	60.9	61.1	1.2	1.4
California Avenue	57.2	57.8	59.5	0.6	2.3

Bold text indicates a potentially significant impact.

Estimates of noise generated by traffic from roadway centerline at 50 feet. Refer to Appendix D for the spreadsheets that generated these estimates. Noise levels presented do not account for attenuation provided by existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented.

Reservation Road Two-Lane Option. As shown in Table 4.4-8, roadway noise would increase along the roads analyzed as a result of development under the Specific Plan. Only Reservation Road and Del Monte Boulevard are included in Table 4.4-8, as traffic noise levels along the other areas roadways shown in Table 4.4-7 would be identical under the Two-Lane Option to traffic noise levels under the Four-Lane Option. As with the Four-Lane Option, none of the expected increases in traffic noise levels along these roads would increase by more than 5 dBA L_{dn} over existing conditions.

Because none of the expected increases in traffic noise levels along these roads would increase by more than 5 dBA L_{dn}, these incremental increases in Plan area roadway noise would not constitute a substantial increase to existing receptors. Impacts under this option would therefore be Class III, *less than significant*.

**Table 4.4-8. Reservation Road Two-Lane Option:
 Comparison of Existing and Future Noise Levels along Major Roadways**

Roadway Segment	Projected Noise Level (dBA L _{dn})			Increase In Noise Level (dBA L _{dn})	
	Existing (1)	Existing + 2-Lane Conditions (2)	Cumulative + 2-Lane Conditions (3)	2-Lane Conditions Only (2 minus 1)	Cumulative + 2-Lane Conditions (3 minus 1)
Reservation Road	67.8	69.0	69.2	1.2	1.4
Del Monte Boulevard	67.4	68.3	69.4	0.7	2.0

Bold text indicates a potentially significant impact.

Estimates of noise generated by traffic from roadway centerline at 50 feet. Refer to Appendix D for the spreadsheets that generated these estimates. Noise levels presented do not account for attenuation provided by existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to traffic noise impacts.

Mitigation Measures. No mitigation is required.



Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road Four-Lane option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact N-4 Development facilitated by the Specific Plan could locate new residences or other noise-sensitive land uses in existing roadway noise corridors exposed to noise levels exceeding the City's "acceptable" noise level standards. However, none of the affected roadways would experience a noise level increase that exceeds the City's "conditionally acceptable" noise level standards. Traffic-related roadway noise impacts would be Class III, less than significant.

Increased traffic volumes resulting from development facilitated by the proposed Specific Plan could potentially elevate noise near roads to levels that exceed the City's "acceptable" noise levels. This has implications for any new sensitive uses that might develop under the proposed Specific Plan itself. Tables 4.4-9 and 4.4-10 depict the roadway noise contours that are anticipated to occur under buildout of the Specific Plan under the Reservation Road Four-Lane Option (Existing plus Four-Lane Option Conditions) and the Reservation Road Two-Lane Option (Existing plus Two-Lane Option Conditions). The following discussion evaluates project-related noise affecting new receptors built as part of the Specific Plan.

In order to provide a point of comparison for existing and future noise conditions, noise levels were calculated at a distance of 50 feet from the roadway centerline for study area roadways. As such, the noise levels shown in the table would generally reflect noise at the edge of the roadway. Noise further than 50 feet from the roadway centerline would be lower than shown in the table.

Reservation Road Four-Lane Option. As shown in Table 4.4-9, new sensitive land uses constructed in the Specific Plan area within 50 feet of the centerline of Reservation Road, Del Monte Boulevard, and Seacrest Avenue, and Crescent Avenue could be exposed to noise levels exceeding the 60 dBA L_{dn} acceptable level of exposure, but would be less than the "Conditionally Acceptable" level of 70 dBA L_{dn} at 75 feet as indicated in Table 4.4-4. Specifically, at Specific Plan buildout, the 60 dBA contour would extend outward from the centerline of Reservation Road up to 204 feet, from Del Monte Boulevard up to 181 feet, from Seacrest Avenue up to 66 feet, and from Crescent Avenue up to 57 feet. The Specific Plan would facilitate the development of new residential and other sensitive land uses adjacent to these roadways, thereby exposing future residents to noise exceeding the 60 dBA L_{dn} "acceptable" level for outdoor ambient noise levels, but below the "conditionally acceptable" level of 70 dBA L_{dn} at 50 feet (refer to Table 4.4-4).

**Table 4.4-9. Reservation Road Four-Lane Option:
 Predicted Traffic Noise under Buildout Conditions**

Roadway	Traffic (ADT)	Distance to L _{dn} Contour from Centerline		
		70 dB	65 dB	60 dB
Reservation Road	13,268	41 feet	95 feet	204 feet
Carmel Avenue	2,630	N/A	N/A	40 feet
Palm Avenue	1,665	N/A	N/A	25 feet
Reindollar Avenue	3,155	N/A	N/A	48 feet
Del Monte Boulevard	11,131	34 feet	84 feet	181 feet
Seacrest Avenue	4,985	N/A	N/A	66 feet
Crescent Avenue	4,025	N/A	N/A	57 feet
California Avenue	1,975	N/A	N/A	30 feet

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. The noise levels presented in this table should therefore be considered conservative estimates of future roadway noise levels.

N/A: Not applicable (noise level not achieved).

Source: Traffic volumes from Fehr & Peers Transportation Consultants (May 2010). See Appendix D for noise data and noise modeling worksheets.

According to Policy 4.108 of the Marina General Plan, development in areas where the 60 dBA L_{dn} “acceptable” noise standards would be exceeded can be approved if appropriate noise reduction measures are employed to reduce interior noise to the maximum allowable interior noise limits (refer to the allowable noise standards shown in Table 4.4-4). Compliance with this requirement must take the form of proof from a professional acoustical consultant (Marina General Plan Policy 4.108). Section 4.108 also states that development may be approved in areas where exterior noise limits at outdoor activity areas exceed “conditionally acceptable” levels, if the development is found to be in the public interest, and if an acoustical analysis shows that the interior noise levels in Table 4.4-4 would not be exceeded.

Pursuant to General Plan Policy 4.108, because noise modeling shows that new residential uses could be exposed to exterior noise levels at outdoor activity areas above the City’s maximum exterior 60 dBA L_{dn} “acceptable” standard for residential uses (refer to Table 4.4-4), an acoustical analysis would be required to show that exterior noise levels have been mitigated such that building occupants will not be subject to interior noise levels greater than 45 dBA L_{dn}. However, exterior noise levels at new outdoor activity areas would be less than the 70 dBA L_{dn} “conditionally acceptable” level. Compliance with General Plan Policy 4.108 would ensure that interior noise levels for development under the proposed Specific Plan would be within the City’s interior noise limits depicted in Table 4.4-4. Impacts would therefore be Class III, *less than significant*.

Reservation Road Two-Lane Option. As shown in Table 4.4-10, noise levels at new development within the Downtown Vitalization Specific Plan area would be slightly lower along Reservation Road and Del Monte Boulevard under this option, as compared to the Reservation Road Four-Lane Option. Roadway noise levels at other area roadways shown above in Table 4.4-9 would not change under this option. As shown, noise envelopes along these roadways would be slightly reduced, but would not substantially change. The Reservation Road Two-Lane Option would also be expected to reduce traffic speeds along Reservation Road area, which could further reduce the noise envelope shown for this roadway in Table 4.4-10.



**Table 4.4-10. Reservation Road Two-Lane Option:
 Predicted Traffic Noise under Buildout Conditions**

Roadway Segment	Traffic (ADT)	Distance to L _{dn} Contour from Centerline		
		70 dB	65 dB	60 dB
Reservation Road	12,749	39 feet	92 feet	198 feet
Del Monte Boulevard	10,793	33 feet	82 feet	177 feet

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. The noise levels presented in this table should therefore be considered conservative estimates of future roadway noise levels.

N/A: Not applicable (noise level not achieved).

Source: Traffic volumes from Fehr & Peers Transportation Consultants (May 2010). See Appendix D for noise data and noise modeling worksheets.

Pursuant to General Plan Policy 4.108, because noise modeling shows that new residential uses could be exposed to exterior noise levels at outdoor activity areas above the City’s maximum exterior 60 dBA L_{dn} “acceptable” standard for residential uses (refer to Table 4.4-4), an acoustical analysis would be required to show that exterior noise levels have been mitigated such that building occupants will not be subject to interior noise levels greater than 45 dBA L_{dn}. However, exterior noise levels at new outdoor activity areas would be less than the 70 dBA L_{dn} “conditionally acceptable” level. Compliance with General Plan Policy 4.108 and Title 24 building requirements would ensure that interior noise levels for development under the proposed Specific Plan would be within the City’s interior noise limits depicted in Table 4.4-4. Impacts under this option would remain Class III, *less than significant*.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to roadway noise impacts. Individual projects proposed in areas exceeding the City’s noise standards would be evaluated and appropriate sound attenuation techniques implemented on a project-by-project basis. The City of Marina General Plan Community Design and Development Element includes Policies 4.106 through 4.111, listed in Section 4.1.1(d), above, which are intended to reduce or prevent noise conflicts. General Plan Policies 4.109 through 4.111 specifically address potential traffic and roadway noise impacts.

Mitigation Measures. No mitigation is required.

Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact N-5 **Development facilitated by the Specific Plan would include multiple use development that may locate residences or other noise-sensitive land uses in close proximity with noise-generating land uses. Nuisance noise associated with multiple use developments would be Class III, *less than significant*.**

The Specific Plan would facilitate the development of new residential, office/research, retail, public facilities, and multiple use development within the Plan area. No stationary sources are



expected to be built that would create high, noticeable levels of noise. Stationary noise in the Specific Plan area would be limited to sources common to residential, retail, and office uses, such as: rooftop heating, ventilation, and air conditioning equipment. These sources generate low levels of noise and are not generally substantial sources of nuisance noise. Moreover, General Plan Policy 4.111 requires that new stationary sources adjacent to sensitive land uses comply with specific noise standards. Acoustic design to achieve such standards would be developed at the time a specific project is proposed. Compliance with these standards would need to be demonstrated prior to any discretionary or ministerial City approvals to construct. This would be a Class III, *less than significant* impact

Reservation Road Four-Lane Option. The distribution of land uses throughout the Specific Plan area would not change under the Reservation Road Four-Lane Option. Noise impacts related to land use conflicts, including those related to Multiple Use development, would therefore be consistent with the above description. Impacts would be Class III, *less than significant*.

Reservation Road Two-Lane Option. The distribution of land uses throughout the Specific Plan area would not change under the Reservation Road Two-Lane Option. Noise impacts related to land use conflicts, including those related to Multiple Use development, would therefore be consistent with the above description. Impacts would be Class III, *less than significant*.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies related to operational noise impacts. Individual projects proposed in areas exceeding the City's noise standards would be evaluated and appropriate sound attenuation techniques implemented on a project-by-project basis. The City of Marina General Plan Community Design and Development Element includes Policies 4.106 through 4.111, listed in Section 4.1.1(d), above, which are intended to reduce or prevent noise conflicts.

Mitigation Measures. No mitigation is required.

Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact N-6 **Aircraft from the Marina Municipal Airport would fly over portions of the Specific Plan area. The Specific Plan would not expose sensitive receptors to aircraft noise in excess of normally acceptable levels, or conflict with the Marina Municipal Airport Comprehensive Land Use Plan. Impacts would be Class III, *less than significant*.**



Airport noise impacts are measured using CNEL, which calculates the average noise generated by aircraft over a 24-hour period, giving extra weighting to noise occurring during the evening and night hours.

The Marina Municipal Airport is located approximately one mile east of the proposed Specific Plan's easternmost boundary. The airfield in Marina has transitioned from a military airfield with 150,000 operations per year to a civilian airfield with fewer than 60,000 annual operations.

Future noise contours for the Marina Airport are shown in the Fort Ord Reuse Plan, 2015 Airport Noise Contours, and 1996 ACLUP. The Specific Plan area is located outside of the future 60 CNEL noise contour projected for operations at the Marina Airport. Early in 2006 the City of Marina retained an airport consultant to assist with an update of the Marina ACLUP, in recognition that the currently adopted 1996 plan is obsolete in terms of forecasts, noise modeling software, and statewide adopted safety zone methodology. Noise modeling was prepared using an early version of the FAA's Integrated Noise Model. The updated noise contours presented in the Draft 2006 ACLUP indicate that the 65 and 60 CNEL noise contours for year 2025 are outside of the Specific Plan area. Therefore, the Specific Plan area would not be significantly adversely impacted by airport noise. Impacts due to aircraft operations would be Class III, *less than significant*.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road Four-Lane Option. Noise impacts related to airport operations under the Reservation Road Four-Lane Option would therefore be consistent with the above description.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road Two-Lane Option. Noise impacts related to airport operations under the Reservation Road Two-Lane Option would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Downtown Vitalization Specific Plan that reduce airport noise impacts.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Both the Four-Lane and Two-Lane Reservation Road Options would be located outside of the airport 65 and 60 CNEL noise contour. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Buildout of the City of Marina General Plan would gradually alter the scale of existing development and incrementally increase regional noise levels. Much of these impacts would result from anticipated future development along the periphery of the



existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City, and would contribute to this incremental increase in regional noise levels.

Construction Noise. Implementation of mitigation measures N-1(a) through N-1(c) would reduce the noise impact of construction activity to the extent feasible. Due to the temporary nature of construction activity noise, these mitigation measures would reduce cumulative noise impacts from construction activity, except for pile-driving, to a less than significant level. However, pile-driving noise would remain a significant and unavoidable impact if occurring in close proximity to noise-sensitive receptors. Therefore, cumulative construction noise impacts would be cumulatively considerable.

Traffic Noise. Future noise levels experienced by existing residences and residences built under the Specific Plan would be primarily due to transportation sources, rather than stationary sources. Consequently, ambient noise at these receptors could increase with increased traffic volumes associated with future development.

Cumulative impacts of the proposed Specific Plan and cumulative development in the City are described in the project analysis above, under Impacts N-3 and N-4. Tables 4.4-7 and 4.4-8, above, compare roadside noise levels under existing conditions to those that could occur under cumulative traffic conditions with buildout under the Reservation Road Four-Lane Option (Existing plus Four-Lane Option Conditions) and the Reservation Road Two-Lane Option (Existing plus Two-Lane Option Conditions). As illustrated in Tables 4.4-7 and 4.4-8, the net L_{dn} increase is not expected to exceed 2.3 dBA at 50 feet (measured from roadway centerline) for any studied roadway under cumulative-plus-project conditions. This would not exceed the 5 dBA criterion. All future development under the Specific Plan would be required to comply with Marina’s noise standards (refer to Table 4.4-4), which restrict the level of noise that can be generated near a property according to its land use. This is a less-than-significant cumulative impact, and no mitigation would be required.

Tables 4.4-11 and 4.4-12 depict the roadway noise contours that are anticipated to occur under cumulative conditions, including the Reservation Road Four-Lane Option (Existing plus Four-Lane Option Conditions) and the Reservation Road Two-Lane Option (Existing plus Two-Lane Option Conditions).

**Table 4.4-11. Reservation Road Four-Lane Option:
 Predicted Traffic Noise under Cumulative Conditions**

Roadway	Distance to L_{dn} Contour from Centerline		
	70 dB	65 dB	60 dB
Reservation Road	44 feet	98 feet	212 feet
Carmel Avenue	N/A	N/A	44 feet
Palm Avenue	N/A	N/A	29 feet
Reindollar Avenue	N/A	N/A	53 feet
Del Monte Boulevard	45 feet	100 feet	216 feet
Seacrest Avenue	N/A	28 feet	72 feet
Crescent Avenue	N/A	N/A	59 feet
California Avenue	N/A	N/A	45 feet



**Table 4.4-11. Reservation Road Four-Lane Option:
 Predicted Traffic Noise under Cumulative Conditions**

Roadway	Distance to L _{dn} Contour from Centerline		
	70 dB	65 dB	60 dB

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. The noise levels presented in this table should therefore be considered conservative estimates of future roadway noise levels. N/A: Not applicable (noise level not achieved).
 Source: Traffic volumes from Fehr & Peers Transportation Consultants (May 2010). See Appendix D for noise data and noise modeling worksheets.

**Table 4.4-12. Reservation Road Two-Lane Option:
 Predicted Traffic Noise under Cumulative Conditions**

Roadway Segment	Distance to L _{dn} Contour from Centerline		
	70 dB	65 dB	60 dB
Reservation Road	42 feet	96 feet	206 feet
Del Monte Boulevard	43 feet	98 feet	211 feet

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. The noise levels presented in this table should therefore be considered conservative estimates of future roadway noise levels. N/A: Not applicable (noise level not achieved).
 Source: Traffic volumes from Fehr & Peers Transportation Consultants (May 2010). See Appendix D for noise data and noise modeling worksheets.

Because noise modeling shows that new residential uses could be exposed to exterior noise levels at outdoor activity areas above the City’s maximum exterior 60 dBA L_{dn} “acceptable” standard for residential uses, acoustical analyses may be required for future development to show that interior noise levels would be no more than 45 dBA L_{dn}.

However, the 70 dBA L_{dn} contour would not exceed 50 feet from the roadway centerline for any studied roadway. Therefore, development under the Specific Plan would not be expected to contribute to cumulative traffic noise that would create noise levels that would exceed the 70 dBA L_{dn} “conditionally acceptable” level. This is a less than significant cumulative impact, and no mitigation would be required.

Land Use Conflicts. General Plan Policy 4.111 requires that new stationary sources adjacent to sensitive land uses comply with specific noise standards. Operational noise impacts related to land use conflicts, including nuisance noise associated with multiple use development would be addressed on a project-by-project basis, and acoustic design to achieve the standards required by the General Plan would be developed at the time a specific project is proposed. Compliance with these standards would need to be demonstrated prior to any discretionary or ministerial City approvals to construct. Cumulative impacts from land use conflicts would not be cumulatively considerable.



4.5 GEOLOGY AND SOILS

4.5.1 Setting

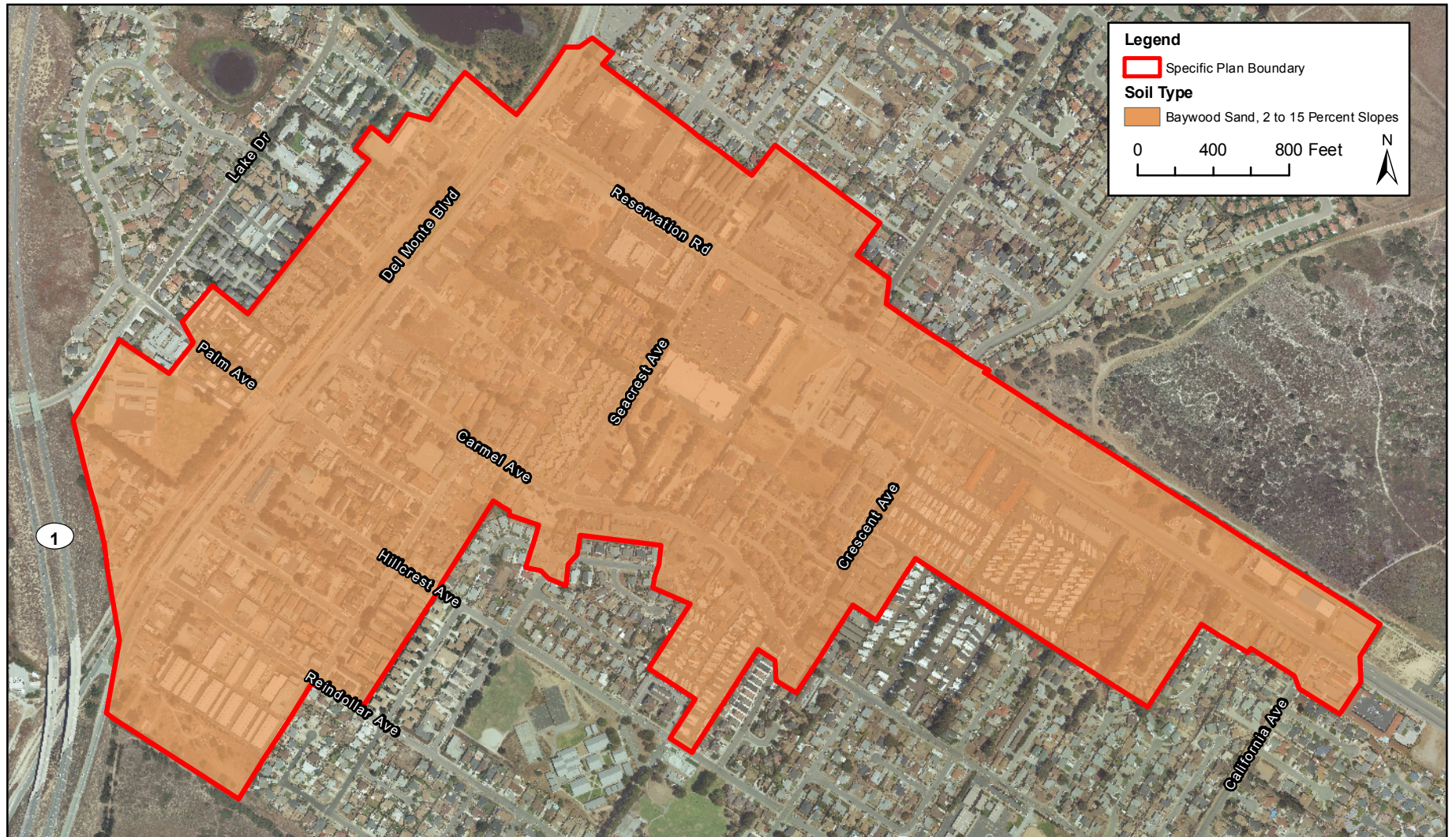
a. Topographic and Geologic Conditions. The City of Marina encompasses a triangular-shaped area of land along the southeastern shore of a broad, crescent-shaped embayment in the California shoreline that forms Monterey Bay. Topography within the city consists of coastal dunes and low, rolling hills stepping gradually up from the coastline to maximum elevations of about 250 feet. The eastern boundary of the city is marked by a steep bluff 60 to 120 feet high forming the southern border of the Salinas River flood plain. To the north, the city extends to the mouth of the Salinas River and incorporates a broad, low-lying flood plain along the southwestern bank of the river. The Specific Plan area is located in the center of the City of Marina, where topography is gently sloped. One soil type occurs in the Downtown Specific Plan area: Baywood sand, 2 to 15 percent slopes (please see Figure 4.5-1).

The City of Marina is situated in the central portion of the California's Coast Ranges. The city and surrounding region are underlain by a large, northwest-trending, fault-bounded, elongate prism of granitic and metamorphic basement rocks, known collectively as the Salinian Block. The Salinian Block is separated from contrasting basement rock types to the northeast and the southwest by the San Andreas and Sur-Nacimiento fault systems, respectively (refer to Figure 4.5-2). Overlying the granitic and metamorphic basement rocks is a sequence of dominantly marine sediments of Cretaceous to Pliocene age and non-marine sediments of Pliocene to Pleistocene age. All but the youngest of these rocks show evidence of deformation, a result of the active tectonic environment of coastal California.

The Salinian Block is itself cut internally by many smaller faults that divide it into several sub-blocks. Some of the sub-blocks, such as the Santa Lucia Mountains, located south of the city, have been uplifted and form young, rugged mountain ranges. Other portions of the Salinian Block (including the Specific Plan area) have been relatively down-dropped, forming sedimentary basins.

The Specific Plan area occupies a relatively down-dropped basement block that forms the Monterey embayment. Granitic and metamorphic basement rocks which crop out at elevations of more than 2,000 feet above sea level some ten miles south of the city occur at depths of a few thousand feet or more beneath the planning area. Overlying the granitic basement are Miocene to Pleistocene-age sedimentary rocks a few thousand feet thick, including (in ascending order) the Monterey Foundation (a sequence of marine shale of Miocene age resting on granitic basement), the Purisima Formation (consisting of Pliocene-age sandstone and siltstone of marine origin), the Plio-Pleistocene Paso Robles Formation (a sequence of alluvial fan and river deposits), the Pleistocene-age Aromas Sands (made up of eolian [wind-blown] sand and river deposits), late Pleistocene to Modern fluvial sediment deposited by the Salinas River, and sand dunes that have formed in approximately the last 100,000 years. The surficial geology of the City of Marina consists primarily of dune sands and young deposits of the Salinas River.





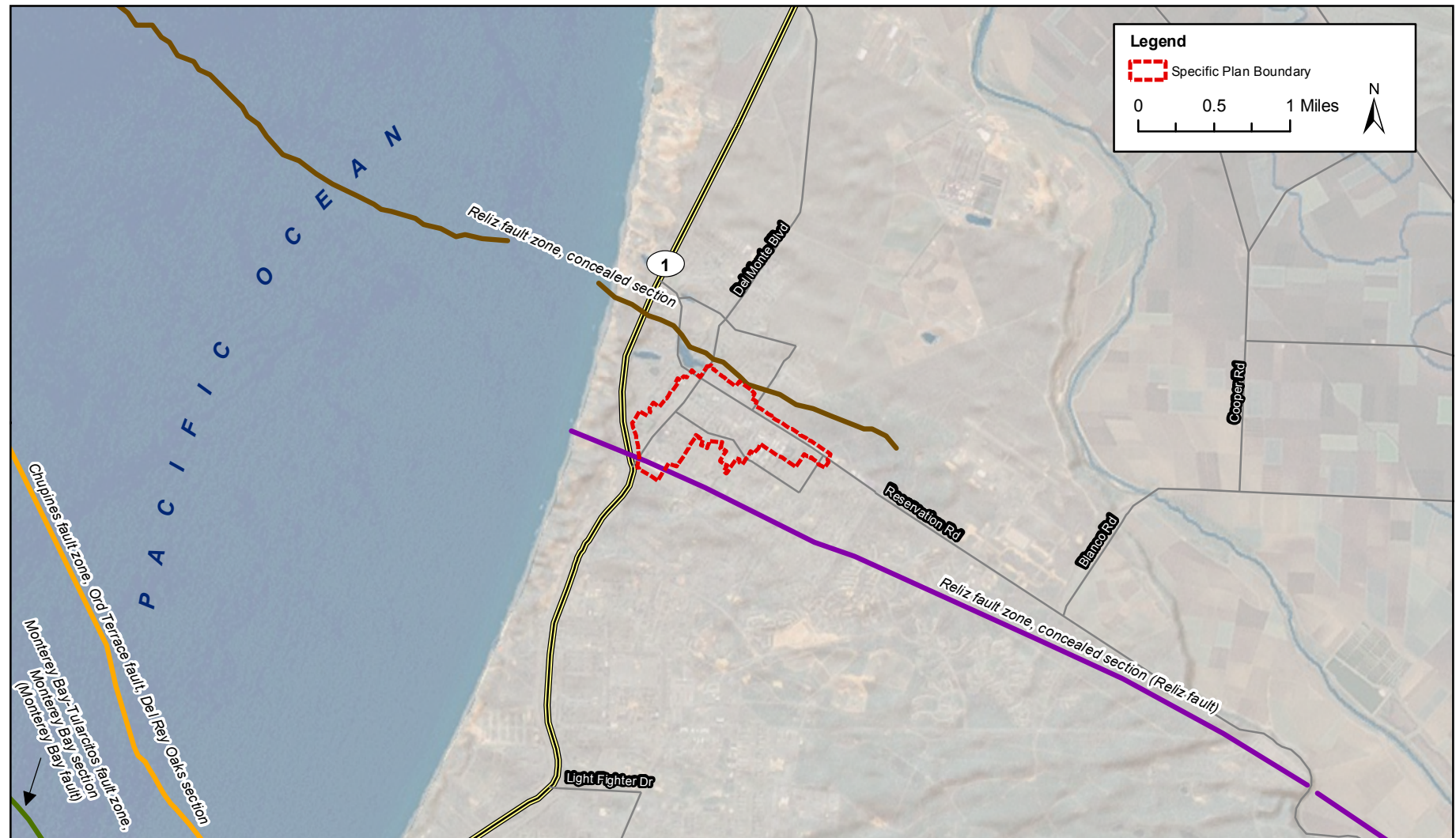
Base map source: City of Marina, 2010 and U.S. Department of Agriculture, Natural Resources Conservation Service, 2004.

Soil Type within the Marina Downtown Vitalization
Specific Plan Area

Figure 4.5-1
City of Marina



Section 4.5 Geology and Soils



Base map source: City of Marina, 2010 and United States Geological Society, 2010. Map images copyright © 2010 ESRI and its licensors. All rights reserved. Used by permission.

Earthquake Faults in the Marina Downtown Vitalization Specific Plan Vicinity

Figure 4.5-2
City of Marina



b. Seismic Hazards. Similar to much of California, the Specific Plan area is located within a seismically active region. The seismic hazards relevant to the Plan area are described below.

Faulting. The U.S. Geological Survey (USGS) defines active faults as those that have had surface displacement within Holocene time (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are faults that have had surface displacement during the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years.

The entirety of the Monterey Bay region is seismically active and subject to strong ground shaking during an earthquake on any of the fault systems in the area, including the San Andreas fault, the Palo Colorado-San Gregorio fault, and the Monterey Bay offshore fault zone. As shown in Figure 4.5-2, faults in the immediate vicinity of the City of Marina and Plan area include the Reliz fault, the Chupines fault, and the Monterey Bay-Tularcitos fault.

Surface Rupture. Faults generally produce damage in two ways: ground shaking and surface rupture. Surface rupture is limited to very near the fault. The closest active fault to the subject area is the Reliz fault and the Ord Terrace segment of the Seaside-Chupines fault abut or cross through the Specific Plan boundary (refer to Figure 4.5-2). The potential for surface rupture from either of these faults is therefore present in the Specific Plan area.

Ground Shaking. Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Hazards associated with seismically induced ground shaking include liquefaction, seismically induced settlement, and earthquake-triggered landslides. Movement along any of the faults shown in Figure 4.5-2 could potentially generate substantial ground shaking at the project site leading to these secondary hazards, as discussed in Section 4.5.1(c) (Secondary Seismic Hazards and Soil Hazards) below.

c. Secondary Seismic Hazards and Soil Hazards.

Liquefaction and Seismically-Induced Settlement. Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture.

Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can



also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

According to the Relative Liquefaction Potential map in the Monterey County General Plan EIR, the entire City of Marina is characterized as having a low relative liquefaction susceptibility (refer to Figure 4.5-3).

Expansive Soils. During periods of water saturation, these soils tend to expand, and during dry periods, the soils tend to shrink. These volume changes with moisture content can cause cracking of structures built on expansive soils. As shown in Figure 4.5-4, the expansion potential (shrink-swell potential) of the entire Specific Plan area is low.

Slope Stability and Landslides. Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards. Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure. There are numerous factors that affect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking.

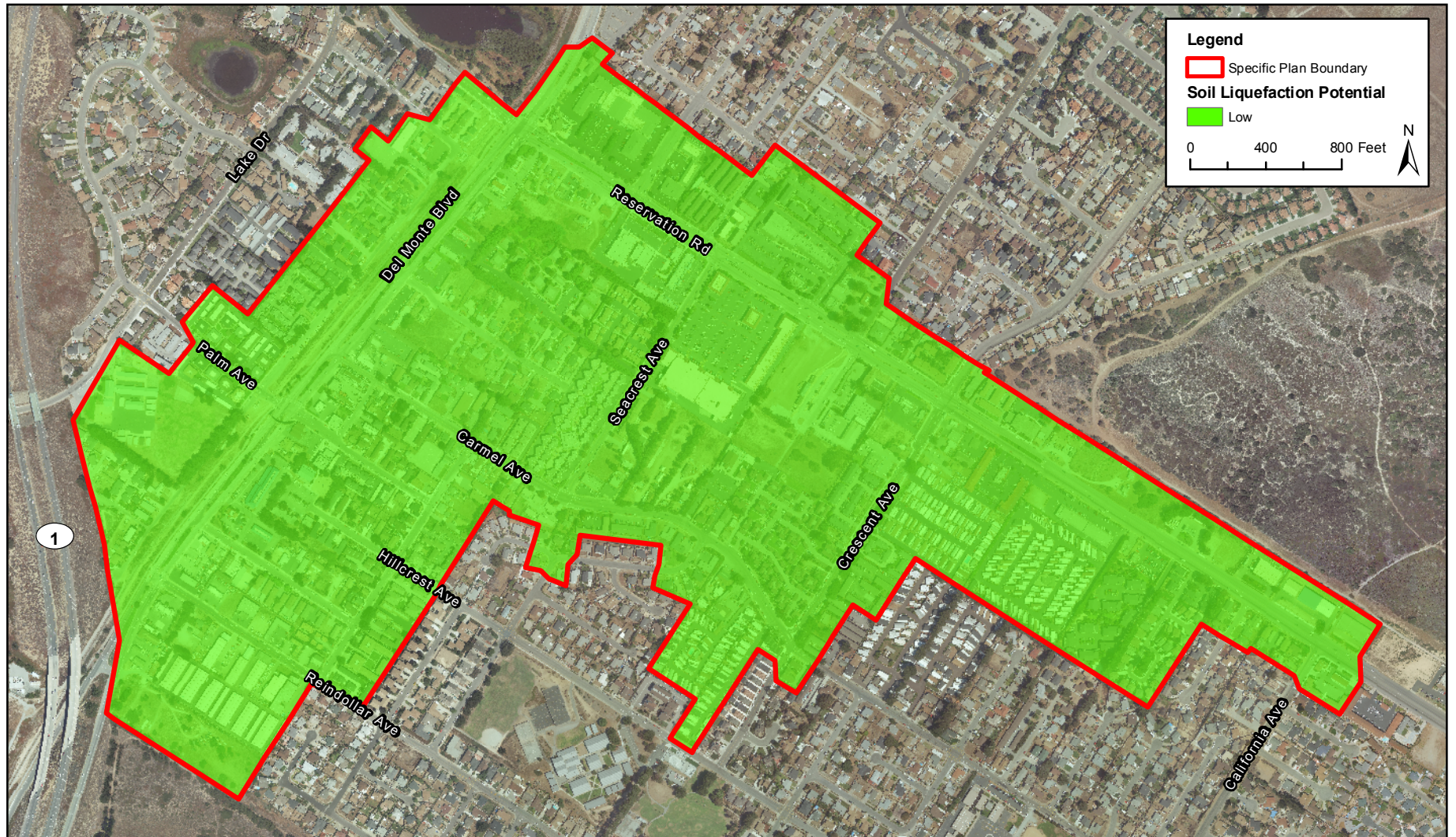
The Plan area is relatively flat. According to the EIR prepared for the City of Marina General Plan, landslide risk is low in the Specific Plan area.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earth Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
 - *Strong seismic ground shaking;*
 - *Seismic-related ground failure, including liquefaction; or*
 - *Landslide.*
- *Result in substantial soil erosion or the loss of topsoil;*
- *Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; or*
- *Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property.*



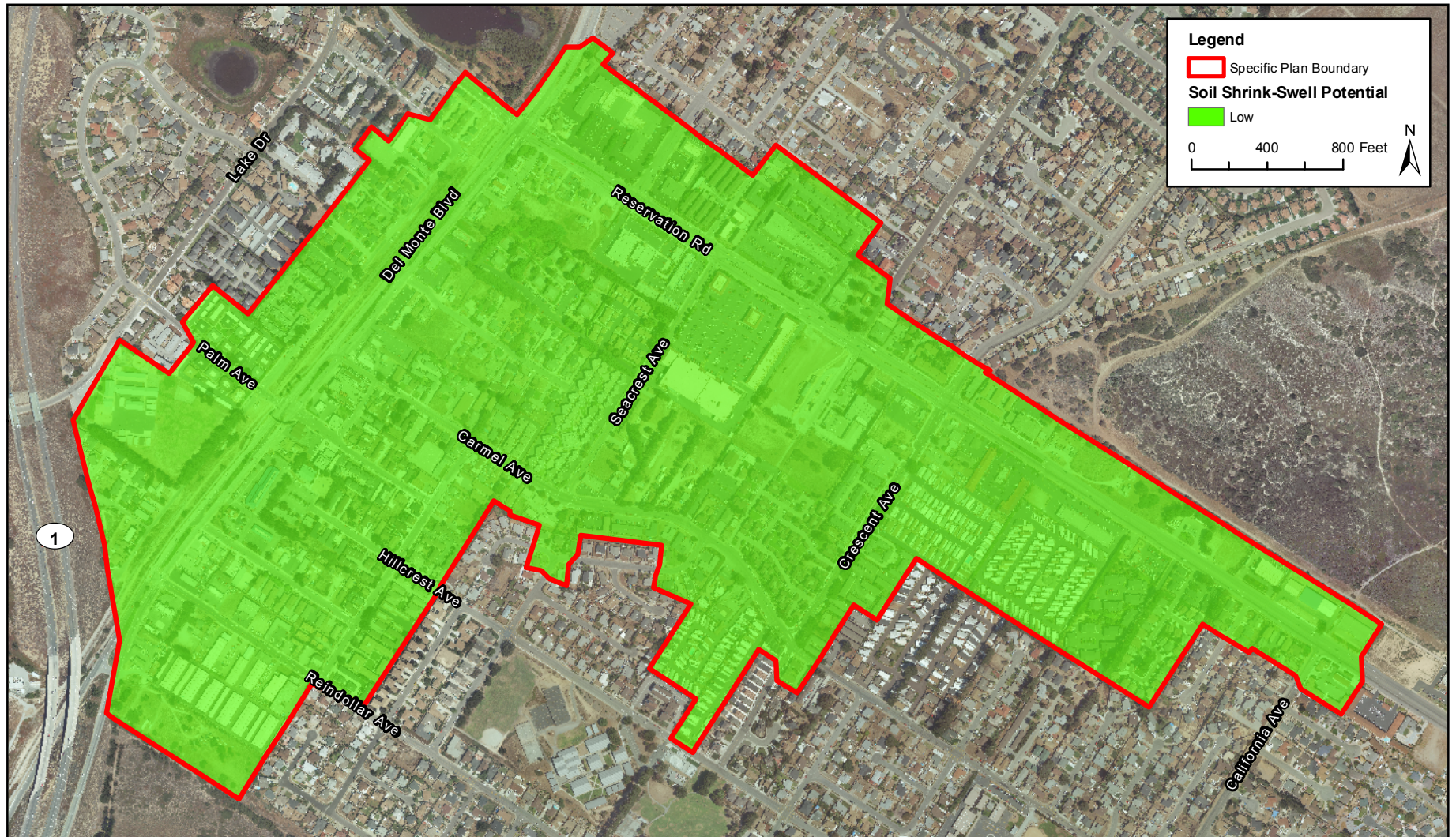


Base map source: City of Marina, 2010,
and Monterey County, 2008.

Liquefaction Potential within the Marina Downtown Vitalization
Specific Plan Area

Figure 4.5-3
City of Marina





Base map source: City of Marina, 2010 and U.S. Department of Agriculture, Natural Resources Conservation Service, 2009.

Expansive Soils within the Marina Downtown Vitalization
Specific Plan Area

Figure 4.5-4
City of Marina



It should be noted that development pursuant to the Specific Plan would not use on-site septic systems for wastewater treatment. As a result, the checklist item related to this threshold was excluded from the above list.

b. Impacts and Mitigation Measures.

Impact GEO-1 **Future seismic events could result in surface rupture and/or produce groundshaking that could damage structures and create adverse health and safety effects. However, compliance with required building codes and implementation of General Plan policies would ensure Class III, less than significant, impacts.**

Faults in the immediate vicinity of the City of Marina and Plan area include the Reliz fault, the Chupines fault, and the Monterey Bay-Tularcitos fault (please see Figure 4.5-2). The Reliz fault and the Ord Terrace segment of the Seaside-Chupines fault abut or cross through the Specific Plan boundary. The potential for surface rupture from either of these faults is therefore present in the Specific Plan area. Fault rupture as a result of seismic shaking would be harmful because it could cause structural failure and collapse of poorly built structures and cause nonstructural building elements to fall. This could result in utility lines (electrical and natural gas) breaking, thereby presenting a hazard to occupants and nearby persons.

Because of the proximity to other major active faults, including the San Andreas fault, the Palo Colorado-San Gregorio fault, and the Monterey Bay offshore fault zone, strong ground shaking could occur in the Marina downtown area during the life of the proposed Specific Plan. Strong seismic ground shaking could pose risks to people and structures within the Specific Plan area.

The 2007 California Building Code (CBC) requires that the design and construction of new structures be engineered to withstand the expected ground acceleration that may occur. In addition, the CBC would reduce ground rupture risks to acceptable levels, and contain construction requirements to minimize potential loss of life during an earthquake. New development in accordance with the proposed Specific Plan would conform to the CBC (as amended at the time of permit approval) as required by law. Proper engineering, including compliance with the CBC, would minimize the risk to life and property. Impacts to new development from groundshaking would therefore be Class III, *less than significant*.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for strong seismic groundshaking would therefore be consistent with the above description for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Specific Plan would not change under the Reservation Road two-lane option. The potential for strong seismic groundshaking would therefore be consistent with the above description for the Reservation Road two-lane option.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that reduce this impact. However, the Marina General Plan contains the following policies intended to minimize the risk associated with seismic-related hazards:



- *Community Land Use Policies:*
 - *Policy 2.4.7 Development shall be prohibited or restricted where natural conditions present a serious threat to life or may lead to the destruction of homes, businesses, or public facilities.*

- *Community Design and Development Policies:*
 - *Policy 4.99 New development shall be permitted in areas of high seismic risk only when adequate engineering and design measures can be implemented in accordance with a geotechnical investigation and report.*
 - *Policy 4.100 To ensure that seismic and geotechnical hazards are adequately minimized, the City shall continue its practice of adopting the most recent edition of the California Uniform Building Code within six months following adoption by the State.*
 - *Policy 4.102-1 Ensure that critical or sensitive facilities, e.g., hospitals, fire and police stations, schools, major transportation links, high-occupancy structures, emergency communication facilities, utility lines, and sites containing or City of Marina General Plan storing hazardous materials, are located, designed and operated to maximize their ability to remain functional after the expected or maximum credible event on any of the local active fault systems. Critical facilities shall not be located in areas of high to very high seismic shaking hazard.*

The above policies would effectively prohibit locating structures or development across a known or active fault trace. In addition, compliance with the CBC would reduce ground rupture risks to acceptable levels, and contain construction requirements to minimize potential loss of life during an earthquake.

Mitigation Measures. No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. It is impossible to reduce the probability of a powerful earthquake with high ground acceleration to zero. Any structure built in California is susceptible to failure due to seismic activity. However, the potential for structural failure due to seismic ground shaking would be Class III, *less than significant* through implementation of the most recent industry standards (CBC) for structural design.

Impact GEO-2 Liquefaction potential in the proposed Specific Plan area is low. In addition, the compliance of future development projects with the CBC would result in Class III, *less than significant*, impacts.



Liquefaction is a phenomenon in which the strength and stiffness of saturated soil is rapidly reduced, either by seismic shaking or other sudden loading. Severe shaking of the soil can increase the water pressure within the soil, allowing the soil particles to move independently of one another. The soil consequently behaves more like a viscous fluid than a solid, which could result in damage to building foundations and structures during soil failure. According to the Relative Liquefaction Potential map in the Monterey County General Plan EIR, the entire City of Marina is characterized as having a low relative liquefaction susceptibility (refer to Figure 4.5-3). In addition, the 2007 CBC includes specific requirements to address liquefaction hazards. New development in accordance with the proposed Specific Plan would conform to the CBC (as amended at the time of permit approval) as required by law. Compliance with the CBC, combined with the low relative liquefaction susceptibility, would result in Class III, *less than significant* impacts related to liquefaction.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for liquefaction hazards would therefore be consistent with the above description for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for liquefaction hazards would therefore be consistent with the above description for the Reservation Road two-lane option.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that reduce this impact. However, the Marina General Plan contains the following policies intended to minimize the risk associated with seismic-related hazards, including liquefaction:

- *Community Design and Development Policies:*
 - *Policy 4.99* New development shall be permitted in areas of high seismic risk only when adequate engineering and design measures can be implemented in accordance with a geotechnical investigation and report.
 - *Policy 4.100* To ensure that seismic and geotechnical hazards are adequately minimized, the City shall continue its practice of adopting the most recent edition of the California Uniform Building Code within six months following adoption by the State.
 - *Policy 4.102-5* Where new development or subdivisions are proposed on soils with moderate to potentially severe limitations as substrates for construction or engineering purposes, as shown in Figure 4 of Appendix A, require that geotechnical reports be prepared and engineering and design measures be implemented as part of the project approval process. Allow exceptions for development on existing lots of record where geotechnical reports were completed in conjunction with subdivision map approval or for single-family homes on existing lots of record.

Mitigation Measures. No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.



Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-3 Development facilitated by the proposed Specific Plan could occur on soils that have the potential to present hazards to structures and roadways. However, compliance of future development projects with the building codes and adopted General Plan policies would ensure that impacts remain Class III, less than significant.

The expansion potential (shrink-swell potential) of the entire Specific Plan area is low. In addition, the only soil in the Specific Plan area (Baywood sand, 2 to 15 percent slopes; please see Figure 4.5-4) has a slight to moderate water erosion hazard and high wind erosion hazard (U.S. Department of Agriculture, Natural Resource Conservation Service; refer to Figure 4.5-1). The potential for soil settlement in the Specific Plan area would therefore be low. However, structures and facilities constructed on highly erosive soils, as well as occupants of the structures, would have the potential to be exposed to hazards related to erosion.

The CBC includes requirements to address soil related hazards. Typical measures to treat hazardous soil conditions involve removal, proper fill selection, and compaction. Expansion, erosion, or large-scale settlement problems would not be a substantial constraint to development of individual sites provided that Building Code guidelines are followed. Therefore, impacts would be less than significant.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for soil-related hazards would therefore be consistent with the above description for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for soil-related hazards would therefore be consistent with the above description for the Reservation Road two-lane option.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that reduce this impact. However, the Marina General Plan contains the following policies intended to minimize the risk associated with soil-related hazards:

- *Community Design and Development Policies:*



- *Policy 4.100* To ensure that seismic and geotechnical hazards are adequately minimized, the City shall continue its practice of adopting the most recent edition of the California Uniform Building Code within six months following adoption by the State.
- *Policy 4.102-5* Where new development or subdivisions are proposed on soils with moderate to potentially severe limitations as substrates for construction or engineering purposes, as shown in Figure 4 of Appendix A, require that geotechnical reports be prepared and engineering and design measures be implemented as part of the project approval process. Allow exceptions for development on existing lots of record where geotechnical reports were completed in conjunction with subdivision map approval or for single-family homes on existing lots of record.

Mitigation Measures. No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Properly designed and constructed foundations would adequately mitigate the potential for structural problems caused by soil-related hazards, thereby reducing impacts to a less than significant level.

Impact GEO-4 Risk of landslide hazard within the Plan area is low. Compliance with the building codes would result in Class III, less than significant, impacts.

According to the EIR prepared for the City of Marina General Plan, landslide risk is low in the Specific Plan area. In addition, the 2007 CBC includes specific requirements to address landsliding hazards. New development in accordance with the proposed Specific Plan would conform to the CBC (as amended at the time of permit approval) as required by law. Compliance with the CBC, combined with the low landslide risk in the plan area, would result in Class III, less than significant impacts.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for landsliding hazards would therefore be consistent with the above description for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for landsliding hazards would therefore be consistent with the above description for the Reservation Road two-lane option.



Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Downtown Vitalization Specific Plan that reduce this impact. However, the Marina General Plan contains the following policy related to landslide hazards:

- *Community Design and Development Policy:*
 - Policy 4.98 *The policies of the Community Land Use element prohibit development on land where there is a significant potential threat to life or property due to very high seismic shaking or seismically induced ground failure, flooding, or landslides...*

Mitigation Measures. No mitigation is required beyond compliance with applicable General Plan policies and provisions of the CBC.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Buildout of the City of Marina General Plan would gradually increase population and therefore gradually increase the number of people exposed to potential geological hazards. Many of these impacts would result from anticipated future development along the periphery of the existing community, including projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. Although this future development would be at a greater density and intensity than currently envisioned under the General Plan, the project area is generally not susceptible to geologic hazards. Compliance with the 2007 CBC and applicable General Plan policies would ensure that seismic and geologic hazard impacts remain less than significant. Accordingly, the proposed Specific Plan's contribution to cumulative geologic hazards impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.

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4.6 CULTURAL AND HISTORIC RESOURCES

4.6.1 Environmental Setting

a. Regional Resources

Prehistoric Resources. The City of Marina and the Plan area lie within the currently recognized ethnographic territory of the Costanoan (often called Ohlone) linguistic group. The Costanoans followed a general hunting and gathering subsistence pattern with partial dependence on the natural acorn crop. Habitation is considered to have been semi-sedentary and occupation sites can be expected most often at the confluence of streams, other areas of similar topography along streams, or in the vicinity of springs. These original sources of water may no longer be present. Also, resource gathering and processing areas and associated temporary campsites are frequently found on the coast and in other locations containing resources utilized by the group. Factors which may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, botanical transition areas (ecotones), the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

Historic Resources. The area known today as Marina was once owned by David Jacks and James Bardin. In the middle 19th Century, these two owned much of the land area that now constitutes the Monterey Peninsula. Mr. Bardin's heirs sold much of the land to John Armstrong for farming and grazing; others purchased tracts for future development. Armstrong's descendants maintain ranching operations adjacent to Marina to the present day.

In the early 1900s the area was designated as "Bardin," followed by "Locke-Paddon Colonies," and eventually "Paddonville." In 1918, the land was renamed "Marina." It was about this time that the Southern Pacific Railroad, persuaded by then owner William Locke-Paddon, made Marina a flag stop for Locke's customers coming from San Francisco. It was his decision to change the name of the area to Marina.

As the land was developed, areas were set aside for a school, church and other necessities of an organized city. William Locke-Paddon (1876-1972), is considered the father of Marina. Marina's first post office was established in April 1919, housed in conjunction with a general store and gasoline pump.

In 1917, the War Department acquired a 200-acre parcel from lands formerly designated part of the City of Monterey Tract No. 1 and built Camp Clayton. In the same year, an additional 15,609 acres were acquired and became known as the Gigling Field Artillery Target Range. Camp Gigling was located near the East Garrison at the intersection of present-day Reservation and Inter-Garrison Roads, approximately 3.4 miles east of the Plan area. In 1940, the U.S. Army began acquiring more land, and in the summer of the same year the installation became a permanent army facility and was renamed Fort Ord. The fort consisted of more than 15,000 acres.



As with the nearby Monterey Peninsula, Marina witnessed a robust level of growth and development from the 1930s through the 1950s, including schools, churches, businesses, community center and residential homes. The area thus transitioned from a quiet rural area. In 1956, the Marina Fire District was formed and Reservation Road began to develop as a commercial area.

After two unsuccessful attempts in the early 1970s, Marina incorporated as a city in November of 1975. In 1986, the City established a Redevelopment Project Area in the central commercial core of Marina along Reservation Road and Del Monte Boulevard.

The Fort Ord Military Reservation was downsized and fully decommissioned in 1994. The Fort Ord Reuse Authority (FORA) was established in 1994 to prepare, adopt, finance and implement a plan for the land occupied by former Fort Ord. The former Army property was divided among the City of Seaside, City of Marina, unincorporated Monterey County, and a new campus of California State University, Monterey Bay. The closure of the installation had a quick affect on the demographics and economy of the City. The City's population dropped by 9,000 and nearly 23,000 jobs in the area were lost. The Fort Ord Base Reuse Plan adopted in 1996 defined land uses and water allocations for the former Army property. Within the City of Marina, four major projects took shape:

- The Dunes on Monterey Bay (previously known as "University Village"): a mixed use community on 429 acres
- Cypress Knolls: a senior housing community on 186 acres
- Marina Heights: residential community with parks and open space on 320 acres
- Airport Economic Development Area: a general aviation airport, business, light industry and recreational uses on 845 acres and including facilities of the University of California, Santa Cruz

b. Specific Plan Area Resources. The California Historical Resources Information System (CHRIS) cultural resource record search and assessment was prepared by the Northwest Information Center at Sonoma State University on May 3, 2010 for the 295-acre Specific Plan site.

Prehistoric Resources. According to the CHRIS cultural records search, there have been 13 cultural resource studies conducted in the Specific Plan area, covering approximately 15 percent of the Plan area. These cultural resource studies did not yield any recorded cultural resources. In addition, there are no Native American resources in or adjacent to the proposed Specific Plan area referenced in ethnographic literature. However, Native American resources have been found in areas marginal to the Monterey Bay shore, and inland near intermittent and perennial water courses. The proposed Specific Plan area contains areas of gently sloping to rolling soil on stabilized sand dunes marginal to the Monterey Bay shore, as well as lands adjacent to a former inland salt lake. Given the similarity of one or more of these environmental facts, there is a moderate potential of identifying unrecorded Native American resources in the proposed Specific Plan area (CHRIS, May 3, 2010). In addition, there is a moderate to high potential of identifying unrecorded historic-period archaeological resources in the proposed Specific Plan area (CHRIS, May 3, 2010).



Historical Resources. According to the CHRIS cultural records search, the Office of Historic Preservation's Historic Property Directory indicates that seven buildings within the Specific Plan boundaries may be historical. These properties (3100, 3109, 3115, 3117, 3128, 3137, and 3146 Crescent Street) have all been determined ineligible for the National Register by consensus through Section 106 process, but have not been evaluated for the California Register or Local Listing. In addition, the 1947 USGS Monterey 15-minute topographic quadrangle depicts numerous buildings or structures within the Specific Plan area. These unrecorded buildings/structures meet the Office of Historic Preservation's minimum age standard that buildings, structures, and objects 45 years or older may be of historical value.

c. Regulatory Setting

California Register of Historical Resources (CRHR). The California Register is an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code Section 5024.1(a)). The CRHR is overseen and administered by the State Historical Resources Commission. The criteria for listing resources on the CRHR are based on those developed by the National Park Service for listing on the National Register of Historic Places with modifications in order to include a broader range of resources which better reflect the history of California. A resource is considered historically significant if it:

- *Is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States;*
- *Is associated with the lives of persons important to the nation or to California's past;*
- *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
- *It has yielded, or may be likely to yield, information important to the prehistory or history of the State and the Nation.*

California Public Resources Code. Section 5097.9 of the California Public Resources Code (PRC) stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine.

Section 5097.5 of the PRC prohibits excavation or removal of any "vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." PRC 30244 requires reasonable mitigation of adverse impacts to paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) will be removed from any natural geologically formed cavity or cave.

State Health and Safety Code. If human remains are discovered or exposed during construction, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to



be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendent of the deceased Native American, who will serve as a consultant on how to proceed with the remains (i.e., avoid, reburial).

4.6.2 Impact Analysis

a. Methodology and Impact Criteria. Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *A substantial adverse change in the significance of a historical resource as defined in §15064.5;*
- *A substantial adverse change in the significance of an archaeological resource as defined in §15064.5;*
- *Directly or indirectly destroys a unique paleontological resource or site or unique geologic feature; or*
- *Disturbs any human remains, including those interred outside of formal cemeteries.*

Under CEQA, an impact on a historical resource is considered significant if the impact lessens the integrity of the qualities of the property that qualify it for the CRHR. If development pursuant to the Specific Plan may cause damage to a significant historical resource, it may have a significant effect on the environment. Section 15064.5 of the CEQA Guidelines pertains to the determination of the significance of impacts to archaeological and historic resources. Direct impacts may occur by:

- (1) *Physically damaging, destroying, or altering all or part of the resource;*
- (2) *Altering characteristics of the surrounding environment that contribute to the resource's significance;*
- (3) *Neglecting the resource to the extent that it deteriorates or is destroyed. Indirect impacts primarily result from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources; or*
- (4) *The incidental discovery of cultural resources without proper notification.*

Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources within the Specific Plan area, assessing the significance of the resources that may be affected, and determining the appropriate mitigation.

Indirect impacts primarily result from the effects of project-induced population growth. Removal, demolition, or alteration of historical resources can destroy the historic fabric of an archaeological site, structure, or historic district. Due to their nature, indirect impacts are much harder to assess and quantify.

CEQA provides guidelines for mitigating impacts to historical resources in Section 15126.4. For architectural resources, maintenance, repair, stabilization, restoration, preservation, conservation, or reconstruction in a manner consistent with the Secretary of the Interior's



Standards and Guidelines generally will constitute mitigation of impacts to a less than significant level.

The Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68) defines four options for the treatment of historic buildings: 1) preservation, 2) rehabilitation, 3) restoration, and 4) reconstruction. Generally:

1. *Preservation involves the application of measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment.*
2. *Rehabilitation entails making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.*
3. *Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.*
4. *Reconstruction involves new construction to recreate the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.*

The Secretary's Standards are not prescriptive, but instead provide general guidelines and are intended to be flexible and adaptable to specific project conditions, including aspects of adaptive use, functionality, and accessibility. The goal is to balance continuity and change and retain historic building fabric to the maximum extent feasible. The National Park Service has compiled a series of bulletins to provide guidance on specific historic preservation topics.

Avoidance is the preferred manner of mitigating impacts to significant archaeological resources. If avoidance cannot be achieved and data recovery excavation is the only feasible mitigation, a data recovery plan must be prepared and adopted prior to any excavation.

b. Project Impacts and Mitigation Measures

Impact CR-1 **Development accommodated or encouraged pursuant to the Specific Plan may affect the integrity of identified and potential historical structures in the Plan area, depending on the location and type of development proposed within the downtown area. Impacts would be Class II, significant but mitigable.**

As described in Section 4.6.1(b) (Specific Plan Area Resources), seven listed properties may be eligible for the California Register or Local Listing. In addition, numerous unrecorded buildings/structures in the downtown area meet the Office of Historic Preservation's minimum age standard for potential historical value.



The seven listed properties are all located along Crescent Avenue, between Carmel Avenue and Reservation Road. As shown on Figure 2-3 in Section 2.0, *Project Description*, existing land use designations along this corridor are primarily Multi-family Residential, with Retail/Service near Reservation Road. Under the proposed Specific Plan, the majority of this area would retain its current designation, with the exception of the northwest side of Crescent Avenue currently designated Retail/Service (near Reservation Road). This area would be re-designated to Multi-family Residential and Multiple Use under the proposed Specific Plan (refer to Figure 2-4 in Section 2.0, *Project Description*). Because the majority of this area would not change designations under the proposed Specific Plan, impacts to these potentially historical resources would be unlikely. However, impacts could occur to one or more of these structures due to future redevelopment. It can be noted that nothing inherent in the proposed Specific Plan alters the existing risk to historic resources, as this block is already with a redevelopment project area boundary, and the proposed Plan does not alter the proposed land use.

Any of the numerous unrecorded buildings in the downtown area that meet the Office of Historic Preservation's minimum age standard for potential historical value could be impacted by the proposed Specific Plan. Direct impacts to these buildings could occur either through demolition or remodeling, if any proposed development contemplates these actions. Indirect impacts could also occur if the areas adjacent to these structures are disturbed in such a way as to potentially impact the historic integrity of these structures or affect a potential historic district that might become identified at a future date if no additional modifications occurred. These potential future impacts are being considered in this report as potentially significant.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Specific Plan would not change under the Reservation Road four-lane option, and no additional right-of-way is being recommended beyond what already exists. Impacts to historical structures with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Specific Plan would not change under the Reservation Road two-lane option, and no additional right-of-way is being recommended beyond what already exists. Impacts to historical structures with this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that would address potential impacts to cultural resources. However, the Marina General Plan contains the following policy that addresses historical resources within the City in general:

- *Program and Implementation Policy:*
 - *Policy 5.19 The City should undertake a survey of potential historical resources, determine if there are adequate potential historical resources to warrant possible state recognition as a Certified Local Government, and if so, pursue possible recognition, and consider adoption of an historical preservation ordinance as well as policy and permitting requirements for activities which might affect historical resources.*



Mitigation Measures. The following mitigation is required:

CR-1(a) Compliance with the Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties. If a building or structure within the Specific Plan area that is more than 45 years of age is proposed for removal or alteration, the applicant shall obtain an analysis from a qualified architectural historian to determine if the structure or structures should be considered state or local historic resources. If the finding is positive and a structure is found to be historic, it shall be recorded on Office of Historic Preservation DPR 523 historic resource recordation forms. As part of this process, the architectural historian shall recommend and the applicant shall implement mitigation in compliance with the *Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties* (36 CFR 68), as outlined in Section 4.6.2(a) above.

CR-1(b) Specific Plan Historic Resource Design Guidelines. The following design guidelines shall be added to the proposed Specific Plan:

- *Existing structures that are found to be considered historic resources should be incorporated into future projects through adaptive reuse techniques whenever possible, as determined by the community development director, the planning commission, or the city council.*
- *New structures constructed adjacent to identified historic structures should be reviewed by the community development director, the planning commission, or the city council for compatibility.*

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option beyond measures CR-1(a) and CR-1(b) above.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option beyond measures CR-1(a) and CR-1(b) above.

Significance after Mitigation. CEQA provides guidelines for mitigating impacts to historical resources in Section 15126.4. For buildings and structures, maintenance, repair, restoration, preservation, conservation, or reconstruction consistent with the *Secretary of Interior’s Standards and Guidelines for the Treatment of Historic Properties* is considered mitigation of impacts to a less than significant level (14 CCR 15126.4(b)(1)). Therefore, with implementation of the above mitigation measures, as well as local General Plan direction, impacts would be reduced to a less than significant level.

Impact CR-2 Although no prehistoric resources have been identified in the downtown area, ground disturbance associated with new construction could uncover previously unknown buried archeological deposits and/or human remains. This is a Class II, significant but mitigable, impact.



As described in Section 4.6.1(b) (Specific Plan Area Resources), there have been 13 cultural resource studies conducted in the Specific Plan area, covering approximately 15 percent of the Plan area. These cultural resource studies did not yield any recorded cultural resources. However, there is a moderate potential of identifying unrecorded Native American resources and a moderate to high potential of identifying unrecorded historic-period archaeological resources in the Specific Plan area. Future development pursuant to the proposed Specific Plan could therefore result in the discovery of previously unidentified buried archeological deposits and/or human remains, despite existing development in the Plan area. Impacts would be Class II, *significant but mitigable*.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Specific Plan would not change under the Reservation Road four-lane option. Impacts to previously unidentified archaeological resources and/or human remains with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Specific Plan would not change under the Reservation Road two-lane option. Impacts to previously unidentified archaeological resources and/or human remains with this option would therefore be consistent with the description above.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Specific Plan that reduce this impact. However, the Marina General Plan contains the following policy that addresses archaeological resources within the City in general:

- *Community Design and Development Policy:*
 - *Policy 4.126-1 All archaeological resources which may be present in the Marina Planning Area shall be protected and preserved. To this end, development proposed in areas of high archaeological sensitivity, i.e., the terraces and benches along the Salinas River, the peripheries of vernal ponds, and coastal beaches, shall be required to undertake a reconnaissance by a qualified archaeologist, and, where artifacts are identified, to protect and preserve such resources.*

State Health and Safety Code Section 7050.5 requires that, if human remains are unearthed, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendent of the deceased Native American, who will serve as a consultant on how to proceed with the remains (i.e., avoid, rebury).

CEQA provides guidelines for mitigating impacts to archaeological resources in Section 15126.4. Preservation in place is the preferred manner of mitigating impacts (14 CCR 15126.4(b)(3)). Preservation in place may be accomplished by planning construction to avoid the resource, incorporating sites within parks or open space, covering sites with chemically stable and culturally sterile fill, or deeding the site into a permanent conservation easement. When data recovery excavation of an archaeological site is the only feasible mitigation, a detailed data recovery plan must be prepared and adopted prior to any excavation.



Mitigation Measures. The following mitigation is required to avoid potential impacts to as yet undiscovered cultural resources and/or human remains that could be present in the downtown area:

- CR-2(a) Undiscovered Cultural Resources.** The Redevelopment Agency shall be notified immediately if any prehistoric, archaeological, or paleontological artifact is uncovered during construction associated with proposed development. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action.
- CR-2(b) Undiscovered Human Remains.** All construction must stop and the authorities notified if any human remains are uncovered. The County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option beyond measures CR-2(a) and CR-2(b) above.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option beyond measures CR-2(a) and CR-2(b) above.

Significance after Mitigation. With implementation of the above mitigation measures, as well as local General Plan direction, impacts would be reduced to a less than significant level.

c. Cumulative Impacts. Buildout of the City of Marina General Plan could result in significant impacts to historic and archaeological resources. Much of these impacts would result from anticipated future development along the periphery of the existing community, where less overall site disturbance has occurred, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. Although this future development would occur in previously disturbed areas, the potential exists for uncovering previously undiscovered buried archeological deposits and/or human remains. In addition, future redevelopment in the downtown area may result in impacts to historic structures. As noted under Impacts CR-1 and CR-2 above, impacts to historical and archeological resources would be less than significant after implementation of identified mitigation measures. Accordingly, the proposed Specific Plan's contribution to cumulative cultural resources impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.



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4.7 AESTHETICS AND COMMUNITY DESIGN

4.7.1 Setting

a. Regional Visual Character. The City of Marina has developed in the base of the large Salinas Valley, and is situated on sandy bluffs south of the Salinas River estuary. The land area to the north is visually dominated by gently rolling farmland planted in coastal row crops. Predominant crops are artichokes and strawberries, which grow low enough for views to be expansive. The Salinas Valley is framed by the Santa Lucia Mountains to the south, and Gabilan mountains to the west. Marina is located on the Monterey Bay, and views from the shore to the north and south are dramatic. To the south, the curve of the bay is backed by the urban Monterey region. To the north, the Santa Cruz Mountains frame the bay.

State Route (Highway) 1 is the primary north-south transportation route that traverses the region. It is an eligible scenic highway in the vicinity of the City of Marina (California State Scenic Highway Mapping System, accessed April 21, 2010).

b. Visual Character of the Specific Plan Area. The visual character of the Specific Plan area is generally suburban and low-intensity in nature, predominated by a mixture of single-story retail commercial and office buildings, single family homes and one- to two-story multifamily residential units. The existing retail and office commercial uses are located primarily along Reservation Road and Del Monte Boulevard, visually the most obvious transportation corridors in the community. Del Monte Boulevard in particular is a dominant visual feature. The former main highway prior to freeway construction, it is a wide expanse of pavement that includes a generous planted median within the Plan area. Commercial development on Del Monte Boulevard reads as highway-oriented commercial, whereas the commercial development along Reservation Road within the planning area is more typically suburban, with commercial buildings positioned at the rear of the sites behind large surface parking lots. Existing residential uses are primarily located on the west side of Del Monte Boulevard, in the southern portions of the Plan area, and both north and south of the commercial development that fronts Reservation Road.

Public views from the streets within the downtown area are of the adjacent structures, which are typically one or two stories in height. Overall, there is no coherent architectural theme to the existing development, nor is there a clear visual definition to the streetscape within the area, particularly with regard to street trees, urban design amenities, lighting, street geometrics. The area is visually dominated by wide streets oriented to automobile through-travel. Perhaps because of the width of the streets and parking lot frontages, the area does not attract many pedestrians, and sidewalks are generally lacking activity.

c. Existing Light and Glare. There is very little vacant land in the urban core of the City. Because the majority of the area is built out, there are numerous existing sources of daytime glare and nighttime lighting and illumination. Sources of daytime glare include, but are not limited to, direct beam sunlight and reflections from windows, architectural coatings, glass and other shiny reflective surfaces. Nighttime light illumination and associated glare can be divided into stationary and mobile sources. Stationary sources of nighttime light include illumination from building and structures, parking lot illumination, lighted signs, and



streetlights along all the commercial corridors. The source of mobile nighttime light is primarily headlights of motor vehicles.

d. Regulatory Setting. The City of Marina General Plan includes a Community Design and Development Element, which is intended to guide decisions that will shape the City's future physical and spatial form and appearance. At the citywide scale, this element addresses how the City will relate to its regional setting and how its major components (such as its network of streets, its neighborhoods, its major open spaces, and its significant concentrations of nonresidential uses) relate to one another. At the intermediate scale, design and development policies are set forth for each of these major components. At the fine scale, policies are outlined which govern design and development decisions to be made at the scale of the individual site or building – decisions which when taken together, do much to determine the appearance of the entire City. Aesthetics and appearance, functional concerns, environmental protection and enhancement concerns are all addressed.

Future development in the Downtown area is also subject to the City of Marina Downtown Vision, the City of Marina Downtown Design Guidelines, and the City of Marina Pedestrian and Bicycle Master Plan. The Downtown Vision establishes a direction for the physical design of Downtown Marina and to ensure that new development meets or exceeds the City's policies, standards and expectations. The Downtown Design Guidelines were developed as a follow-up to the Downtown Vision and adopted by the City Council in July 2005. The guidelines provide greater detail of how the Downtown Vision can be implemented. Lastly, the Pedestrian and Bicycle Master Plan provides design guidelines specific to pedestrian and bicycle facilities throughout the City. All three of these documents have been incorporated into the Specific Plan.

In 2005, the Fort Ord Reuse Authority (FORA) developed *Highway 1 Corridor Guidelines*, which is a set of design guidelines for the 3-mile stretch of Highway 1 within the former Fort Ord area. The Specific Plan area falls within this 3-mile design corridor, and would therefore be required to be consistent with FORA guidelines. The guidelines provide design recommendations for building heights and setbacks, tree protection/preservation, open space and bikeway development, landscape planting character, and accommodation of public facility needs. These guidelines provide specific design details for development within the designated area, rather than general guiding policies. FORA's design guidelines are generally consistent with the City of Marina's General Plan Community Design and Development Element.

4.7.2 Impact Analysis

a. Methodology and Impact Criteria. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the existing visual resource against the proposed action, analyzing the nature of the anticipated change. In addition, because no specific architectural elevations or plans have been submitted for future development in the Plan area, this analysis uses a "reasonable worst-case scenario" to assess potential impacts regarding the appearance of the future development.



Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Substantial degradation of the existing visual character or quality of the site and its surroundings; or*
- *Creation of a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.*

It should be noted that although Highway 1 traverses the western edge of the Specific Plan boundary, this corridor is not designated as a state scenic highway in this location. As such, development in accordance with the proposed Specific Plan would not affect any scenic vistas or scenic resources within a state scenic highway. As a result, environmental thresholds related to these conditions were excluded from the above list.

b. Project Impacts and Mitigation Measures.

Impact AES-1 **Buildout of the proposed Specific Plan would result in an intensification of development that would alter the existing visual character of the Downtown area. Implementation of Specific Plan policies and design guidelines would potentially improve the urban design character of the Plan area. Impacts would be therefore be considered Class III, less than significant.**

Future development facilitated by the proposed Specific Plan would allow an intensification of development in the Downtown area as compared to existing conditions, as well as compared to what could occur under the General Plan. Figures 2-13 through 2-15 in Section 2.0, *Project Description*, show before and after views of the proposed Specific Plan area. As illustrated, the intensification of development could result in increased building heights (including up to four stories in some areas) and a change in the existing development pattern. At the same time, a more visually cohesive and defined Downtown area would result, through the introduction of street trees, alterations to the street design, and signs and lighting that promote a greater pedestrian orientation. These changes would occur gradually over a several year period, depending on market conditions and the availability of funding for public improvements.

Reservation Road Four-Lane Option. Visual character impacts of the Reservation Road four-lane option would be consistent with the description above. Figures 2-13 through 2-15 in Section 2.0, *Project Description*, depict the four-lane option for Reservation Road. Under this scenario, the streetscape along Reservation Road would be enhanced with design elements such as gateway and intersection treatments, landscaped medians, 15 foot sidewalks, and pedestrian-oriented amenities.

Reservation Road Two-Lane Option. Visual character impacts of the Reservation Road two-lane option would be consistent with the description above, but would appear visually narrower than the four-lane option due to the reduction in travel lanes. Under this scenario, the streetscape along Reservation Road would be enhanced with design elements such as gateway and intersection treatments, landscaped medians, ten foot sidewalks, and pedestrian-oriented



amenities. In addition, roundabouts would be provided at three major intersections under this scenario (Reservation Road and Del Monte Boulevard, Reservation Road and Vista Del Camino, and Reservation Road and DeForest Road). Roundabouts would provide additional opportunities for providing visual amenities, including landscaping, hardscaping, and lighting enhancements.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes goals and policies that would promote a cohesive and attractive visual character in the Downtown area. These include:

- *Land Use and Development Policies:*
 - LUD-1. *Ensure development standards and design guidelines result in high quality development, which reflects the cultural diversity of Marina and is consistent with a pedestrian-oriented scale and character.*
 - LUD-6. *Establish design standards that help to create an intimate Downtown atmosphere, which include public art and spaces, visually interesting landscaping, and other features that enhance Marina's unique character.*
 - LUD-7. *Protect natural resources and the natural visual character of Marina by concentrating development within the Plan Area.*
- *Mobility Goal and Policies:*
 - Mobility Goal 2. *Create visually pleasing pedestrian and bicycle circulation that safely, efficiently, and effectively serves the Downtown, making it a place where people prefer to walk, bike, or use public transit rather than use a vehicle.*
 - M-3. *Develop visually attractive traffic calming features such as bulbouts, accent paving on crosswalk and intersections, street trees and median landscaping.*
 - M-13. *Require off-street parking facilities to be located behind buildings. Parking lots shall be prohibited from being located immediately adjacent to Reservation Road.*
- *Infrastructure Policy:*
 - INF-3. *Utilities should be installed underground, or for those utilities that cannot be installed underground, they should be screened with landscaping, buildings, or hardscape features.*
- *Design Goals:*
 - Design Goal 1. *Create vibrant, hospitable public places that serve as gathering places for the community.*
 - Design Goal 2. *Design pedestrian-oriented buildings and spaces with a focus on physical and visual connectivity, clear relationships to the street, and strong aesthetic appeal.*



- *Design Goal 3. Encourage high quality development that reflects the cultural diversity of Marina, and protects and enhances property values and overall community economic viability.*

Reservation Road Two-Lane Option. In addition to the above, the following design guidelines would apply to roundabouts under the Reservation Road two-lane option, and would limit the visual impact of roundabouts (refer to Specific Plan Appendix A):

- *Roundabout Design.* Roundabout design and implementation should be in accordance with applicable guidelines in the MUTCD and based on engineering studies approved by the City of Marina Engineering Services Division, Public Works Division. Pavement textures and color, styles and materials used in curbing, floral beds, trees, shrubs, pilasters, bollards, lamps, posts, banners, monuments and fountains should be utilized in roundabout design.
- *Roundabout Landscaping.* The landscaping of the roundabout and approaches should:
 - *Make the central island more conspicuous;*
 - *Improve the aesthetics of the area while complementing surrounding streetscapes as much as possible;*
 - *Minimize introducing hazards to the intersection, such as trees, poles, walls, guide rail, statues, or large rocks;*
 - *Avoid obscuring the form of the roundabout or the signing to the driver;*
 - *Maintain adequate sight distances;*
 - *Clearly indicate to the driver that they cannot pass straight through the intersection;*
 - *Discourage pedestrian traffic through the central island; and*
 - *Help blind and visually impaired pedestrians locate sidewalks and crosswalks.*
- *Roundabout Lighting.* Lighting at roundabouts should be in accordance with the AASHTO Roadway Lighting Design Guide. Lighting on the median and center islands should be pedestrian in scale.

In addition to the design-oriented goals and policies outlined above, the Specific Plan contains Plan area-wide design guidelines, design guidelines by land use (for multiple use and commercial, residential, and civic uses), streetscape guidelines, and landscape guidelines (refer to Specific Plan Chapter 4.0, *Design Guidelines*). The intent of these guidelines is to create a unified, safe, and visually attractive environment that fosters a Downtown image and character.

Mitigation Measures. No mitigation measures are required, beyond adherence to goals, policies, and design guidelines contained in the Specific Plan.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.



Impact AES-2 Development pursuant to the Specific Plan would create new sources of nighttime lighting and daytime glare. However, dark-sky friendly lighting required in design guidelines would likely reduce adverse lighting impacts from current conditions. Therefore, impacts would be Class III, *less than significant*.

Future development in accordance with the proposed Specific Plan would occur at a greater density than is currently present in the Downtown area. As a result, new sources of nighttime lighting and daytime glare would be introduced, and could intensify the effects of illumination and glare over existing levels. Potential sources of new and increased nighttime lighting and illumination would include, but are limited to: new residential development, street lighting, parking lot lights, and security related lighting for non-residential uses. Increased nighttime lighting could result in adverse affects to adjacent land uses through the spilling over of light into these areas and general nighttime illumination conditions. Sources of glare from building surface materials could also increase, depending on the types of materials used in construction of new buildings. However, development in accordance with the Specific Plan would be expected to eliminate large areas of surface parking, a major contributor to current glare from automobiles. In addition, design guidelines preclude building materials that induce glare.

It should also be noted that the number of residents exposed to light and glare impacts would be greater than current conditions, since a substantial increase in residential development within the Downtown area is anticipated under the proposed Specific Plan. Overall, however, nighttime lighting and daytime glare impacts would be expected to be reduced from current condition as a result of more sensitive design and building practices required by the design guidelines, and the increased amount of public landscaping in Reservation Road medians and along sidewalks.

Reservation Road Four-Lane Option. Light and glare impacts of the Reservation Road four-lane option would be consistent with the description above. Under this scenario, one parallel parking lane would be provided along Reservation Road. This would result in slightly less glare from parked cars than the two-lane option (discussed below). However, the Specific Plan promotes the orientation of buildings at the street, with parking in the rear, which would result in a net decrease in glare from this source.

Reservation Road Two-Lane Option. Visual character impacts of the Reservation Road two-lane option would be consistent with the description above. Under this scenario, on-street angled parking would be provided in both directions along Reservation Road. This would result in slightly more glare from parked cars than the four-lane option (discussed above). However, the Specific Plan promotes the orientation of buildings at the street, with parking in the rear, which would result in a net decrease in glare from this source.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes design guidelines that would limit the extent of spillover lighting and reduce glare. These include:

- *Plan Area-Wide Design Guidelines: Lighting.* Lighting levels should be sufficient for the safety of site occupants and visitors but should not spill onto adjacent properties. Guidelines:



- a. *Lights should be placed where they are needed for specific uses, rather than to a continuous foot-candle requirement across a site, allowing for the appreciation of the dark sky in the residential neighborhoods.*
 - b. *To preserve the quality of a dark sky at night, the use of uplights for buildings, trees or signs is discouraged.*
 - c. *High intensity light fixtures should include a shielded light source that reduces the view to the light source.*
 - d. *High efficiency fixtures and sophisticated optics are encouraged to direct light where it is needed without creating excessive glare. Long lasting high pressure sodium lamps are encouraged to minimize energy use and lamp replacement.*
 - e. *Commercial areas and walkways should utilize a combination of decorative pedestrian scale pole and bollard lights selected to compliment the architectural style of adjacent buildings. Wall mounted fixtures should be used where appropriate on the building elevations to supplement the pole lights and to compliment the building architecture and should be a scale appropriate to the building architecture.*
 - f. *Lighting fixtures should be shown on the landscaping plans.*
 - g. *Timers and sensors should be incorporated where feasible and appropriate to avoid unnecessary lighting.*
 - h. *Consistent with Crime Prevention Through Environmental Design (CPTED) standards, a minimum of one foot candle power should be maintained in open parking lots, and more for parking structures. Minimum maintained means that, on average, there will be one foot candle evenly distributed per square inch of the parking surface. Care should be given that there are no patches of darkness at the ground level.*
- *Plan Area-Wide Design Guidelines: Parking Location, Design, and Treatment.* *Adequate parking within the Downtown area is necessary for a successful project; however, it should be located and designed to minimize the impact of the paved lots and large structures. Guidelines:*
 - c. *Parking areas should be landscaped to minimize summer glare and heat buildup and to reduce the negative visual impact associated with large areas of paving.*
 - *Design Guidelines by Land Use: Multiple Use and Commercial Uses – Roof Forms.* *Roof forms should be used to distinguish various building forms, create an interesting roof line, and help to break up the building massing. Guidelines:*
 - c. *Roofing colors should be soft earth tones to minimize reflective glare and visual impact.*
 - *Streetscape Guidelines: Street Furnishings.* *Street furnishings should be provided along streets, within plazas, and other public areas in the Plan Area. The following street furnishings are recommended to establish a unified character within the Downtown and create the environment envisioned for the Plan Area. Guidelines:*
 - b. *Lighting fixtures should incorporate the latest energy-efficient technology for directing light and reducing glare.*
 - *Streetscape Guidelines: Street Lighting.* *Street lights should incorporate a decorative light pole and luminaire that is consistent in design theme to help unify the streetscape within the Plan Area. Guidelines:*



- a. *Street lights should be consistent in design and theme to unify the Plan Area.*
- b. *Structural footings for street light fixtures should accommodate banner attachment arms.*

Mitigation Measures. No mitigation measures are required, beyond adherence to design guidelines contained in the Specific Plan.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Buildout of the City of Marina General Plan could result in significant impacts associated with the alteration of scenic vistas, permanent changes in the visual characteristics of the region and increased light and glare. Much of these impacts would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. Although this future development would be at a greater density and intensity than currently envisioned under the General Plan, the project would result in a more visually cohesive and defined Downtown area through the introduction of street trees, alterations to the street design, and signs and lighting that promote a greater pedestrian orientation. As noted under Impact AES-1 above, impacts to visual character would be less than significant. In addition, nighttime lighting and daytime glare impacts would be expected to be reduced, despite the greater intensity of development as a result of design standards that would eliminate current sources of glare (surface parking lots and building surfaces are not low-glare in nature). Accordingly, the proposed Specific Plan's contribution to cumulative aesthetic impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.

4.8 DRAINAGE AND WATER QUALITY

4.8.1 Setting

a. Existing Drainage Patterns. Topography within the City of Marina consists of coastal dunes and low, rolling hills increasing gradually up from the coastline to maximum elevations of approximately 250 feet. The eastern boundary of the city is marked by a steep bluff 60 to 120 feet high bordering the flood plain of the Salinas River. To the north, the city extends to the mouth of the Salinas River and incorporates a broad, low-lying flood plain along the southwestern bank of the river. The Downtown Vitalization Specific Plan area is located approximately in the center of the City of Marina, and is composed of relatively level topography within a built-up urban environment. There are no defined natural rivers, streams, or water features within the Downtown Vitalization Specific Plan area. The Plan area and the greater Marina urban areas have been designed with underground and aboveground drainage infrastructure intended to protect lives and property.

Stormwater runoff generated within the Downtown Vitalization Specific Plan area is generally directed to drain inlets and conveyed in underground pipes, discharging into above ground detention basins. The majority of runoff from Reservation Road and nearby streets is carried downhill to the west into a large percolation pond located in the park north of the Del Monte Boulevard intersection. Smaller detention basins are located throughout the Downtown Vitalization Specific Plan to provide stormwater detention for individual development areas.

The City of Marina requires that the runoff from a ten year 24-hour storm event be retained on each individual property. Individual developments are required to propose a method of achieving this requirement that includes the design of above ground percolation ponds or underground chambers to store runoff while excess runoff is dissipated into the ground via percolation.

b. Surface Water Quality. The primary sources of pollution to surface and groundwater resources include stormwater runoff from paved areas, which can contain hydrocarbons, sediments, pesticides, herbicides, toxic metals, and coliform bacteria. Improperly placed septic tank leach fields and properly placed septic tanks that do not have proper residence time or are not properly maintained or have improperly disposed of household cleaners and other materials can cause similar types of contamination. Illegal waste dumping can introduce contaminants such as gasoline, pesticides, herbicides and other harmful chemicals.

The Central Coast Regional Water Quality Control Board (RWQCB) provides two main resources for reviewing the existing water quality of area surface waters: the regional 303(d) List, referring to Section 303(d) of the Clean Water Act (CWA) which requires states to make a list of waters that are not attaining standards; and data from the Central Coast Ambient Monitoring Program (CCAMP), the mission of which is "To collect, assess, and disseminate scientifically based water quality information to aid decision makers and the public in maintaining, restoring, and enhancing water quality and associated beneficial uses." While there are no surface water bodies within the proposed Specific Plan boundary, the Salinas River, approximately two miles north of the Specific Plan area, is included on the 303(d) list for chloride, fecal coliform, nitrate, pesticides, as well as several other contaminants. Because the



Salinas River is listed as impaired; the RWQCB has established a total maximum daily load (TMDL) for the river, pursuant to the requirements of the CWA. TMDL is defined as “the amount of a particular material that a water body can assimilate on a regular basis and still remain at levels that protect beneficial uses designated for that water body.”

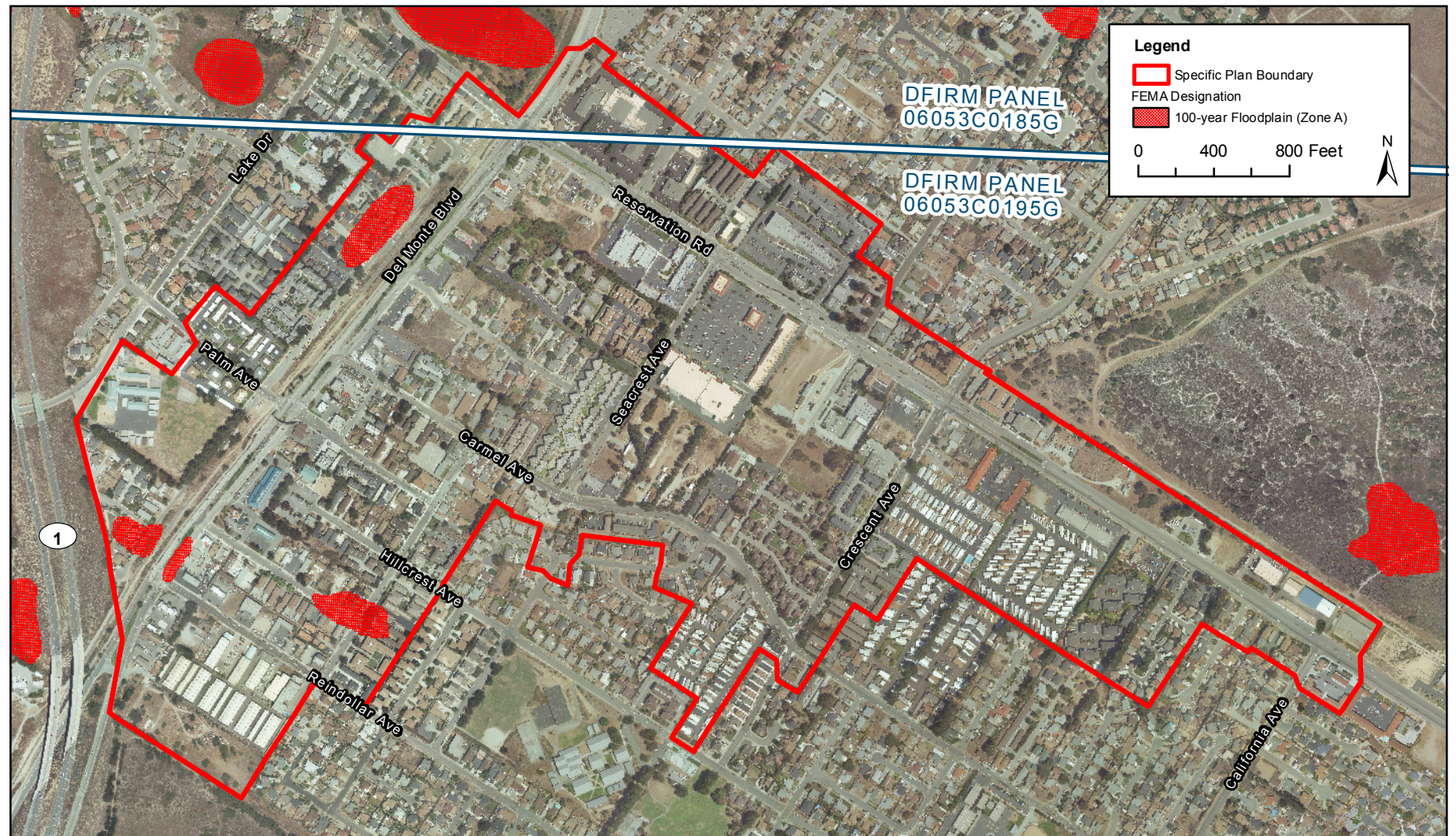
c. Flood Hazards. Flood Insurance Rate Maps (FIRM) issued by the Federal Emergency Management Administration (FEMA) divide flood areas into three zones: Zone A for areas of 100-year flood, base flood elevations not determined; Zone B for areas of 500-year flood; and Zone C for areas of minimal flooding. The National Flood Insurance Program 100-year flood zone is considered to be the base flood condition. This is defined as a flood event of a magnitude that would be equaled or exceeded an average of once during a 100-year period. As shown in Figure 4.8-1, there are four isolated 100-year flood zone areas within the proposed Specific Plan boundary. These flood zone areas are located near the western and southern portion of the Specific Plan area, adjacent to Del Monte Boulevard and Cypress Avenue. There are also two flood zones adjacent to, but outside of the Specific Plan area. These flood zones are located near the intersection of Del Monte Boulevard and Reservation Road in Locke-Paddon Wetlands Park, and near the intersection of California and Reservation Road in the open space area to the north of Reservation Road.

d. Regulatory Setting. The quality of surface and ground water is regulated in California through several laws and regulations managed by various federal, state, and local agencies. The primary agencies responsible for the protection of water quality, floodplains, and watersheds include the U.S. Army Corps of Engineers (Corps), California Department of Water Resources (DWR), State Water Resources Control Board (SWRCB) and Central Coast RWQCB.

The Federal Water Pollution Prevention and Control Act (the Clean Water Act, or CWA) requires that discharges do not substantially degrade the physical, chemical or biological integrity of the Nation’s waters. Section 404 of the CWA regulates the placement of dredged and fill material into “waters of the United States,” including wetlands. Projects that are subject to a 404 permit are also required to obtain a certification from the RWQCB under Section 401 of the CWA, stating that the project will comply with all water quality regulations.

Stormwater regulations have increasingly emphasized the control of water pollution from non-point sources, which include construction sites. Specifically, Section 402 of CWA establishes the National Pollutant Discharge Elimination System (NPDES) regulations for wastewater and other pollutant discharges. The SWRCB recently adopted an updated statewide General Storm Water Permit for Construction Activities (Order No 2009-0009-DWQ, adopted September 2, 2009). Like the previous order (Water Quality Order 99-08-DWQ), the permit requires all land disturbances of one acre or more to implement Best Management Practices (BMPs) to prevent the discharge of sediment-laden water off-site, using the “best available technology economically achievable.” The site specific plan to implement BMPs is called a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP identifies the likely sources of sediment and pollution and describes measures to minimize sediment and pollution in storm water runoff waters. The updated General Storm Water Permit became effective on July 1, 2010.





Base map source: City of Marina, 2010 and Federal Emergency Management Agency National Flood Hazard Layer (NFHL), 2010.

100-Year Flood Zones within the Downtown Vitalization
Specific Plan Area

Figure 4.8-1
City of Marina



Several differences from the previous General Storm Water Permit for Construction Activities are outlined in the SWRCB document, 2009 Draft NPDES Construction General Permit Fact Sheet (April 22, 2009). Some of the main differences are summarized below:

- *Risk-Based Permitting Approach.* The new permit establishes three levels of risk possible for a construction site, calculated based on project sediment risk and receiving water risk. The risk level dictates the specific permit requirements.
- *Minimum Requirements.* More minimum Best Management Practices (BMPs) and requirements are required that were previously only required as elements of the SWPPP or were suggestions.
- *Certification/Training for Key Project Personnel.* Requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with the General Permit requirements.
- *Monitoring and Reporting.* Effluent monitoring and reporting for pH and turbidity in storm water discharges is required for Risk Level 3 sites (highest risk level).
- *Receiving Water Monitoring.* Requires some Risk Level 3 (highest risk level) dischargers to monitor receiving waters and conduct bio-assessments.
- *Post-Construction Runoff.* Runoff reduction requirements are specified for all sites not covered by a Phase I or Phase II MS4 NPDES permit to avoid, minimize, and/or mitigate post-construction storm water runoff impacts. In addition, BMPs are required to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site.
- *Annual Reporting.* Requires all projects enrolled for more than one continuous three month period to submit information and annually certify that their site is in compliance with requirements.

4.8.2 Impact Analysis

a. Methodology and Impact Criteria. The analysis of drainage and water quality related impacts is based on review of the most recent Federal Emergency Management Agency Flood Insurance Rate Maps, and the requirements of state and local agencies.

Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in the following condition:

- *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental damage;*
- *Violate any water quality standards or waste discharge requirements;*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation;*
- *Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*



- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

It should be noted that there are no dams or levees located within the vicinity of the proposed Downtown Specific Plan that could cause flooding. In addition, according to the Monterey County Tsunami Inundation Map, the Specific Plan area is not located within an area that is at risk for a Tsunami. As a result, the checklist item related to this threshold was excluded from the above list.

b. Project Impacts and Mitigation Measures.

Impact DWQ-1 Construction activities in the Specific Plan area could degrade water quality through increased rates of erosion and sedimentation. However, preparation of Stormwater Pollution Prevention Plans and conformance with City standards would result in Class III, less than significant impacts.

Grading operations of future projects under the Specific Plan would increase the potential for erosion and sedimentation into nearby drainages and water bodies. If construction grading occurs during the rainy season or in the event of heavy storms, soils from individual project sites could be entrained, eroded, and transported to the drainages within and adjacent to the site. In addition, it is possible that multiple projects could occur simultaneously, which would further intensify potential water quality impacts. Uncontrolled discharges of sediment are considered a significant impact to water quality.

All construction activities disturbing one or more acres are subject to NPDES Phase II permit regulations, which require preparation of a SWPPP to control the discharge of pollutants, including sediment, into local surface water drainages. The SWPPP is designed to minimize water quality degradation through storm water monitoring, establish BMPs, implement erosion control measures, and implement spill prevention and containment measures.

In addition to NPDES permit requirements, construction activities would be subject to erosion control requirements of the City of Marina Standards and Specifications Manual published by the Department of Public Works. The Manual outlines Best Management Practices for construction activities so as to minimize erosion and sedimentation and maintain water quality. Preparation of a SWPPP and compliance with City standards would ensure that potential water quality impacts associated with construction activities remain Class III, less than significant.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option; therefore, potential impacts would be consistent with those described above.



Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option; therefore, potential impacts would be consistent with those described above. While the two-lane option may require grading activities to convert portions of the existing right-of-way into sidewalk or other features, grading activities in excess of one acre would be required to prepare a SWPPP. In addition, construction activities would subject to erosion control requirements of the City of Marina Standards and Specifications Manual published by the Department of Public Works. Preparation of a SWPPP and compliance with City standards would reduce potential water quality impacts associated with the Reservation Road two-lane option to Class III, *less than significant*.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include policies that mitigate construction-related water quality impacts. However, the Marina General Plan contains the following policies related to erosion control that would apply to the Specific Plan area:

- *Community Design and Development:*
 - Policy 4.124(1). *To conserve soil and mineral resources within the Marina Planning Area, the following policies and conditions shall be established:*
 1. *The City shall continue to require erosion-control and landscape plans for all new subdivisions or major projects on sites with potentially high erosion potential. Such plans should be prepared by a licensed civil engineer or other appropriately certified professional and approved by the City Public Works Director prior to issuance of a grading permit. All erosion control plans shall incorporate Best Management Practices to protect water quality and minimize water quality impacts and shall include a schedule for the completion of erosion and sediment-control structures, which ensures that all such erosion-control structures are in place by mid-October of the year that construction begins. Site monitoring by the applicant's erosion-control specialist should be undertaken, and a follow-up report should be prepared that documents the progress and/or completion of required erosion-control measures both during and after construction is completed.*
 - MITIGATION MEASURE 4.3. *Marina General Plan Policy 4.1241 requires the preparation of erosion control and landscape plans for all new subdivisions and major projects with a high potential for erosion. The following measures should be implemented, where appropriate, to control erosion: Keep construction machinery off of established vegetation as much as possible, especially the vegetation on the upwind side of the construction site. Establish specific access routes at the planning phase of the project, and limits of grading prior to development, which should be strictly observed. Utilize mechanical measures (i.e., walls from sand bags and/or wooden slat or fabric fences) to reduce sand movement. Immediate revegetation (plus the use of temporary stabilizing sprays), to keep sand movement to a minimum. For larger-scale construction, fabric or wooden slat fences should be placed around the construction location to reduce sand movement. These measures should be incorporated as provisions of the new Land Development Ordinance outlined in Section 5.11 of the General Plan.*



Mitigation Measures. No mitigation measures are required beyond adherence to goals, policies, and design guidelines contained in General Plan and the City of Marina Standards and Specifications Manual, or when applicable, preparation of a SWPPP.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact DWQ-2 The Specific Plan area is an existing urban environment with existing stormwater conveyance facilities, which adequately convey stormwater runoff. However, approximately 21 acres of impervious surfaces that would convey water contaminants and increase peak runoff flow rates would be added to the Specific Plan area. Compliance with existing General Plan policies and City Specifications would ensure that impacts remain Class III, less than significant.

The majority of the proposed Specific Plan area is an existing urban environment, which contains various residential, commercial and industrial structures, roadways, and stormwater drainage conveyance infrastructure including gutters, drain inlets, underground pipes and detention basins. Stormwater that is currently generated within the Specific Plan area is adequately conveyed and controlled by existing drainage infrastructure. Redevelopment of already developed areas within the Specific Plan area would not result in an overall net increase in impervious surfaces, as impervious surfaces already exist in these areas; therefore, the existing drainage infrastructure would have the capacity to convey stormwater resulting from redevelopment. However, approximately 21 acres (7 percent) of the 295-acre Specific Plan area is either vacant or substantially underutilized, containing little or no impervious surfaces. New development on these parcels would result in a net increase in impervious surfaces within these areas.

Increased impervious surfaces within urban environments can generate stormwater runoff that can contain hydrocarbons, sediments, pesticides, herbicides, toxic metals, and oils, as well as other contaminants from vehicles. This stormwater runoff has the potential to affect surface water quality as well as ground water quality. In addition, increased impervious surfaces result in increased peak stormwater flow because precipitation is no longer infiltrates into the ground, which also interrupts groundwater recharge.

As discussed in Chapter 5.0, *Infrastructure*, of the proposed Specific Plan, the existing drainage system is adequate to accommodate anticipated buildout of the Specific Plan, including the 21 acres that are currently vacant or underutilized. In addition, development and redevelopment would be required to provide on-site detention and conveyance facilities in accordance with the City of Marina Standards and Specifications Manual. In accordance with the proposed Specific Plan (refer to “Specific Plan Policies Which Reduce Impacts”, below), on-site detention would be provided through a combination of on-site Low Impact Development (LID) techniques



including: green roofs, pervious pavement, rain barrels, rain gardens, underground retention, green streets, vegetated swales and other techniques. LID techniques are designed to reduce impacts associated with stormwater runoff by capturing contaminants, reducing peak stormwater flows and allowing for maximum return flows to groundwater. As such, implementation of LID techniques would reduce potential water quality, increased peak flow, and groundwater recharge impacts associated with development under the Specific Plan. In addition, General Plan policies require that projects control stormwater runoff through the provision of on-site detention, the implementation of Best Management Practices and the preparation of a storm drainage plan, thereby further reducing potential impacts to water quality and waste discharge requirements associated with buildout of the Specific Plan. Potential impacts to water quality would be Class III, *less than significant*.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Reservation Road is already four lanes, and therefore additional impervious surfaces would not be required because road widening would not be required. Therefore, potential impacts would be consistent with those described above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option; therefore, potential impacts would be consistent with those described above. It should be noted that the Reservation Road two-lane option would narrow Reservation Road; however, this would not result in a loss of impervious surface because sidewalks would be widened and other impervious surfaces would replace the former roadway. Therefore, no net increase of impervious would be constructed and no additional impacts associated with impervious surfaces would result.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes design guidelines that would limit impacts related to stormwater runoff and pollution. These include:

- Design Guidelines. Sustainable Design:
 - c. *Stormwater Management. Minimize areas of impervious surfaces. Install partially pervious surfaces when possible to allow water infiltration, to reduce non-point source pollutants and minimize erosion.*
 - d. *Water Demand. Irrigation infrastructure should be plumbed to accommodate gray water systems. Storm water management systems should detain onsite runoff and include cistern systems for capturing recycled storm water runoff.*
- Design Guidelines. Landscaped Medians and Roundabouts Guidelines: *Landscaped medians and roundabouts can provide additional visual interest throughout the Plan Area.*
 - a. *While large canopy trees should be used on sidewalks, median trees should be smaller and more pyramidal or columnar in shape.*
 - b. *Trees should have flower color or other seasonal interest.*
 - c. *Median trees should be complemented with colorful shrub masses.*
 - d. *Shrubs should be drought tolerant and should not require hedging.*
 - e. *Lawns should not be used in medians.*
 - f. *Medians narrower than four feet in width should be paved with river rock cobble.*



- g. *Planted medians should have a one foot wide maintenance band running along the back of the curb.*
- h. *Planted medians should be designed with an automatic irrigation system that minimizes overspray onto adjacent paving.*

- Infrastructure Guidelines. Drainage System Improvements:

:

- *The existing drainage system is adequate to accommodate anticipated buildout of the Downtown Vitalization Specific Plan. New development will be required to provide on-site detention/retention in accordance with this plan, but plan-wide drainage improvements are not required. On-site detention will likely be provided through a combination of on-site Low Impact Development (LID) techniques including: green roofs, pervious pavement, rain barrels, rain gardens, underground retention, green streets, and other techniques.*

In addition, the Marina General Plan contains the following policies related to erosion control and water quality that would apply to the Specific Plan area:

- *Community Infrastructure:*

- Policy 3.57. *To avoid the above problems related to storm water drainage, the following measures shall be taken:*

1. All storm water runoff shall continue to be retained onsite and accommodated by localized retention basins. Retention basins associated with a particular project shall be landscaped with appropriate plant materials and shall be designed wherever possible as integral parts of a development project's common open space or parks, or to create new or enhance existing habitat. All onsite drainage facilities shall be designed to convey runoff from a 10-year frequency storm at minimum. In areas of the City where recycled water will not be readily available, the City encourages the provision of storm water reuse facilities of sufficient size to provide for landscape irrigation of development in proximity to retention basins. The adequacy of onsite and off-site drainage facilities shall be determined through the preparation of storm drainage reports and plans, approved by the City Public Works Director; such reports and plans shall be required for all new subdivisions and new commercial/industrial development proposed in Marina.

2. Pretreatment of storm water runoff from roads, large parking areas, and other extensive paved areas used by vehicles shall be provided using appropriate means such as primary settlement structures, routing through settlement ponds, or routing through adequately long natural swales or slopes. In addition, all development plans shall conform to the requirements of the City's National Pollution Discharge Elimination System permit and City ordinances, and all subdivisions and new commercial/industrial development shall identify Best City of Marina General Plan 75 Management Practices (BMP's) appropriate or applicable to uses conducted onsite to effectively prevent the discharge of pollutants in storm water runoff.

3. Storm water systems shall be constructed in a manner which prevents soil erosion. Appropriate measures to avoid such impacts include the dispersal of runoff, installation of energy dissipaters where dispersal is not practical and concentration of runoff water is necessary, and retention of vegetation or revegetation of affected surfaces.



- *MITIGATION MEASURE 4.3. Marina General Plan Policy 4.1241 requires the preparation of erosion control and landscape plans for all new subdivisions and major projects with a high potential for erosion. The following measures should be implemented, where appropriate, to control erosion: Keep construction machinery off of established vegetation as much as possible, especially the vegetation on the upwind side of the construction site. Establish specific access routes at the planning phase of the project, and limits of grading prior to development, which should be strictly observed. Utilize mechanical measures (i.e., walls from sand bags and/or wooden slat or fabric fences) to reduce sand movement. Immediate revegetation (plus the use of temporary stabilizing sprays), to keep sand movement to a minimum. For larger-scale construction, fabric or wooden slat fences should be placed around the construction location to reduce sand movement. These measures should be incorporated as provisions of the new Land Development Ordinance outlined in Section 5.11 of the General Plan.*

Mitigation Measures. No mitigation measures are required beyond adherence to design guidelines contained in the Specific Plan and policies and design guidelines contained in General Plan and the City of Marina Standards and Specifications Manual.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact DWQ-3 Portions of the proposed Specific Plan area are designated as 100-year flood zones. However, existing General Plan policies would result in Class III, less than significant impacts.

As shown in Figure 4.8-1, four areas within the proposed Specific Plan area are designated as 100-year flood zones by FEMA. These four flood zone areas would be designated as Single-family Residential, Multi-family Residential and Retail/Service under the proposed Specific Plan. Currently, each of the four flood zone areas contain existing structures. Redevelopment facilitated by the Specific Plan within these flood zones would potentially be subject to flood hazards. However, the General Plan requires any development within a 100-year flood zone to be constructed at least one foot above the established floodplain elevation. This would require the foundation of any redevelopment to be constructed at least one foot higher than the base flood elevation for that particular property, which would ensure that property or life is not exposed to flood hazards associated with the 100-year flood zone. In addition, redevelopment within these flood zones would not result in downstream or increased flooding elsewhere or impede flood waters, as these flood zone areas are localized and isolated to relatively small areas within the Specific Plan boundary. Impacts associated with 100-year flood hazards would be Class III, less than significant.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the



Reservation Road four-lane option; therefore, potential flooding impacts would be consistent with those described above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option; therefore, potential flooding impacts would be consistent with those described above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan does not include goals or policies which reduce this impact. However, the City of Marina General Plan includes the following policies related to flooding:

- *Community Design and Development:*
 - Policy 4.101. *The City shall continue to ensure that new development is in compliance with the provisions of the federal flood insurance program. Hydrologic investigations shall be undertaken for all new development proposed within or adjacent to sites identified as "Zone A" areas. i.e., potential areas of flooding for which the 100-year flood elevation has not yet been determined as shown on FEMA's Flood Insurance Rate Map for Marina. As new information becomes available, it should be submitted to FEMA for the purpose of updating Marina's Flood Insurance Rate Map.*
 - Mitigation Measure 5.3. *All development proposed within the City of Marina shall be required to be in full compliance with the provisions of the federal flood insurance program. Specifically, no new development shall be permitted unless all proposed foundations are at least one foot above the elevation of stormwater within the floodplain following a 100-year storm, as shown in the appropriate FEMA maps. This would reduce the hazards associated with flooding within the Marina Planning Area to a level of less than significant.*

Mitigation Measures. No mitigation measures are required beyond adherence to General Plan policies.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts.

Drainage and Water Quality. Buildout of the City of Marina General Plan would gradually increase impervious surfaces and stormwater runoff, and associated water quality impacts. Many of these impacts would result from anticipated future development along the periphery of the existing community, including projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community



(Marina Station) because these areas are primarily undeveloped. Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. Although this future development would be at a greater density and intensity than currently envisioned under the General Plan, the project would not substantially increase impervious surfaces. In addition, future individual projects throughout the City would be required to adhere to design guidelines contained in the Specific Plan and policies and design guidelines contained in General Plan and the City of Marina Standards and Specifications Manual, which would ensure that drainage and water quality impacts remain less than significant. Accordingly, the proposed Specific Plan's contribution to cumulative water quality impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.

Flood Hazards. Four areas within the proposed Specific Plan area are designated as 100-year flood zones by FEMA. Individual projects facilitated by the City of Marina General Plan may be located within 100-year flood zones. The General Plan requires any development within a 100-year flood zone to be constructed at least one foot above the established floodplain elevation. This would require the foundation of any development to be constructed at least one foot higher than the base flood elevation for that particular property, which would ensure that property or life is not exposed to flood hazards associated with the 100-year flood zone. Future projects within the Specific Plan area would be subject to this General Plan requirement. Accordingly, the proposed Specific Plan's contribution to cumulative flooding impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.



4.9 BIOLOGICAL RESOURCES

4.9.1 Setting

a. Characterization of Specific Plan Region. The Specific Plan area ranges from approximately 8 to 35 meters above mean sea level (msl) and is surrounded by a mosaic of residential and commercial development and open space. The natural landscape in the Specific Plan region is composed of oak woodlands, riparian woodlands, maritime chaparral, coastal dunes, coastal scrub and grassland habitats, as well as residential and commercial development.

b. Characterization of Specific Plan Area. The majority of the Specific Plan area has already been developed and consists of a combination of residential and commercial land uses. Remnant vacant parcels are scattered throughout the Specific Plan area and show signs of substantial anthropogenic (human) disturbance. The Specific Plan area is primarily bounded on all sides by residential development. Undeveloped lands are present along the northeast and southern-most boundaries of the Specific Plan area. Highway 1 skirts the eastern portion of the Specific Plan area.

Rincon Consultants, Inc. (Rincon) conducted a site visit on February 10, 2009 to identify potential biological resources within and adjacent to the Specific Plan area.

c. Habitat Types. Habitats within the Specific Plan area consisted of ruderal/disturbed and developed habitats. These habitat types are not recognized by Sawyer et al. (2009) or Holland (1986) because they do not represent native vegetation communities.

Ruderal/Disturbed. Several parcels scattered throughout the Specific Plan area contained ruderal/disturbed habitat. The majority of ruderal/disturbed habitat in the interior of the Specific Plan area appeared to be heavily disturbed and contained few native plant species. Ruderal/disturbed habitat along the periphery of the Specific Plan area, particularly in the northeast and southwest areas, were adjacent to native habitats, such as maritime chaparral, and were less disturbed and contained a higher diversity and percent cover of native plant species.

Ruderal/disturbed areas contained native and non-native weedy species. Some ruderal/disturbed areas were blanketed by ice plant (*Carpobrotus chilensis*) and many areas had a high percentage of bare soil. Species observed in ruderal/disturbed habitat included coast live oak (*Quercus agrifolia*), blue gum (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), Monterey cypress (*Callitropsis macrocarpa*), ripgut brome (*Bromus diandrus*), telegraph weed (*Heterotheca grandiflora*), coyote brush (*Baccharis pilularis*), California poppy (*Eschscholzia californica*), sweet alyssum (*Lobularia maritima*), slender wild oat (*Avena barbata*), filaree (*Erodium* sp.), manzanita (*Arctostaphylos* sp.), dune lupine (*Lupinus chamissonis*), and golden wattle (*Acacia longifolia*).

Developed. The majority of the Specific Plan area is developed with urban land uses including residential, commercial, and office type uses. Several blue gum, Monterey pine, and Monterey cypress trees have been planted in developed areas for windbreaks and general landscaping throughout the Specific Plan area.



d. Drainages. No natural or artificial drainage features occur within the Specific Plan area. Water was observed in a pond on a small parcel in the northwest portion of the Specific Plan area; however, this water is isolated from other water bodies and appears to be an artificially created land feature for the adjacent apartment complex. Review of aerial photographs (Google Earth image dated July 30, 2010) indicate that the pond is permanently inundated.

e. Special Status Species. For the purpose of this document, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern” and/or “Fully Protected” by the CDFG; and those species listed in *California Native Plant Society’s Inventory of Rare and Endangered Plants of California* (Tibor, 2001), as updated online (California Native Plant Society, 2010). Those plants contained on CNPS Lists 1 and 2 are considered special status species in this document. Per the California Native Plant Society (CNPS) code definitions: List 1A species include those presumed extinct in California; List 1B includes species considered rare, threatened, or endangered in California and elsewhere; and List 2 includes plants rare, threatened, or endangered in California, but more common elsewhere.

Rincon biologists developed a target list of special status plant and animal species that could potentially occur in the Specific Plan area based on a search of the California Natural Diversity Database (CNDDDB) for a five mile radius around the project site; biological studies from the vicinity of the project area (Rincon, 2010); and general knowledge of the area. Figures 4.9-1 and 4.9-2 provide location information for special status plants and natural communities and special status animals, respectively, reported from the CNDDDB, as well as critical habitat designations within the vicinity of the Specific Plan area as defined by the USFWS.

Special Status Plants. Table 4.9-1 lists status, basic habitat characteristics, observations, and Specific Plan area suitability of special status plant species that are known to occur within the general vicinity that includes the Specific Plan area. However, the table notes that several of these species are not likely to be found with the Specific Plan area itself, since undeveloped areas are highly disturbed and do not contain suitable habitat for most species.

Special Status Animals. Figure 4.9-2 provides location records for special status animals and critical habitat within the vicinity of the Specific Plan area, with the exception of the southern Pacific pond turtle (*Actinemys marmorata pallida*) and the black legless lizard (*Anniella pulchra nigra*). Location records for these two species have been suppressed by the CDFG due to sensitive nature of the information. Basic habitat characteristics and the likelihood of on-site occurrences of special status animal species known to occur in the vicinity of the Specific Plan area are summarized in Table 4.9-2. Potential for occurrence is based on the availability and quality of suitable habitat on-site. The California horned lark and ferruginous hawk are depicted on Figure 4.9-2 but are not included in this analysis as they retain no official status beyond “Watch List.” Watch List species carry no special protections.

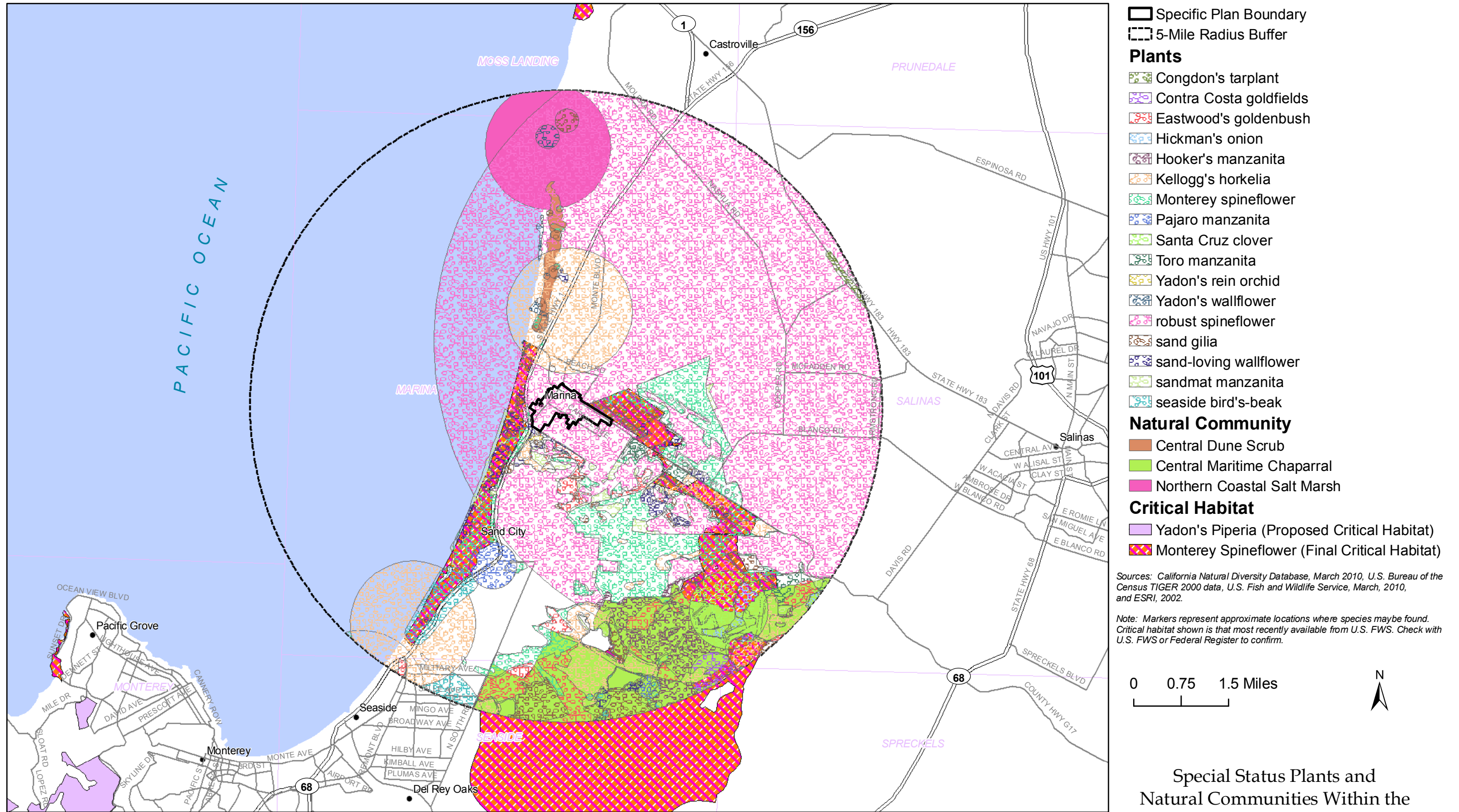
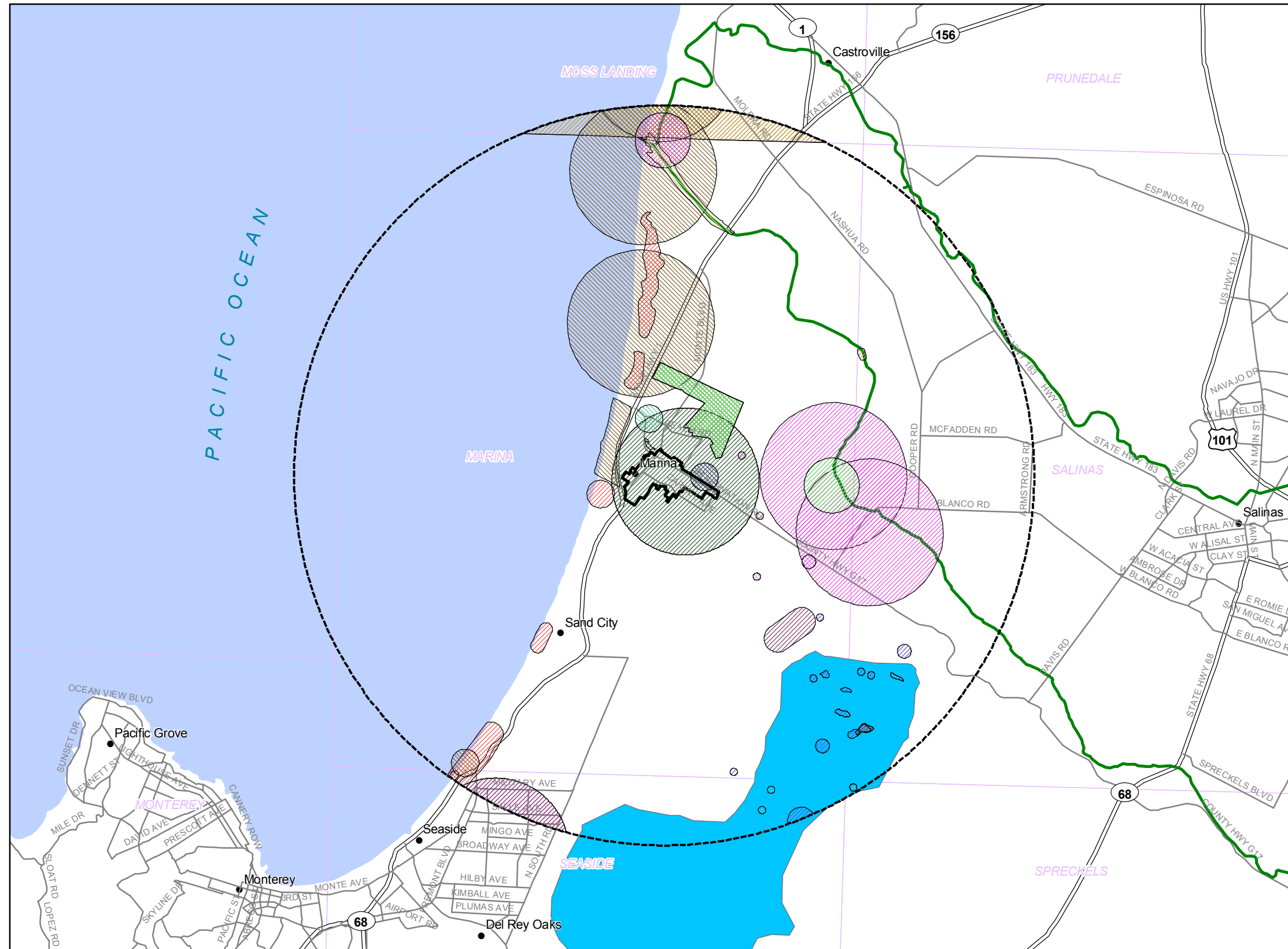


Figure 4.9-1
 City of Marina



- Specific Plan Boundary
- 5-Mile Radius Buffer
- Animals**
- American badger
- California horned lark
- California linderiella
- California red-legged frog
- California tiger salamander
- Salinas harvest mouse
- Smith's blue butterfly
- burrowing owl
- coast (California) horned lizard
- coast horned lizard
- ferruginous hawk
- globose dune beetle
- silvery legless lizard
- tidewater goby
- tricolored blackbird
- western pond turtle
- western snowy plover
- Natural Community**
- California linderiella
- Critical Habitat**
- S Calif Central Coast Steelhead
- Vernal Pools

Sources: California Natural Diversity Database, March 2010, U.S. Bureau of the Census TIGER 2000 data, U.S. Fish and Wildlife Service, March, 2010, and ESRI, 2002.

Note: Markers represent approximate locations where species may be found. Species listed but not displayed due to suppressed records include - prairie falcon and black legless lizard.

Critical habitat shown is that most recently available from U.S. FWS. Check with U.S. FWS or Federal Register to confirm.

0 0.75 1.5 Miles



Special Status Animals and
 Natural Communities Within the
 Vicinity of the Specific Plan Area

Table 4.9-1. Special Status Plant Species in the Specific Plan Vicinity

Scientific Name	Status Fed/State/CNPS	Habitat Requirements	Project Site Suitability
<i>Allium hickmanii</i> Hickman's onion	--/--/1B.2	Bulbiferous, perennial herb; blooms April to May; occurs at an elevational range of 20 to 185 meters in closed-cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, and grassland habitats; typically occurs in mesic, moist conditions.	Conditions on-site are not as moist as this species prefers. No suitable habitat present. Not expected to occur.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	--/--/1B.2	Maritime chaparral, edges or under open canopy in Monterey pine forest, open coast live oak woodland; blooms February to May; elevational range from 85 to 536 meters; perennial shrub.	Suitable habitat absent. <i>Arctostaphylos</i> sp. observed in the northeast portion of the site, but not identified to species. Could potentially occur.
<i>Arctostaphylos montereyensis</i> Monterey (Toro) manzanita	--/--/1B.2	Sandy soils, chaparral; blooms February to March, elevational range from 30 to 730 meters.	<i>Arctostaphylos</i> sp. observed in the northeast portion of the site but not identified to species. Could potentially occur.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	--/--/1B.2	Maritime chaparral or around the edges of or under sparse canopy of coast live oak woodland; blooms December to February; generally restricted to sand hills near Prunedale.	<i>Arctostaphylos</i> sp. observed in the northeast portion of the site but not identified to species. Site not located near Prunedale. Unlikely to occur.
<i>Arctostaphylos pumila</i> sandmat manzanita	--/--/1B.2	Evergreen shrub; blooms February to May; ranges from 3 to 205 meters in elevation; occurs in sandy soils in closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, usually in openings.	<i>Arctostaphylos</i> sp. observed in the northeast portion of the site but not identified to species; however, the manzanita on-site was a large shrub form rather than the low-growing form of this species. Not observed and not expected to occur.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	--/--/1B.2	Alkaline flats, vernal pools, playas, valley and foothill grassland (adobe clay); blooms March to June; elevational range from 1 to 60 meters; annual herb.	Suitable habitat and soils absent. Not expected to occur.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	--/--/1B.2	Alkaline soils in valley and foothill grassland; found in sumps and disturbed sites where water collects; blooms June to November.	Suitable habitat and soils absent. Not expected to occur.
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	T/--/1B.2	Pleistocene marine sand deposits and recent dunes along the inner flanks of the Monterey Bay; occurs in openings in dune scrub, sandy openings in maritime chaparral, and recent sandy alluvium in a riparian community with open cover of sandbar willow; blooms April to June.	Known to occur south of the Specific Plan area (Rincon 2010). Critical habitat abuts the northeastern portion of the plan area. Habitat within the plan area is disturbed and marginal, but this species could occur.
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	E/--/1B.1	Sandy places in coastal scrub, coastal dunes, cismontane woodland, and maritime chaparral; blooms April to September; elevational range from 3 to 300 meters.	Site is disturbed, but suitable soils are present. Could potentially occur, particularly on parcels that abut suitable habitat.



Table 4.9-1. Special Status Plant Species in the Specific Plan Vicinity

Scientific Name	Status Fed/State/CNPS	Habitat Requirements	Project Site Suitability
<i>Clarkia jolonensis</i> Jolon clarkia	--/--/1B.2	Annual herb; blooms April to Jun; ranges in elevation from 20-660 meters; occurs in chaparral, cismontane woodland, coastal scrub, riparian woodland.	Suitable habitat absent. Not expected to occur.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's-beak	--/E/1B.1	Young marine sand deposits along the coast or inland on older elevated marine terraces with very sandy soils, and occasionally in loose residual soils in adjacent sites; maritime chaparral; edges of oak woodland; hemi-parasitic on (presumably) annual dicots and graminoids; blooms June to August with identification possible into October; elevational range from 0 to 425 meters; annual herb.	Suitable soils present, but habitat disturbed. Could potentially occur, particularly on parcels that abut suitable habitat.
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	--/--/1B.2	Sheltered canyons in coastal scrub along the immediate coast, bordering riparian areas or on steep canyon slopes; blooms April to June; elevational range from 0 to 427 meters; perennial herb.	Suitable habitat conditions absent. No riparian habitat or steep canyon slopes present. Not expected to occur.
<i>Ericameria fasciculata</i> Eastwood's goldenbush	--/--/1B.1	Occurs in dunes and coastal habitats in chaparral, closed-cone pine forests and northern coastal scrub plant communities; evergreen shrub; blooms July to October.	Known to occur to the south of the Specific Plan area Rincon, 2010). Though site is disturbed, could potentially occur.
<i>Erysimum ammophilum</i> sand-loving wallflower	--/--1B.2	Perennial herb; blooms February to June; ranges in elevation from 0 to 60 meters and occurs in maritime chaparral, coastal dunes, and coastal scrub, usually in open areas and/or sandy soils.	Known to occur to the south of the Specific Plan area (Rincon, 2010). Suitable soils present. Habitat disturbed, but could potentially occur.
<i>Erysimum menziesii</i> ssp. <i>yadonii</i> Yadon's wallflower	E/E/1B.1	Perennial herb; blooms May through September; occurs in active coastal dunes, typically in foredunes where wave actions acts as a dispersal mechanism; ranges from 0 to 10 meters in elevation.	No active coastal dunes on-site. Not expected to occur.
<i>Fritillaria liliacea</i> fragrant fritillary	--/--/1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland often on ultramafic soils, also known from serpentine talus in chaparral and foothill woodland; perennial bulbiferous herb, flowers February to April; elevational range from 3 to 410 meters; perennial herb.	Suitable soil conditions absent. Not observed on-site. Not expected to occur.
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> sand gilia	E/T/1B.2	Open sandy areas within dune scrub beach sandwort-coast buckwheat or maritime chaparral (most frequent where shrub cover and plant litter are low to moderate); blooms May to June; elevational range from 0 to 45 meters; annual herb.	Though habitat disturbed, suitable soils are present and this species could potentially occur, particularly on parcels that abut suitable habitat.



Table 4.9-1. Special Status Plant Species in the Specific Plan Vicinity

Scientific Name	Status Fed/State/CNPS	Habitat Requirements	Project Site Suitability
<i>Holocarpha macradenia</i> Santa Cruz tarplant	T/E/1B.1	Coastal prairie on marine terraces flanking the northern Monterey Bay (and, formerly, around the outer San Francisco Bay); blooms June to November; elevational range from 10 to 220 meters; annual herb.	Suitable habitat absent. Not expected to occur.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	--/--/1B.1	Closed-cone coniferous forest, coastal scrub, chaparral; old dunes, coastal sand hills; in open areas; blooms April to September; elevational range from 10 to 200 meters; perennial herb.	Habitat disturbed, but species could potentially occur, particularly on parcels that abut suitable habitat.
<i>Lasthenia conjugens</i> Contra Costa goldfields	E/--/1B.1	Vernal pools, moist valley and foothill grassland; blooms March to June; elevational range from 0 to 470 meters; annual herb.	Suitable moist habitat conditions absent. Not expected to occur.
<i>Malacothamnus palmeri</i> var. <i>involucratus</i> Carmel Valley bush-mallow	--/--/1B.2	Rhizomatous, perennial herb; blooms March through December; ranges from 25 to 335 meters in elevation and occurs on rocky soils in chaparral habitat.	Suitable soils absent. No expected to occur.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	--/--/1B.2	Rhizomatous, perennial herb; blooms March through December; ranges from 25 to 335 meters in elevation and occurs on rocky soils in chaparral habitat.	Suitable soil conditions absent. Not expected to occur.
<i>Microseris paludosa</i> marsh microseris	--/--/1B.2	Perennial herb; blooms April through June; ranges in elevation from 5 to 300 meters and is found in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill woodland.	Suitable habitat conditions absent. Not expected to occur.
<i>Pinus radiata</i> Monterey pine	--/--/1B.1	Evergreen tree; occurs between 25 and 185 meters in elevation; occurs in closed-cone coniferous forest and cismontane woodland.	Observed on-site as part of landscaping (windrows). However, this occurrence is from introduced plantings. As such, these individuals are not subject to CEQA. No natural occurrences on-site.
<i>Piperia yadonii</i> Yadon's rein orchid	E/--/1B.1	Only found in maritime chaparral, dwarfed Hooker's manzanita or Eastwood manzanita, and Monterey pine forest habitats; associated with sandstone outcrops or shallow soils above granitic bedrock, sometimes in highly leached and acidic soils; blooms June to August.	Suitable soil and habitat conditions absent. Not expected to occur.
<i>Rosa pinetorum</i> pine rose	--/--/1B.2	Shrub; blooms May through July; found in closed-cone coniferous forest ranging from 2 to 300 meters in elevation.	Suitable forest habitat not present. Not expected to occur.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	--/--/1B.2	Annual herb; blooms April through May; ranges in elevation from 10 to 500 meters; found in broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal	Habitat disturbed and soil conditions are not optimal. Unlikely to occur.



Table 4.9-1. Special Status Plant Species in the Specific Plan Vicinity

Scientific Name	Status Fed/State/CNPS	Habitat Requirements	Project Site Suitability
		prairie, coastal scrub, and valley and foothill grassland, typically in open areas and sometimes on serpentine soils.	
<i>Trifolium buckwestiorum</i> Santa Cruz clover	--/--/1B.1	Occurs in vernal moist swales to saturated, clay-rich upland soils in coastal prairie, vernal moist dune hollows, and edges of humic-soil meadow openings in forest; blooms April to October.	Suitable habitat conditions absent. Site is dry and sandy. Not expected to occur.
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i> saline clover	--/--/1B.2	Annual herb; blooms April through June; ranges from 0 to 300 meters in elevation and occurs in mesic and alkaline conditions in marshes and swamps, valley and foothill grasslands, and vernal pools.	Suitable habitat conditions absent. Site is dry upland with sandy soils. Not expected to occur.
<i>Trifolium polyodon</i> Pacific grove clover	--/R/1B.1	Annual herb; blooms April through June; ranges from 5 to 120 meters in elevation and occurs in mesic conditions in closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland habitats.	Suitable habitat conditions absent. Not expected to occur.

Sources: California Department of Fish and Game, 2003 & 2010; California Native Plant Society, 2001 & 2010
 Federal and State Codes: E = Endangered; T = Threatened; R = Rare

Table 4.9-2. Special Status Wildlife Species in the Specific Plan Vicinity

Species	Status Fed/State	Habitat Requirements	Potential for Occurrence
AMPHIBIANS			
<i>Ambystoma californiense</i> California tiger salamander	T/CSC	Vernal pools or other seasonal water sources for breeding; grasslands, foothill and oak woodlands located within 2000 feet of seasonal breeding pools; dry-season refuge sites contain small mammal burrows for shelter.	Nearest recorded occurrence was more than 8,000 feet to the southeast and was not in a pond. One pond present on-site is surrounded by disturbed upland and developed habitats. Two ponds just outside of study area to west. This species has not been documented in any of these ponds; however, each of these ponds appears to be permanent and this species does not utilize permanent water. Unlikely to occur.
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	E/E, FP	Frequents coastal woodland and chaparral near temporary ponds and freshwater marshes in which it breeds. Only known from Santa Cruz County and the northern extent of Monterey County.	One pond present on-site. All CNDDDB occurrences are 7.5 miles or more north of the project site. The project site is outside of the known range of this species. Not expected to occur.



Table 4.9-2. Special status Wildlife Species in the Specific Plan Vicinity

Species	Status Fed/State	Habitat Requirements	Potential for Occurrence
<i>Rana draytonii</i> California red-legged frog	T/CSC	Dense, shrubby riparian vegetation associated with deep (0.7 m), still or slow-moving water; typical vegetation includes arroyo willow (<i>Salix lasiolepis</i>); cattails (<i>Typha</i> spp.) and bulrushes (<i>Scirpus</i> spp.); can occur in ephemeral or permanent streams or ponds	One pond present on-site and two ponds present off-site to the west. Nearest recorded occurrences are approximately 4 miles to the north. Could occur on-site.
BIRDS			
<i>Agelaius tricolor</i> tricolored blackbird	--/CSC (nesting colony)	Requires open water, protected nesting substrate and foraging area with insect prey.	No suitable nesting habitat present. Not expected to occur.
<i>Aquila chrysaetos</i> golden eagle	--/WL, FP (nesting and wintering)	Uncommon resident of mountainous and valley-foothill areas; nests on cliff ledges and overhangs or in large trees; forages in open terrain where small rodent prey is seen while soaring high above ground.	No suitable nesting habitat on-site. Not likely to forage on-site due to small size of parcels and proximity to developed areas and Highway 1.
<i>Asio flammeus</i> short-eared owl	--/CSC (nesting)	Marsh and tall grassland habitat in lowland areas	No suitable habitat present on-site. Not expected to occur.
<i>Athene cunicularia</i> burrowing owl	--/CSC (burrow sites and some wintering sites)	Burrow sites in open dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation.	Could occur as a rare transient, but not expected to nest on-site.
<i>Charadrius alexandrinus nivosus</i> western snowy plover	T/CSC (nesting)	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting.	Suitable habitat absent. Not expected to occur.
<i>Circus cyaneus</i> northern harrier	--/CSC (nesting)	Occurs in open areas, particularly in grasslands, wet meadows and marshes; requires large areas over which to forage.	This species glides low over the ground to forage. The vacant parcels on-site are too small and too close to developed areas to accommodate this species. No suitable nesting habitat. Unlikely to occur.
<i>Elanus leucurus</i> white-tailed kite	--/FP (nesting)	Riparian woodlands near agricultural fields, forages over open grasslands and scrub.	No riparian habitat or open grasslands present. Could potentially nest in trees on-site.
<i>Lanius ludovicianus</i> loggerhead shrike	--/CSC (nesting)	Common resident; frequents a variety of open and semi-open habitats including grassland, coastal sage scrub, and open riparian scrub and riparian woodland; nests in shrubs in coastal sage scrub and chaparral habitats or in trees that overlook grasslands; searches for prey over semi-open habitats and feeds primarily on large insects.	Vacant parcels are heavily disturbed. Marginal foraging and nesting habitat in vacant parcels along the fringes of the Specific Plan area, where there is access to larger undeveloped parcels. May occur in these parcels, but unlikely to occur throughout the Specific Plan area.



Table 4.9-2. Special status Wildlife Species in the Specific Plan Vicinity

Species	Status Fed/State	Habitat Requirements	Potential for Occurrence
<i>Rallus longirostris obsoletus</i> California clapper rail	E/E, FP	Perennial inhabitant of tidal salt marshes and brackish marshes in San Francisco Bay.	No suitable habitat present. Not expected to occur.
<i>Riparia riparia</i> bank swallow	--/T (nesting)	Nests in vertical banks or bluffs in friable, fine-textured soils near riparian areas.	No suitable nesting or foraging habitat present. Not expected to occur.
MAMMALS			
<i>Antrozous pallidus</i> pallid bat	--/CSC	Occurs over a wide variety of habitat types, including deserts, grasslands, shrublands, woodlands, and forests; most common in open, dry habitats with rocky areas for roosting; can be found roosting under bridges and in some areas in old structures such as barns.	No suitable roosting habitat present. Not likely to forage on-site. Unlikely to occur.
<i>Neotoma fuscipes (=macrotis) luciana</i> Monterey dusky-footed woodrat	--/CSC	Common to abundant in forest habitats of moderate canopy and moderate to dense understorey; can be abundant in chaparral habitats.	No suitable habitat present. Not expected to occur.
<i>Plecotus townsendii townsendii</i> Townsend's big-eared bat	--/CSC	Uncommon resident found throughout the state in all habitat types except for sub-alpine and alpine areas and requires caves, tunnels, mines, or similar man-made structures for roosting; feeds primarily on moths, but will eat a variety of soft-bodied insects. Most abundant in mesic habitats.	No roosting habitat present. Foraging is unlikely. Not expected to occur.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	--/SA	Occurs in fresh and brackish water, wetlands and probably in the adjacent uplands around the mouth of the Salinas River.	No suitable habitat present on-site. Site not near the Salinas River. Not expected to occur.
<i>Sorex ornatus salaries</i> Monterey ornate shrew	--/CSC	Found in moist, mesic conditions in a variety of riparian, chaparral, grassland, woodland, and emergent wetland habitats where there is thick duff or downed logs.	Habitat on-site is heavily disturbed and unsuitable. This species typically prefers moist areas, which are lacking on-site. Not expected to occur.
<i>Taxidea taxus</i> American badger	--/CSC	Drier open shrub, forest, and herbaceous habitats, friable soils.	Soils are suitable. However, habitat is heavily disturbed and most parcels are isolated from suitable habitat by dense urban development. May occur in undeveloped parcels on the fringes of the Specific Plan area.
INVERTEBRATES			
<i>Coelus globosus</i> globose dune beetle	--/SA	Sand dunes	No suitable habitat present. Not expected to occur.



Table 4.9-2. Special status Wildlife Species in the Specific Plan Vicinity

Species	Status Fed/State	Habitat Requirements	Potential for Occurrence
<i>Danaus plexippus</i> Monarch butterfly	--/SA	Wind-protected tree groves of eucalyptus, Monterey pine and cypress with nectar and water sources nearby.	Suitable wind-protected groves are absent. Not expected to occur.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	E/SA	Coastal sand dunes and ravines associated with coast and seacliff buckwheat; life cycle closely tied to native buckwheats in the Monterey Bay region.	Suitable habitat absent. Not expected to occur.
<i>Linderiella occidentalis</i> California linderiella	--/SA	Vernal pools, ponds, and swales.	No suitable habitat present. Not expected to occur.
<i>Tryonia imitator</i> mimic tryonia	--/SA	brackish water	No suitable habitat present. Not expected to occur.
FISH			
<i>Eucyclogobius newberryi</i> tidewater goby	E/CSC	Brackish water habitats along the California coast from San Diego county to Del Norte county.	No suitable aquatic habitat on-site. Not expected to occur.
<i>Oncorhynchus mykiss</i> south-central California coast steelhead Distinct Population Segment	T/CSC	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools; small streams with high elevation headwaters close to the ocean that have no impassible barriers; spawning: high elevation headwaters.	No suitable aquatic habitat on-site. Not expected to occur.
REPTILES			
<i>Actinemys marmorata pallida</i> southern Pacific pond turtle	--/CSC	Permanent aquatic habitat of rivers and streams with persistent deep pools; basking sites such as partially submerged logs, vegetation mats, or open mud banks.	A pond is located on-site but is not connected to any streams or rivers. Not expected to occur.
<i>Anniella pulchra nigra</i> black legless lizard	--/CSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions; prefers friable, rocky, or shallow sandy soils.	Marginal habitat may be present in vacant parcels at the fringes of the Specific Plan area. However, these parcels are heavily disturbed and this species is unlikely to occur.
<i>Phrynosoma blainvillii</i> coast horned lizard	--/CSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions; prefers friable, rocky, or shallow sandy soils.	Soils are suitable. Low potential to occur in vacant parcels at fringes of the Specific Plan area that are adjacent to undeveloped habitat.
<i>Thamnophis hammondi</i> two-striped garter snake	--/CSC	Coastal California from vicinity of Salinas to northwest Baja California; from mean sea level to about 7,000 feet; highly aquatic, found in or near permanent fresh water; often along streams with rocky beds and riparian growth.	A pond is present on-site, but this species is more commonly found along creeks and streams, which are absent. Not expected to occur.

Sources: California Department of Fish and Game, 2003 & 2010

Federal and State Codes: E = Endangered, T = Threatened, FP = Fully Protected, CSC = California Species of Special Concern, SA = Special Animal



f. Special Status Natural Communities. The CNDDDB search identified seven special status natural communities within five miles of the Specific Plan area: Central Dune Scrub, Central Maritime Chaparral, Coastal Brackish Marsh, Coastal and Valley Freshwater Marsh, Monterey Pine Forest, Northern Coastal Salt Marsh, and Valley Needlegrass Grassland. None of these natural communities occur within the Specific Plan area and none are expected to be affected by development activities conducted within the Specific Plan area.

g. Wildlife Movement Corridors. Wildlife corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across large portions of the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return.

Wildlife movement can be limited by roads, railroads, dams, canals, urban development, and agriculture. Fragmentation of large habitat areas into small, isolated segments has been shown to generally reduce biological diversity, eliminate disturbance-sensitive species, restrict genetic exchange between populations of organisms, and may eventually lead to the loss of local floral or faunal assemblages. Wildlife corridors and habitat linkages are important landscape elements that reduce the potential for loss of biological diversity.

Corridors usually connect one large habitat area with another, and while there is no pre-defined size limit for such areas, they most often are on the scale of mountain ranges, valleys, rivers and creeks, or clearly delimited ecological situations (e.g., vernal pools). The *Missing Linkages: Restoring Connectivity to California Landscape* (Penrod et al., 2001) conference refers to such corridors as “landscape linkages.” These are specifically defined in that report as:

“large, regional connections between habitat blocks (“core areas”) meant to facilitate animal movement and other essential flows between different sections of a landscape (taken from Soulé and Terborgh 1999). These linkages are not necessarily constricted, but are essential to maintain connectivity function in the ecoregion.”

The Specific Plan area is almost completely developed and is surrounded primarily by developed lands with few undeveloped parcels adjacent to the Plan area. The vacant parcels present within the area are isolated from each other and do not facilitate a wildlife corridor. Furthermore, most of the undeveloped parcels adjacent to the Specific Plan area are themselves surrounded by development and isolated from other potential wildlife movement corridors. The undeveloped parcel that abuts the northeast portion of the Specific Plan area is bordered to the west by dense residential development. Wildlife moving through this undeveloped parcel would likely move north and/or east to avoid developed areas, and thus away from the Specific Plan area.

h. Regulatory Setting. The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Specific Plan area include:



- *U.S. Army Corps of Engineers (wetlands and other waters of the United States);*
- *Regional Water Quality Control Board (waters of the State);*
- *U.S. Fish and Wildlife Service (federally listed species and migratory birds);*
- *California Department Fish and Game (riparian areas and other waters of the State, state-listed species); and*
- *City of Marina (General Plan and Municipal Code)*

U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material or otherwise adversely modify wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through compensatory mitigation involving the creation or enhancement of similar habitats.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and the local Central Coast Regional Water Quality Control Board (RWQCB) have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The Central Coast RWQCB enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

U.S. Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and NMFS share responsibility for implementing the FESA (16 USC § 153 *et seq.*). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in “take” of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species.



“Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Game. The CDFG derives its authority from the Fish and Game Code (Code) of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 *et. seq.*) prohibits take of state listed threatened, endangered or fully protected species. Take under CESA is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFG also prohibits take for species designated as Fully Protected under Fish and Game Code.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Species of Special Concern (SSC) is a category used by the CDFG for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFG for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands.

The CDFG also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 *et seq.*). The NPPA requires the CDFG to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFG. Section 1600 *et seq.* of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFG regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

City of Marina. The City of Marina General Plan contains provisions for the protection of areas with significant natural habitat value from being displaced by development. As used in the General Plan, Section 4.113 defines “sensitive species” as those that fit into at least one of the following categories: federally proposed, threatened, or endangered; state threatened or endangered; and CNPS list 1B species with extensive portions (i.e., greater than 10 percent) of their known ranges within the Marina Planning Area. “Sensitive habitat” is defined in the General Plan as habitat supporting one or more “sensitive species.” Section 4.116 of the General Plan states that “where new development may remove all or a portion of identified sensitive habitat in an area not subject to an approved Habitat Management Plan or Habitat



Conservation Plan, and where no less environmentally damaging alternative can be feasibly implemented, comparable habitat should be restored either on-site or off-site on a 2:1 (habitat restored to habitat lost) basis.”

The City of Marina Municipal Code Chapter 12.04 outlines the policies regarding tree removal and relocation. The policies applicable to this project include Section 12.04.030 (Unlawful Action upon Trees) and Section 12.04.060 (Tree Removal Permit). As outlined in Section 12.04.060 (D), if it is determined by the City that adverse effects of tree removal can be mitigated, conditions shall be imposed on the removal, including, but not limited to, one or more of the following: 1) compensation plan, 2) site restoration plan, and 3) tree protection plan and program.

The City’s Downtown Vitalization Specific Plan also includes one goal and one policy designed to guide development such that natural resources are protected.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. The following impact analysis is based on a peer review of previous biological studies prepared within the vicinity of the Specific Plan area and a review of aerial photographs, topographic maps, CNDDDB query results, and scientific literature with species-specific information. Rincon also conducted reconnaissance-level biological surveys of the Specific Plan area on February 10, 2009.

Impacts to biota may be determined to be significant even if they do not directly affect rare, threatened, or endangered species. The CEQA, Chapter 1, Section 21001 (c) states that it is the policy of the state of California to: prevent the elimination of fish and wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities. Environmental impacts relative to biological resources may be assessed using impact significance criteria encompassing CEQA guidelines, federal, state and local plans, and ordinances.

Based on the City’s Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Substantially, adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (§670.2 or 670.5) or in Title 50, Code of Federal Regulations (§17.11 or 17.12);*
- *Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*
- *Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;*
- *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or*

Field reconnaissance for the Initial Study determined that no wetlands potentially subject to Clean Water Act jurisdiction were present within the Specific Plan area. Also, no substantial wildlife movement corridors are located within or adjacent to the Specific Plan area. Furthermore, the Specific Plan area is not located within any area covered by a conservation plan. As no conflicts are expected to occur with any of these impact areas, their corresponding threshold questions have been excluded from the above list.

b. Project Impacts and Mitigation Measures.

Impact BIO-1 Development under the proposed Specific Plan would result in the conversion of ruderal/disturbed habitat to urban uses. This is a Class III, less than significant impact.

The Specific Plan area is predominantly developed and the remaining undeveloped parcels are occupied by ruderal/disturbed habitat. No native or special status natural communities are present within the Specific Plan area. Ruderal/disturbed habitat results from frequent human disturbance and generally consists of a mix of those native and non-native plant and animal species that can survive and thrive in disturbed areas. The majority of the ruderal/disturbed habitat occurs in scattered disjunct parcels surrounded by development and lacks connectivity to native habitat (i.e., areas dominated by native plants). Those parcels that are adjacent to native habitat are altered but do contain a greater diversity of plant species; they do not, however, contain native habitat. Therefore, impacts to ruderal/disturbed habitat within the Specific Plan area would be less than significant.

Reservation Road Four-Lane Option. Impacts to ruderal/disturbed habitat under the Reservation Road four-lane option would be consistent with the above description, and would remain less than significant.

Reservation Road Two-Lane Option. Impacts to ruderal/disturbed habitat under the Reservation Road two-lane option would be consistent with the above description, and would remain less than significant.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan includes the following policy that would promote the preservation of biological resources:

- *Land Use and Development Policies:*
 - LUD-7. *Protect natural resources and the natural visual character of Marina by concentrating development within the Plan Area.*

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.



Significance after Mitigation. As ruderal/disturbed habitat is not sensitive, impacts to this habitat type would be less than significant without mitigation.

Impact BIO-2 Development allowed under the Specific Plan could remove trees protected by the City of Marina Zoning Ordinance. However, compliance with the City's tree preservation ordinance would make this a Class III, less than significant impact.

The Specific Plan area includes planted tree species such as Monterey cypress, Monterey pine, coast live oak, blue gum, and Sydney golden wattle, among others. Impacts to trees are governed under City Ordinance 17.51L *Tree Removal, Preservation and Protection*. This ordinance "limits and restricts the removal of healthy and desirable trees in the city." This ordinance does not define which tree species are protected. It is therefore assumed, for the purpose of this analysis, that all trees may be protected under this ordinance at the discretion of the City of Marina Tree Committee. All future development within the City of Marina, including within the Specific Plan area, is required to comply with this ordinance.

Reservation Road Four-Lane Option. Few trees are present along Reservation Road; however, trees may be impacted by modifications of Reservation Road under the four-lane option, including road realignment and creation of new sidewalks.

Reservation Road Two-Lane Option. Few trees are present along Reservation Road; however, trees may be impacted by modifications of Reservation Road under the two-lane option, including road realignment and creation of new sidewalks.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan includes policy LUD-7 (described above under Impact BIO-1) that could be construed as promoting the preservation of trees. Furthermore, the Downtown Vitalization Specific Plan includes design guidelines (Chapter 4) which would result in an increased number of trees throughout the Specific Plan area upon completion of development within the plan area. In addition to the Specific Plan, City Ordinance 17.51L (described above) also applies.

Mitigation Measures. No mitigation measures are required beyond adherence to Specific Plan design guidelines and City Ordinance 17.51L.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Pursuant to compliance with Specific Plan design guidelines and City Ordinance 17.51L, impacts to City-protected trees would be less than significant.



Impact BIO-3 Development in accordance with the Specific Plan could potentially impact special status plant species. This would be a Class II, *significant but mitigable* impact.

Ten special status plant species were determined to have the potential to occur within the Specific Plan area: Hooker's manzanita, Monterey manzanita, Monterey spineflower, robust spineflower, seaside bird's-beak, Eastwood's goldenbush, coast wallflower, sand gilia, Kellogg's horkelia, and Santa Cruz microseris. Recent studies in the region have identified several of these species just outside of the Specific Plan area (Rincon Consultants, Inc., 2010). If present on-site, most of these species would be expected to occur on the periphery of a project site on undeveloped parcels adjacent to native habitats; however, these species may occur wherever suitable habitat conditions exist. Future development of vacant parcels within the Specific Plan area may therefore result in impacts to special status plant species through direct mortality of individuals.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential disturbance under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. This option would not require widening of Reservation Road into areas that may contain special status plant species. The potential for impacts special status plant species would therefore be consistent with the above description.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential disturbance under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. This option would not require widening of Reservation Road into areas that may contain special status plant species. The potential for impacts special status plant species would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan includes policy LUD-7 (described above under Impact BIO-1), but does not contain specific goals or policies that address impacts to special status plant species. There are no City Ordinances addressing impacts to special status plant species. The City's General Plan contains policies which reduce impacts to biological resources including:

- *Community Design and Development Policies:*
 - Policy 4.114 *Within areas identified as supporting sensitive habitat(s), the following requirements shall apply:*
 1. *With the exceptions of areas where an approved Habitat Management Program (HMP) or Habitat Conservation Program (HCP) allows development without restrictions, and for structures erected to maintain, restore or enhance sensitive habitat and species, require discretionary approval for all new structural and road development proposed within sensitive habitat areas or on sites supporting sensitive species and habitat.*
 2. *Site and design those new structures or roads which may be allowed within designated Habitat Reserves or other identified sensitive habitat areas so as to minimize adverse impacts upon habitat areas. This may entail site plan modification and/or the inclusion of appropriate mitigation measures developed by biologists, soils*

engineers, or hydrologists (e.g., erosion and storm-drainage controls, wildlife culverts, and grading limitations).

- *Policy 4.116 Where new development may remove all or a portion of identified sensitive habitat in an area not subject to an approved HMP or HCP, and where no less environmentally damaging alternative can be feasibly implemented, comparable habitat should be restored either on-site or off-site on a two-to-one basis (e.g., two acres of habitat shall be restored for every acre of habitat removed).*
- *Policy 4.117 Except where possible “take” of sensitive species is allowed (and may be mitigated in compliance with federal and state laws, regulations, and other applicable legal mechanisms such as an approved HCP or HMP), the City shall designate all areas identified as supporting sensitive habitat as “Habitat Reserve,” and, where occurring on private property, it shall ensure protection through easements, dedications, or other appropriate legal means.*
- *Policy 4.118 Where development sites are adjacent to areas designated as “Habitat Reserves” or other identified sensitive areas, site improvements and buildings shall be located and designed so as to avoid adverse impacts on the biological resource in question. Development shall be conditioned upon the incorporation of adequate mitigation measures in terms of site design. Such measures might include the following: a) providing an adequate buffer between new development and identified sensitive habitat; b) minimizing the need for grading that would substantially alter the existing topography; c) incorporating erosion- and sediment-control techniques during and after construction; d) establishing appropriate native landscaping between new development and sensitive habitat; and e) providing wildlife corridors or connections between the sensitive habitat and other natural open space areas.*
- *Policy 4.122 The City shall require that lighting of streets and other public areas in proximity to areas of natural open space be shielded and as unobtrusive as possible so as to direct light away from habitat reserve areas and other areas of natural open space. The same requirements shall follow for outdoor lighting on private development sites adjacent to such lands.*
- *Policy 4.123 Existing windrows shall be protected in accordance with the provisions of Policy 4.14 of this plan.*

Mitigation Measures. The following mitigation measure is required.

- BIO-3(a) Project-Specific Special Status Plant Species Mitigation.** Applicants for future development of vacant, undeveloped parcels shall hire a qualified biologist to determine if special status plant species are present on-site. If found, mitigation for special status plant species shall be prescribed and implemented. Such mitigation may include redesign of the project to avoid impacts and/or restoration at a minimum ratio of 2:1 (area or individuals restored per area or individuals lost) either on-site or at an approved off-site location. Restoration shall be accompanied with a restoration plan.



Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option beyond mitigation measure BIO-3(a) above.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option beyond mitigation measure BIO-3(a) above.

Significance after Mitigation. Compliance with mitigation measure BIO-3(a) would ensure that impacts of future development within the Specific Plan area are mitigated to a less than significant level.

Impact BIO-4 Development in accordance with the Specific Plan could potentially impact special status animal species. This would be a Class II, *significant but mitigable* impact.

Four special status animal species were determined to have the potential to occur within the Specific Plan area, including the California red-legged frog (CRLF), burrowing owl, American badger, and white-tailed kite. There is a pond located within the Specific Plan boundary that may serve as suitable habitat for CRLF. There are also two ponds located just to the west of the Specific Plan boundary. The CNDDDB does not contain and documented sightings of the CRLF within these ponds. However, the CRLF is known to occur in the region and its presence in the ponds both on and off-site cannot be ruled out.

The burrowing owl may occur on vacant parcels where burrows are present on-site (likely on the periphery of the Specific Plan area), but is not likely to only occur as a winter transient and is not likely to nest on-site due to the lack of suitable burrows. Impacts to burrowing owls are likely to be limited to a loss of marginal foraging habitat and, therefore, less than significant.

Though no burrows were observed on accessible parcels, suitable soils are present throughout the Specific Plan area to support American badgers. Badgers are most likely to be found in vacant parcels on the periphery of the Specific Plan area, primarily where the natural habitat is adjacent along the northeast and southern-most boundaries. If badgers do become established on vacant parcels in these areas, future development of these parcels could result in direct mortality of individuals.

There are several trees throughout the Specific Plan area that could support white-tailed kites, as well as several other bird species protected by the Migratory Bird Treaty Act and the California Fish and Game Code. Birds nesting in trees within the Specific Plan area may become impacted by future development if trees are removed or otherwise impacted.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential disturbance under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Impacts under the Reservation Road four-lane option would be therefore be similar to those described above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential disturbance under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. Impacts to special status animal species under the Reservation Road two-lane option would therefore be similar to those described above.



Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not contain specific goals or policies that address impacts to special status animal species. There are no City Ordinances addressing impacts to special status animal species. The City's General Plan contains policies which reduce impacts to biological resources. These are listed under Impact BIO-3 above.

Mitigation Measures. The following mitigation measure is required.

BIO-4(a) Project-Specific Special Status Animal Species Mitigation.

Applicants for future development of vacant, undeveloped parcels shall hire a qualified biologist to determine if special status animal species are present on-site. If found, and it is determined that impacts to on-site special status animal species could occur, mitigation shall be prescribed and implemented. Depending on the species found on-site, mitigation may include avoidance of habitat during reproductive periods (e.g., nests), species-specific habitat assessments and protocol surveys, pre-construction surveys, on-site biological monitoring, and/or consultations with the USFWS and CDFG.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option beyond mitigation measure BIO-4(a) above.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option beyond mitigation measure BIO-4(a) above.

Significance after Mitigation. Compliance with mitigation measure BIO-4(a) would ensure that impacts of future development within the Specific Plan area are mitigated to a less than significant level.

c. Cumulative Impacts. Buildout of the City of Marina General Plan could result in significant impacts associated with habitat modifications, tree removal, and special status plant and animal species. Much of these impacts would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City, including infill development of vacant, disturbed parcels. No native or special status habitats are present and few special status plant or animal species are likely to be present in these areas. Furthermore, the Specific Plan area is almost completely surrounded by urban development. The proposed Specific Plan, City of Marina General Plan, and City of Marina Municipal Code each contain regulations that direct the City towards the preservation of biological resources within the Specific Plan area and the City of Marina as a whole. As described above, adherence to policies contained therein and implementation of required mitigation would reduce biological resources impacts to a less than significant level. Accordingly, the proposed Specific Plan's contribution to cumulative biological impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.



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4.10 PUBLIC SERVICES AND INFRASTRUCTURE

4.10.1 Environmental Setting

a. Setting.

Fire Protection Services. The Marina Fire Department provides fire protection services to the proposed Specific Plan area. The Marina Fire Station is located at 211 Hillcrest Avenue, within the Specific Plan area boundary. The Marina Fire Department provides an all-risk emergency response service, which includes medical emergency response; hazardous materials mitigation; rescue; structural, airport and wild land fire response; public education; training; prevention; and investigation. The Fire Department maintains the following fire fighting equipment at its station:

- One wildland Type 3 engine;
- Three Type 1 structural engines; and
- One Type 2 structural/rescue engine.

There are currently 15 uniformed positions authorized at the Marina Fire Department; however, one position is vacant. The current total number of firefighters is 14. In addition, there are ten reserve firefighters. A minimum of four firefighters are assigned to each shift, accompanied by a minimum of three staffing personnel (Chief Harald Kelly, Personal Communication, May 5, 2010).

The Marina Fire Department's service area is limited to the boundaries of the City of Marina. Currently, the City of Marina has a population of 19,445 (California Department of Finance, 2010). The Fire Department strives to maintain an average response time for first-in units of five minutes for emergency calls. In 2009, the Department responded to 1,681 calls. Of the total calls, 45 (3 percent) were for fires. The majority of calls (68 percent or 1,135 calls) were for rescue and emergency medical services (Marina Fire Department 2009 Call Volume Report, 2010). Other calls were for hazardous conditions, general service, good intent, false alarm, severe weather, or special incidents. The Department's response time goal is five minutes 90 percent of the time (four minutes for travel, one minute turnout). The Department meets this goal for calls in central Marina (Chief Harald Kelly, Personal Communication, May 5, 2010).

Police Protection Services. The Marina Police Department provides police protection services to the proposed Specific Plan area. The Marina Police Station is located at 211 Hillcrest Avenue, within the Specific Plan area boundary. Department services include maintaining civil order, preventive patrol, investigations, traffic control and enforcement, crime prevention, drug enforcement, and abuse prevention. The Marina Police Department has a mutual aid agreement with the Monterey County Sheriff's Department, which provides back up when necessary. The Department's equipment inventory includes 11 marked patrol units, two traffic motorcycles, two K-9 units, two community service officer (CSO) units, one special enforcement units, one animal control unit, and one staff vehicle (Personal Communication, Lieutenant Thomas Melendy, March 23, 2011).



The Police Department has an authorized staffing level of 36 sworn officers, which would establish a ratio of one officer per 540 persons (based on the 2010 population of 19,445). As of March 2011, the Department is down six positions (Personal Communication, Lieutenant Thomas Melendy, March 23, 2011). Based on current staffing levels and a population of 19,445 residents, the Department is currently providing 1 officer per 648 residents.

The City is currently divided among four patrol beats, which are covered by three officers at minimum staffing levels. Patrol beats one and two cover the downtown area. One beat officer is assigned to each of those beats and another officer is assigned to the remaining two beats. There is also one supervisor on each shift for a total of four officers to cover the entire city (Personal Communication, Lieutenant Thomas Melendy, March 23, 2011).

The Department does not have an established response time goal. However, Policy 2.106 of the Marina General Plan Community Land Use Element notes that the police force should be sufficiently staffed and deployed to maintain an average emergency response time of four minutes. Actual response times depend on the type of dispatched call from Monterey County Dispatch:

- Priority “E” or Priority 1 calls are dispatched immediately. Officers will clear lower priority calls for this level call.
- Priority 2 calls require any officer dispatch as soon as one is available.
- Priority 3 and 4 calls are low priority and are usually handled by the Beat or a Community Services Officer unit as they become available. These calls may wait for an extended time based on other priority 1 and 2 calls.

Public Schools. The proposed Specific Plan area would be served by Marina Vista and J.C. Crumpton elementary schools (grades K-5), Los Arboles Middle School (grades 6-8), and Marina High School (grades 9-12) within the Monterey Peninsula Unified School District (MPUSD). Table 4.10-1 shows 2009 enrollment levels and existing capacities for these schools.

Table 4.10-1. Current School Enrollment and Existing School Capacity

School Name	Grades	2008-2009 Enrollment	Existing Capacity	% Capacity
Marina Vista Elementary	K-5	344	550	63%
J.C. Crumpton Elementary	K-5	417	550	76%
Los Arboles Middle School	6-8	603	729	83%
Marina High School	9-12	389	783	50%
TOTAL	-	1,753	2,612	67%

Source: Student enrollment provided by <http://www.ed-data.k12.ca.us/welcome.asp>. Existing school capacities provided by MPUSD.

As indicated by Table 4.10-1, all four schools that would serve the proposed Specific Plan area are currently below capacity.

Parks and Recreation. Currently, the City of Marina has 96.7 acres of developed park and recreational facilities. These facilities include multiple developed parks, a sports center,



teen center, equestrian center, and school playfields. The General Plan also reserves an additional 477 acres of undeveloped land for recreational purposes in the former Fort Ord Reuse area, and approximately 182 acres have been designated for parks and recreation uses on Armstrong Ranch, which is a 2,000-acre property immediately north of the City that adjoins developed portions of the City to the north. Accordingly, the City currently has a total of 756 acres of parkland (City of Marina General Plan, 2006).

The City of Marina General Plan has established a parkland standard of 5.3 acres of parkland per 1,000 residents. Based on the City's current population of 19,445 and a total of 756 acres of parkland, the current parkland ratio is approximately 39 acres per 1,000 residents. Therefore, the City currently exceeds its established parkland standard by 33.7 acres per 1,000 residents.

Recreational areas of Marina are also supported by more than 650 acres of state and regional coastal parkland within the Marina Planning Area, which include Marina State Beach and Monterey State Beach, and another 16,000 acres of U.S. Bureau of Land Management land in immediately southeast of the City, which is a part of the former Ford Ord. Approximately half the BLM lands are currently open for public recreational uses (City of Marina General Plan, 2006).

Library Facilities. Public library services in the City of Marina are jointly provided by the City of Marina and the Monterey County Free Libraries (MCFL) System. The Marina branch of the MCFL System is located at 190 Seaside Circle, approximately 0.25 miles north of the Specific Plan area boundary at the intersection of Del Monte Boulevard and Seaside Circle.

The library system functions under the legislative direction of the Monterey County Board of Supervisors and the administrative direction of the County Administrative Officer. A County Librarian appointed by the County Administrative Officer heads the system. MCFL functions legally as a less-than-countywide, dependant special district. The less-than-countywide designation comes from the fact that the service area does not include the city limits of the cities of Carmel, Monterey, Pacific Grove and Salinas; all of which operate their own municipal libraries (Monterey County Free Libraries Website, 2010).

The Marina Library is 18,500 square feet in size. Based on the City's current population of 19,445, the Marina Library currently provides 0.95 square feet of library space per resident. The American Library Association recommends a minimum standard of 0.6 square feet of library space per resident (Minimum Standards for Public Libraries, 1967). Therefore, the Marina Library is adequately sized to serve the existing population of the City of Marina.

Water Supply and Infrastructure. The Marina Coast Water District (MCWD), a County water district, serves the City of Marina, including the proposed Specific Plan area. MCWD has two service areas, Central Marina and the Ord Community. The Central Marina Service area encompasses the City's 1995 corporate limits, plus the Armstrong Ranch, which was annexed into the MCWD in 2007, and the Lonestar property (located to the west of Armstrong Ranch). The Ord Community Service Area comprises the former Fort Ord, and is served under an agreement with the For Ord Reuse Authority.

The MCWD's water supply is derived from the Salinas Valley Groundwater Basin. Under the *Annexation Agreement and Groundwater Mitigation Framework for marina Area Lands* (1996)



between MCWD and Monterey County Water Resources Agency (MCWRA) the MWCD may withdraw up to 3,020 acre feet per year (AFY) from the Salinas Valley Groundwater Basin for use in the Central Marina service area. Additional allocations for Armstrong Ranch and Lonestar property, 920 AFY and 500 AFY, respectively, would be granted by MCWRA should the City of Marina annex these properties in the future. Under a separate agreement, the MCWD may withdraw up to 6,600 AFY for the Ord Community service area.

The existing water system is supplied through a system of wells and water mains. Supply wells in Central Marina are from three deep groundwater wells located in the 900-foot aquifer of the Salinas Valley Groundwater Basin. The Specific Plan Area is mainly served by six (6) inch water mains with larger mains and transmission lines along the major streets. Water is treated at each well site for disinfection and to remove the naturally occurring hydrogen sulfide, which can result in nuisance odors.

Table 4.10-2 shows historic and projected water demand for the MWCD as provided by the 2005 Urban Water Management Plan (UWMP).

Table 4.10-2. 2005 UWMP Projected Water Demands by Service Area (AFY)

Jurisdiction	2005	2010	2015	2020	2025
Central Marina	2,200	3,046	3,214	3,797	3,812

Source: Water Supply Assessment for the Marina Downtown Specific Plan, 2010

The development projected by the 2005 UWMP between 2007 and 2010 did not occur. To account for the delay in development, Table 4.10-3 shows a five-year lag in projected water demand to accurately reflect existing and projected demand. The water supply analysis below assumes the five-year lag demand projections.

Table 4.10-3. Water Demand Projections with 5- year Lag by Service Area (AFY)

Jurisdiction	2009	2010	2015	2020	2025	2030
Central Marina	1,957	2,200	3,046	3,214	3,797	3,812

Source: Water Supply Assessment for the Marina Downtown Specific Plan, 2010

The total available supply beginning in the year 2025 is 4,740 AFY for the Central Marina Service area, as shown in Table 4.10-4.

Table 4.10-4. Projected Water Supplies in Central Marina Service Area (AFY)

	2010	2015	2020	2025	2030
City of Marina	3,020	3,020	3,020	3,020	3,020
Armstrong Ranch	0	920	920	920	920
Lonestar Property	0	0	0	500	500
Desalination Plant ¹	0	0	0	300	300
Total Supply Central Marina	3,020	3,940	3,940	4,740	4,740

Source: Water Supply Assessment for the Marina Downtown Specific Plan, 2010 and the 2005 MCWD Urban Water Management Plan.

1. The MCWD has constructed a desalination plant. This plant is not current in use and plans to expand the facility are currently underway. It is projected to produce 300 AFY by the year 2025.



Wastewater Services and Infrastructure. The provision of wastewater service in the Monterey Region is organized at two levels. Local cities and sanitation districts are responsible for maintenance and extension of sewer lines, and the Monterey Regional Water Pollution Control Agency (MRWPCA) is responsible for the maintenance and operation of the regional wastewater treatment facility located on Charles Benson Lane, approximately one mile northeast of the City of Marina. The wastewater facilities in Marina are maintained and operated by the MCWD. The existing wastewater system is comprised of gravity sewer mains, pump stations and force mains. The majority of the Specific Plan area drains an existing 21 inch sewer main at the intersection of Del Monte Boulevard and Reservation Road that flows west and north to the Marina Pump Station located at Reservation Road and Seaside Avenue. The 21 inch sewer main in Reservation Road has been at capacity for many years and is in need of replacement. The Marina Pump Station has two 1,826 gallon per minute pumps. The remainder of the Specific Plan area drains to a pump station located west of Marina Drive and Highway 1. The Specific Plan area is mainly served by six (6) inch sewer mains with larger mains along the major streets. Wastewater is carried by the MCWD sanitary collection system to the MRWPCA pump stations. From local pump stations, the wastewater is transported to the MRWPCA treatment plant located two miles north of Marina.

The MRWPCA regional wastewater treatment facility has a design and permitted capacity of 29.6 million gallons per day (MGD). Currently, the average dry weather flows received by the treatment plant are approximately 20 MGD. Therefore, the treatment facility has the capacity to accommodate an additional 9.6 MGD (Garret Haertnel, Personal Communication, May 5, 2010).

Solid Waste Services. Solid waste generated in the City of Marina is disposed of at the landfill operated by the Monterey Regional Waste Management District (MRWMD). The MRWMD landfill serves the City of Marina, as well as the cities of Seaside, Del Ray Oaks, Sand City, Monterey, Pacific Grove, Pebble Beach and Carmel. The MRWMD landfill is 466 acres and located approximately one mile northeast of the City on Charles Benson Lane. The landfill has a permitted capacity of 49.7 million cubic yards and a permitted throughput of 3,500 tons per day (California Integrated Waste Management Board, 2010). Currently, the landfill receives 600 tons per day of throughput and has a remaining capacity of 39 million tons (Rick Shedden, Personal Communication, May 6, 2010). Due to a decline in daily tonnage received, the landfill has a revised lifespan of 166 years, or an expected closure date in 2176 (Rick Shedden, Personal Communication, May 6, 2010).

b. Regulatory Setting.

Fire and Police Protection Services. Fire hazards are minimized primarily through the application of the State Fire Code and Building Code. The City of Marina has adopted the National Fire Protection Association's Uniform Fire Code (City of Marina Municipal Code, 2007). These codes set forth rules and regulations related to fire access, fire flow requirements, the number, placement, and spacing of hydrants, and automatic fire extinguishing systems. New construction is required to adhere to development standards set forth in these codes as adopted and amended. Compliance with these standards and codes is addressed during the building permit stage for individual projects.

The Marina General Plan includes the following policy related to fire protection and law enforcement:



- *Community Land Use:*
 - *Policy 2.106 As the population of Marina grows, the police force should be sufficiently staffed and deployed to maintain an average emergency response time of four minutes. Similarly, a maximum response time for fire protection of three to four minutes should be maintained. Where new development would be located beyond a three-to-four-minute response time, consideration should be given to the need for Class A fire-resistant roofing.*

Public Schools. As of January 1987, State law allows school districts to levy three different levels of development fees directly on new residential, commercial, and industrial development (Government Code Section 65995). Fees cannot exceed \$2.97 per square foot of residential construction and \$0.47 per square foot of commercial/industrial construction for K-12 facilities. Districts set their own fees within this limit based on a nexus study establishing their funding requirements. Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998) states that payment of statutory fees “...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization.”

Parks and Recreation. The Quimby Act gives the legislative body of a City or County the authority, by ordinance, to require the dedication of land or payment of in-lieu fees, or a combination of both, for park and recreational purposes as a condition of approval of a tract map or parcel map. The existing Quimby Act parkland to population ratio requirement established by the City of Marina General Plan is 5.3 acres of parkland per 1,000 residents. Chapter 16.23 of the Marina Municipal Code sets forth requirements for project specific parkland dedication and payment of in-lieu fees.

Library Facilities. Neither the State of California nor the City of Marina have adopted standards for the provision of library facilities. It is common practice however, that jurisdictions use the recommended standards set forth by American Library Association’s *Minimum Standards for Public Libraries*. The American Library Association recommends the provision of 0.6 square feet of library space per capita.

Water Supply and Infrastructure. The California Water Code, based on Senate Bill 610, requires a project to assess the reliability of water supply during the CEQA process if it would result in 500 residential units or more. This requires the preparation of a Waste Supply Assessment (WSA). The WSA documents existing and future water supplies for the project and compares them to total water demands for the next twenty years. A WSA was prepared for the proposed Specific Plan, and is included as Appendix F to this EIR.

Wastewater Services and Infrastructure. The City of Marina requires that all development projects requiring discretionary approval obtain verification of adequate wastewater treatment capacity from the MRWMD prior to project approval. Wastewater collection system improvement plans for individual projects are required to be consistent with the master wastewater collection and treatment plan and related MCWD standards. In accordance with these standards, all infrastructure for adequate water supply is required to be in place prior to or concurrent with new development. The cost for providing water to new



development is required to be paid by impact fees set at a rate sufficient to cover the annual debt service of the new water supply system (City of Marina General Plan, 2006).

Solid Waste Services. The California Integrated Waste Management Act of 1989 (State Assembly Bill 939) requires cities to have developed a source reduction element to provide strategies for diverting at least 50 percent of all solid waste from landfills by the year 2000. Through recycling and reduction programs and policies, the City of Marina achieved a 55 percent solid waste diversion rate by 2006 (California Integrated Waste Management Board, 2010).

4.10.2 Impact Analysis

a. Methodology and Impact Criteria.

Methodology.

Fire Protection Services. Information on current service demands and available staff and equipment was provided by Chief Harald Kelley of the Marina Fire Department. The Marina Fire Department does not have an adopted service ratio, but rather seeks to maintain a five minute response time for 90 percent of emergency calls. Should new development facilitated by the Specific Plan decrease emergency response times such that it would require the construction of new or expanded facilities, significant impacts could result.

Police Protection Services. Information on current service demands and available staff and equipment was provided by Lieutenant Thomas Melendy of the Marina Police Department. The Department does not have an established response time goal. However, Policy 2.106 of the Marina General Plan Community Land Use Element notes that the police force should be sufficiently staffed and deployed to maintain an average emergency response time of four minutes. Should new development facilitated by the Specific Plan decrease emergency response times such that it would require the construction of new or expanded facilities, significant impacts could result.

Public Schools. Information on current school facilities was provided by the MPUSD and the Education Data Partnership (www.ed-data.k12.ca.us). Specifically, information pertaining to current school enrollments was collected from the Education Data Partnership, while existing school capacities were provided by the MPUSD. Student generation rates were based on the most recent Developer Fee Study (2005) and provided by the MPUSD. The student generation rates used by the following analysis for multi-family residential are 0.15 students per household for K-5 0.05 students per household for sixth through eighth grade, and 0.07 students per household for ninth through twelfth grade.

Impacts would be significant if development facilitated by the proposed Specific Plan would cause student enrollment to increase such that new or expanded school facilities would be required, the construction of which could cause environmental impacts.

Parks and Recreation. Impacts to parks and recreational facilities were assessed based on the comparison of the current parkland to population ratio and the target ratio as set forth by the City General Plan (5.3 acres of parkland per 1,000 residents). Impacts would be potentially



significant if development facilitated by the proposed Specific Plan would cause the City to provide less than 5.3 acres of parkland per 1,000 residents. A deficiency in this ratio may require the development of additional parks and recreational facilities, the construction of which could cause environmental impacts, or cause the deterioration of facilities.

Library Facilities. The City of Marina does not have adopted thresholds of significance for library services. Therefore, to determine impacts to library services, the National Library Standard was used to estimate the square footage needed to serve a given population. Should the proposed Specific Plan increase the City population such that the library would provide less than 0.6 square feet of library space per person, significant impacts could result. A deficiency in this ratio may require new or expanded library facilities, the construction of which could cause environmental impacts.

Water Supply and Infrastructure. The City of Marina does not have adopted thresholds of significance for water supply. Therefore, impacts to water supply are based on whether adequate water supply would be available for the proposed Specific Plan over a 20-year horizon. A 20-year planning horizon is used and pursuant to the requirements of SB 610 and the California Water Code Section 10910. However, full buildout is not anticipated to occur for approximately 30 years. Therefore, this analysis is considered a worst case scenario in terms of buildout. Impacts are also determined based on whether existing water infrastructure has the capacity to convey necessary water demands. The analysis is based on the *Water Supply Assessment for the Marina Downtown Specific Plan*, prepared by Schaaf and Wheeler, 2010 (Appendix F).

Wastewater Services and Infrastructure. Neither the City of Marina nor the MRWPCA have adopted thresholds of significance for wastewater services. However, Garret Haertnel of the Environmental Safety and Compliance Division of the MRWPCA stated that wastewater service is provided on a first come first serve basis up to the maximum permitted design capacity of the wastewater treatment plant. Therefore, should the proposed Specific Plan generate wastewater effluent beyond the currently available capacity (9.6 MGD), significant impacts could result. An exceedance of currently available capacity may require new or expanded wastewater facilities, the construction of which could cause environmental impacts.

Solid Waste Services. Neither the City of Marina nor the MRWMD have adopted thresholds of significance for solid waste services. Therefore, in absence of an established threshold, should the proposed Specific Plan generate solid waste beyond the currently available capacity and daily throughput of the Marina Landfill, significant impacts could result. An exceedance of currently available capacity may require new or expanded landfill facilities, the construction of which could cause environmental impacts.

Significance Criteria. Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain*



acceptable service ratios, response times or other performance objectives for any of the following public services: fire protection, police protection, parks, and other public facilities;

- *Increases in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;*
- *Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment;*
- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);*
- *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;*
- *Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
- *Fail to have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed;*
- *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve project's projected demand in addition to the provider's existing commitments;*
- *Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs; or*
- *Conflict with federal, state, and local statutes and regulations related to solid waste.*

Drainage-related impacts are discussed in Section 4.8, *Drainage and Water Quality*.

b. Project Impacts and Mitigation Measures

Impact PS-1 **Development facilitated by the Downtown Vitalization Specific Plan would increase demand for fire protection services. However, all development in the plan area would be located within the five minute response zone of the Fire Department and adequate fire protection would be provided without the construction of new or expanded fire protection facilities. Therefore, impacts would be Class III, less than significant.**

Buildout of the proposed Specific Plan would result in up to 2,400 new residential units and 380,150 square feet of new non-residential space. Based on 2.804 persons per household (Department of Finance, 2010), the proposed Specific Plan could generate up to 6,730 new residents. These residents, as well as non-residential development, would require fire protection services from the City of Marina Fire Department. As described in Section 4.10.2(a) (Methodology and Impact Criteria), significant impacts would result if development would occur outside of the Fire Department's five minute response zone, thereby resulting in inadequate response times and the need for new or expanded fire protection facilities to adequately serve such development. Chief Harald Kelley of the Marina Fire Department confirmed that the entire Downtown Vitalization Specific Plan area is located within the five



minute response zone of the Department (Personal Communication, May 5, 2010). As such, development pursuant to the proposed Specific Plan would not be located in an area that would create the need for new or expanded fire protection facilities, the construction of which may result in environmental impacts.

However, Chief Harald Kelley stated that the Fire Department is currently understaffed and limited funding is available to fill vacant positions. As development occurs in accordance with the Specific Plan and the population of Marina concurrently increases, emergency calls and the need for fire protection services would likely increase. The increase in demand for fire protection may require additional staffing to adequately serve the future population. While an increase in population may result in demand for additional staffing, it would not directly create the need for new or expanded facilities, the construction of which could cause environmental impacts. Should the Fire Department propose to expand or construct new facilities in the future, such facilities would be subject to subsequent environmental review under CEQA in which potential environmental impacts would be addressed accordingly. It should be noted that the allocation of funding for Fire Department staffing is the responsibility of the City of Marina and would be addressed as specific projects are proposed in the future. In addition, future projects under the Specific Plan would be required to pay impact mitigation fees pursuant to the City of Marina's developer fee schedule. Payment of impact mitigation fees would constitute funding equivalent to the provision of fire protection services to offset potential impacts associated with development facilitated by the proposed Specific Plan. Therefore, pursuant to payment of required impact mitigation fees, impacts would be Class III, *less than significant*.

Reservation Road Four-Lane Option. Impacts to fire protection services are based on the particular location of residential and non-residential development within the City of Marina relative to the Fire Department's five minute response zone. The Reservation Road Four-Lane Option would not facilitate residential or non-residential development outside the five minute response zone or result in additional impacts beyond those discussed above.

Reservation Road Two-Lane Option. Impacts to fire protection services are based on the particular location of residential and non-residential development within the City of Marina relative to the Fire Department's five minute response zone. The Reservation Road Two-Lane Option would not facilitate residential or non-residential development outside the five minute response zone or result in additional impacts beyond those discussed above.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include any policies related to fire protection services.

Mitigation Measures. No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.



Impact PS-2 **Development facilitated by the Downtown Vitalization Specific Plan would increase demand for police services, such that increases in staffing would be necessary. However, this impact would be offset by the collection of impact mitigation fees pursuant to the City of Marina’s developer fee schedule. No new police facilities would be required. Therefore, impacts would be Class III, less than significant.**

The City is currently divided among four patrol beats. Patrol beats one and two cover the downtown area, and thus the proposed Specific Plan area. As development incrementally occurs over the 30-year planning horizon of the Specific Plan, the Police Department may experience an increase in call volumes thus a decrease in response times. This would likely require additional officers per patrol beat to maintain adequate response times. While additional staffing and an augmentation of existing patrol beats may be required, this would not directly result in a physical environmental impact.

It should be noted that the existing police station is at capacity. Should the City and Police Department determine in the future that a new or expanded facility is needed, any new Police Department facilities or expansions to existing facilities built in the future would be subject to additional environmental review under CEQA in which potential environmental impacts would be addressed accordingly. Furthermore, because development would occur incrementally over the next 30 years, it is not likely that a new or expanded police station or associated facility would be required in the near future.

The allocation of funding for Police Department staffing is the responsibility of the City of Marina and would be addressed as specific projects are proposed in the future and as the population of Marina increases. In addition, future projects under the Specific Plan would be required to pay impact mitigation fees pursuant to the City of Marina’s developer fee schedule. Payment of impact mitigation fees would constitute funding equivalent to the provision of police services to offset potential impacts associated with development facilitated by the proposed Specific Plan. Therefore, impacts would be Class III, less than significant.

Reservation Road Four-Lane Option. The Reservation Road Four-Lane Option would not facilitate residential or non-residential development in excess of that described above, or otherwise result in additional impacts beyond those discussed above.

Reservation Road Two-Lane Option. The Reservation Road Two-Lane Option would not facilitate residential or non-residential development in excess of that described above, or otherwise result in additional impacts beyond those discussed above.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include any policies related to police protection services.

Mitigation Measures. No mitigation is required because payment of developer impacts fees would mitigate potential impacts.



Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include any policies related to police protection services.

Mitigation Measures. No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-3 Development facilitated by the Downtown Vitalization Specific Plan would increase student enrollment such that new or expanded school facilities would be needed at Marina Vista Elementary and J.C. Crumpton Elementary. However, the payment of developer impact fees is deemed full mitigation by the State of California. Therefore, impacts to schools would be Class III, less than significant.

The Downtown Vitalization Specific Plan would accommodate up to 2,400 residential units upon buildout. Based on student generation rates of 0.15 for grades K-5, 0.05 for grades 6-8, and 0.07 for grades 9-12, development facilitated by the proposed Specific Plan could generate up to 360 K-5 students, 120 6-8 students, and 168 9-12 students, for a total of 648 students (refer to Table 4.10-5). Currently, Marina Vista Elementary and J.C. Crumpton Elementary have the capacity to accommodate an additional 339 students. The Downtown Vitalization Specific Plan would generate 360 elementary age students (grades K-5); therefore, the proposed Specific Plan would cause these schools to exceed capacity by 21 students, or approximately 11 students at each school (refer to Table 4.10-6). Los Arboles Middle School has the capacity to accommodate an additional 126 students. The Specific Plan would generate 120 6-8 students; therefore, adequate capacity exists at Arboles Middle School to accommodate buildout of the Specific Plan. Marina High School has the capacity to accommodate an additional 394 students. Future development facilitated by the proposed Specific Plan would generate 168 9-12 students; therefore, adequate capacity exists at Marina High School to accommodate buildout of the Downtown Vitalization Specific Plan.

Table 4.10-5. Student Generation Factors and Student Generation Specific Plan Buildout

Land Use	Potential New Residential Units	Generation Factor (students per unit)	Students Generated
Multi-Family Residential	2,400	0.15 (K-5)	360
		0.05 (6-8)	120
		0.07 (9-12)	168
Total			648

Source: Student generation rates provided by MPUSD.



As indicated in Table 4.10-6, Marina Vista Elementary and J.C. Crumpton Elementary would exceed capacity by approximately two percent. Los Arboles Middle School and Marina High School would not exceed capacity as a result of buildout of the Specific Plan.

Table 4.10-6 Student Generation and School Capacity Utilization

School Name	Grades	2008-2009 Enrollment	Existing Capacity	Students Generated	Enrollment with Specific Plan Buildout	Capacity Utilization
Marina Vista Elementary	K-5	344	550	217	561	102%
J.C. Crumpton Elementary	K-5	417	550	143	560	102%
Los Arboles Middle School	6-8	603	729	120	723	99%
Marina High School	9-12	389	783	168	557	71%
TOTAL	-	1,753	2,612	648	2,401	92%

Buildout of the proposed Specific Plan would result in minor overcrowding at Marina Vista Elementary and J.C. Crumpton Elementary, such that new or expanded school facilities may be needed. However, because development would occur incrementally over the next several years, it is unlikely that Marina Vista Elementary and J.C. Crumpton Elementary would be impacted immediately. Rather, as development occurs, schools would modify their facilities or augment class size on an as needed basis. In addition, the development that could occur under the proposed Specific Plan would be required to pay impact mitigation fees in accordance with the MPUSD’s developer fee schedule. As stated in Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August27, 1998), payment of statutory fees “...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization.” Therefore, pursuant to compliance with CGC §65994(h), impacts relating to public schools would be Class III, less than significant.

Reservation Road Four-Lane Option. Impacts to school facilities are based on the number of students that would be generated by future residential development. The Reservation Road Four-Lane Option would not influence the number of students generated by development under the Downtown Vitalization Specific Plan, as the number of residential units proposed under the Four-Lane Option would be consistent with the above description.

Reservation Road Two-Lane Option. Impacts to school facilities are based on the number of students that would be generated by future residential development. The Reservation Road Two-Lane Option would not influence the number of students generated by development under the Downtown Vitalization Specific Plan, as the number of residential units proposed under the Two-Lane Option would be consistent with the above discussion.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include any policies that mitigate potential impacts to school capacity. However as discussed above, Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August27, 1998), states that payment of statutory fees “...is deemed to be full and



complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization."

Mitigation Measures. No mitigation measures are required beyond payment of developer impact fees in accordance with the MPUSD developer fee schedule.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-4 Development facilitated by the Downtown Vitalization Specific Plan would increase the population of Marina and proportionately increase demand for parkland. Currently available parkland would be adequate to support the population increase attributable to Downtown Vitalization Specific Plan. Therefore, impacts would be Class III, less than significant.

Development facilitated by the proposed Specific Plan could accommodate up to 2,400 new residences upon buildout. Based on 2.804 persons per household (Department of Finance, 2010), the proposed Specific Plan could generate up to 6,730 residents. Based on the City standard of 5.3 acres of parkland and recreational space per 1,000 residents, the population generated by the Specific Plan would generate a demand for approximately 35.7 acres of parkland. The City currently provides a total of 756 acres of parkland and the current parkland ratio is approximately 39 acres per 1,000 residents (based on a current population of 19,445). Buildout of the proposed Specific Plan would increase the population of Marina to 26,175 and therefore lower the parkland ratio to approximately 29 acres of parkland per 1,000 residents. However, this ratio continues to be well above the City's minimal requirement of 5.3 acres per 1,000 residents. As such, buildout of the Specific Plan would not create the need for new expanded parkland facilities or cause the deterioration of existing parkland facilities through increased usage. In addition, as development occurs under the proposed Specific Plan, individual projects would be required to pay development impact fees in accordance with the City of Marina development impact fee schedule. Payment of fees would be the funding equivalent to the provision and maintenance of parkland. Therefore, impacts would be Class III, less than significant.

Reservation Road Four-Lane Option. Impacts to parkland are based on population increases and the amount of parkland available for that population in accordance with City standards. The Reservation Road Four-Lane Option would not influence the population generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of parkland available. Impacts would therefore be consistent with the above description.

Reservation Road Two-Lane Option. Impacts to parkland are based on population increases



and the amount of parkland available for that population in accordance with City standards. The Reservation Road Two-Lane Option would not influence the population generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of parkland available. Impacts would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include policies that mitigate impacts to park and recreational facilities. However, the Marina General Plan contains the following policy related to parks and recreation:

- *Community Design and Development Policies:*
 - *Policy 2.18 New parks and playgrounds shall be provided in conjunction with new residential development in accordance with the standards of Table 2.2 [of the General Plan]. The required outdoor park and recreation area shown in Table 2.2 [of the General Plan] by type may be combined with other required outdoor recreation areas provided; (a) the service area criteria are met; and (b) the design of park and active-recreation areas provides, where necessary, sufficient separation between areas so as to City of Marina General Plan 25 simultaneously accommodate different age groups or potentially incompatible activities. To meet the recreation trail standard, a trail shall link the area served to an existing or planned trail so as to eventually create an integrated citywide trail system.*

In addition, Municipal Code Chapter 16.23 sets for the requirements for the dedication and payment of impact mitigation fees for parkland.

Mitigation Measures. No mitigation measures are required beyond payment of developer impact mitigation fees in accordance with the City of Marina developer fee schedule.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-5 Development facilitated by the Downtown Vitalization Specific Plan would increase demand for library services. However, currently available library space would be adequate to support the population increase attributable to the Specific Plan. Therefore, impacts would be Class III, less than significant.

Development facilitated by the proposed Downtown Vitalization Specific Plan could accommodate up to 2,400 new residences upon buildout. Based on 2.804 persons per household (Department of Finance, 2010), the proposed Specific Plan could generate up to 6,730 residents. Based on the National Library Standard 0.6 square feet of library space per resident, the



population generated by the Specific Plan would generate a demand for approximately 4,038 additional square feet. The Marina Library is 18,500 square feet in size, which currently provides 0.95 square feet per resident (based on a current population of 19,445). Buildout of the Downtown Vitalization Specific Plan would increase the population of Marina to 26,175 and thereby result in the provision of approximately 0.7 square feet of library space per resident, which exceeds the National Library Standard of 0.6 square feet per person. Therefore, buildout of the proposed Specific Plan would not result in the need for new or expanded library facilities. Impacts would be Class III, *less than significant*.

Reservation Road Four-Lane Option. Impacts to library services are based on population increases and the amount of library space available for that population in accordance with the National Library Standard. The Reservation Road Four-Lane Option would not influence the population generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of library space available. Impacts would therefore be consistent with the above description.

Reservation Road Two-Lane Option. Impacts to library services are based on population increases and the amount of library space available for that population in accordance with the National Library Standard. The Reservation Road Two-Lane Option would not influence the population generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of library space available. Impacts would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include policies that mitigate impacts to library facilities.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-6 **Buildout of the Downtown Vitalization Specific Plan would demand approximately 650 AFY. The City of Marina will have a surplus of 928 AFY in the year 2030. Therefore, adequate supply would be available to accommodate buildout. Necessary water infrastructure upgrades would occur on an as needed basis and would not result in significant secondary environmental impacts. Therefore, impacts to water supply and water supply infrastructure would be Class III, *less than significant*.**

As shown in Table 4.10-7, beginning in 2015, development facilitated by the proposed Specific plan would demand 163 AFY. By 2030, total demand would be approximately 650 AFY. It should be noted that the demand estimates shown in Table 4.10-7 show demand that would



result from 2,200 dwelling units and 334,150 square feet of commercial development. As described in Section 2.0, *Project Description*, the Specific Plan would accommodate up to 2,400 dwelling units and 380,150 square feet of commercial development. The 200 units and 46,000 square feet of commercial development not shown in Table 4.10-7 were projected by the UWMP to have already occurred within the downtown area. Therefore, this development was already accounted for in the City’s 2005 UWMP. Due to economic conditions, this development did not occur as anticipated (Appendix F). Therefore, the 200 units and 46,000 square feet of commercial space were subtracted from total development potential of the Specific Plan so as not to overestimate total water demand upon buildout of the Specific Plan (refer to Appendix F).

Table 4.10-7. 20-Year Projected Water Demand of Downtown Vitalization Specific Plan (AFY)

	2010	2015	2020	2025	2030
Residential Dwelling Units ¹	0	137.5 (550 units)	275 (1,100 units)	412.5 (1,650 units)	550 (2,200 units)
Non-Residential Square Footage ²	0	25 (83,650 sf)	50 (167,150 sf)	75 (250,650 sf)	100 (334,150 sf)
Total New Demand	0	163	325	488	650

Source: *Water Supply Assessment for the Marina Downtown Specific Plan, 2010.*

Sf= square feet

1. Assumes 5 percent infill each year. Assumes a demand of 0.25 AFY/dwelling unit.

2. Assumes 5 percent infill each year. Assumes a demand of 0.0003 AFY/square foot. Demand factor assumes a mixture of retail, office, market, dining and services.

Because the 200 units and 46,000 square feet were previously projected to occur in the UWMP, when combined with the level of development shown in Table 4.10-7, total water demand upon buildout of the Specific Plan is captured in total demand estimates in Central Marina, as shown in Table 4.10-8.

As indicated in Table 4.10-8, adequate water supplies would be available to accommodate the proposed Specific Plan beginning in 2010 through 2030. According to the WSA, the water supply in Central Marina will be 4,740 AFY in 2030. Demand in Central Marina with the proposed Specific Plan would be 4,462 AFY. Therefore, projected demand within the Central Marina Service Area combined with the projected demand of the proposed Specific Plan would not exceed available water supplies (WSA, 2010). In addition, because water supplied to development facilitated by the Specific Plan would be derived from existing water allocations, no new groundwater sources would be required to meet projected demand and the proposed Specific Plan would not impact groundwater resources.

Table 4.10-8. Projected Water Supplies and Demand in Central Marina Service Area (AFY)

	2010	2015	2020	2025	2030
Total Supply Central Marina	3,020	3,940	3,940	4,740	4,740
Central Marina Demand without Specific Plan ¹	2,200	3,046	3,214	3,797	3,812
Central Marina Demand with Specific Plan	2,220	3,209	3,539	4,285	4,462
Water Supply Surplus	800	731	401	455	278

Source: *Water Supply Assessment for the Marina Downtown Specific Plan, 2010*

1. Accounts for 200 units and 46,000 square feet of commercial development that did not previously occur within the Specific Plan area.



It should be noted that the WSA prepared for the proposed Specific Plan projected water supply and demand 20 years into the future, which is consistent with the requirements of SB 610 and California Water Code Section 10910, and represents a reasonable worst case scenario. By the 2030, it is anticipated that 2,200 residential units and 334,150 square feet of commercial space would be developed, in addition to the 200 units and 46,000 square feet of commercial development previously projected to occur within the downtown area. This level of development represents full buildout of the Specific Plan, which would accommodate a total of 2,400 units and 380,150 square feet of commercial space. It is possible that full buildout of the Specific Plan may not occur by 2030; however, as shown in Table 4.10-8, adequate water supplies would be available to accommodate full buildout, even if development under the Specific Plan continues to occur beyond 2030 – assuming these water resources remain allocated for development under the Specific Plan.

Furthermore, section 10631 of the California Water Code requires an analysis of water supply reliability in single and multiple dry years. The City of Marina experiences cool summer conditions and therefore the area does not experience increased summer irrigation demands common to inland areas. In addition, periods of below normal rainfall do not reduce the coastal fog, resulting in very minor demand fluctuations between normal and dry years. Therefore, the water supplies shown in Table 4.10-4 and 4.10-8 would be reliable in single and multiple dry years (WSA, 2010).

In order to accommodate anticipated buildout of the Specific Plan, water infrastructure improvements would be required. These improvements are shown in Figure 2-9 in Section 2.0 *Project Description*. As shown therein, the proposed water system upgrades include:

- 10 inch water line in Reservation Road (Del Monte Boulevard to Crescent Avenue)
- 10 inch water line in Seacrest Avenue (Reservation Road to Carmel Avenue)
- 10 inch water line in De Forest Road (Reservation Road to midblock point south of Reservation Road)
- 10 inch water line midblock between Seacrest Avenue and De Forest Road (Reservation Road to midblock point south of Reservation Road)
- 8 inch water line in Mortimer Lane (Del Monte Boulevard to Seacrest Avenue)
- 8 inch water line midblock between Mortimer Lane and Reservation Road (Del Monte Boulevard to Seacrest Avenue)
- 8 inch water line in Hillcrest Avenue (Sunset Avenue to midblock point west of Sunset Avenue)
- 8 inch water line midblock between Hillcrest Avenue and Carmel Avenue (Del Monte Boulevard to Sunset Avenue)
- 8 inch water line midblock between Hillcrest Avenue and Reindollar Avenue (Del Monte Boulevard to Sunset Avenue)
- 8 inch water line from midblock of Reindollar Avenue south to existing midblock water line

These upgrades would occur on an as needed basis as development occurs under the Downtown Vitalization Specific Plan. The installation of these upgrades may cause short term construction impacts due to noise, traffic, and ground disturbance; however, these impacts are temporary in nature, and are discussed in Sections 4.4, *Noise*, and 4.2, *Transportation*, and other



relevant sections of this EIR. In addition, these upgrades would replace existing water lines within an existing urbanized area, which would not result in new long term environmental impacts. Therefore, because adequate water supply would be available to accommodate buildout of the Specific Plan and the necessary upgrades would occur on an as needed basis without significant environmental effects, impacts would be Class III, *less than significant*.

Reservation Road Four-Lane Option. Impacts to water and water infrastructure are based on the water demand generated by development under the proposed Specific Plan. The Reservation Road Four-Lane Option would not influence the amount of water demanded by the Specific Plan, as the level of development expected under the Four-Lane Option would be the same as that discussed above.

Reservation Road Two-Lane Option. Impacts to water and water infrastructure are based on the water demand generated by development under the proposed Specific Plan. The Reservation Road Two-Lane Option would not influence the amount of water demanded by the Specific Plan, as the level of development expected under the Two-Lane Option would be the same as that discussed above.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan includes goals and policies that would reduce water demand and impacts to associated infrastructure. These policies include:

- *Sustainability Policies:*
 - *SUS-5. Landscaping shall incorporate native plant species and/or drought tolerant species, with selection appropriate for location. (Implements Goals 1 and 3)*
 - *SUS-6. Water and lighting fixtures shall be designed for efficiency. Water conserving fixtures may include low-flow faucets, showerheads, and toilets, as well as drip irrigation systems. (Implements Goals 1 and 3)*
 - *SUS-7. Irrigation and all water elements within Specific Plan Area shall maximize the use of available reclaimed water. (Implements Goals 1 and 3)*
- *Infrastructure Goals and Policies:*
 - *Infrastructure Goal 1. Maintain a sufficient level of public infrastructure and utilities to serve existing and future development in the Specific Plan Area.*
 - *INF-1. Identify needed infrastructure improvements and establish a priority schedule for capital improvements. (Implements Goals 1 and 2)*
 - *INF-2. Install public improvements, such as streets, water, sewer, lighting, landscaping, sidewalks, drainage facilities, curbs and gutters during the initial phases of development under the Specific Plan. (Implements Goals 1 and 2)*

Mitigation Measures. No mitigation measures are required.



Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-7 Buildout of the Downtown Vitalization Specific Plan would generate approximately 0.5 million gallons of wastewater per day (MGD). The MRWPCA regional wastewater treatment facility has the capacity to accommodate an additional 9.6 MGD. Therefore, adequate capacity exists to accommodate buildout of the proposed Specific Plan and impacts would be Class III, less than significant.

Table 4.10-9 shows the amount of wastewater that would be generated upon buildout of the proposed Downtown Vitalization Specific Plan.

Table 4.10-9. Downtown Vitalization Specific Plan Estimated Wastewater Generation

Land Use	Generation Factor ¹	Square Feet ²	Units	Volume (gallons per day)
Residential ³	207 gallons/day/unit	-	2,400	496,800
Multiple Use (Commercial)	0.09676 gallons/day/square foot	319,326	-	30,898
Office/Research	0.05785 gallons/day/square foot	38,015	-	2,199
Public Facilities - Civic	0.05785 gallons/day/square foot	22,809	-	1,320
TOTAL				503,417

1. Generation factors provided by the Marina Wastewater Collection Master Plan.

2. The new non-residential square footage that could occur under the Specific Plan was proportionately reduced for each of the land uses included herein (when compared to Table 2-2 in the Project Description) to account for the Retail/Service, Visitor Serving, and Industrial square footage that would be removed and replaced. Therefore, the net square footage remains 380,150 square feet.

3. Residential units in both the Multi-family and Multiple Use land uses as shown in Table 2-2 of the Project Description are included herein as one "Residential" category.

As indicated by Table 4.10-9, buildout of the proposed Specific Plan would generate approximately 503,417 gallons of wastewater per day, or 0.5 million gallons per day (MGD). The MRWPCA regional wastewater treatment facility currently has the capacity to accommodate an additional 9.6 MGD (Garret Haertnel, Personal Communication, May 5, 2010). Development facilitated by the proposed Specific Plan would utilize approximately 5 percent of the remaining available capacity, and upon buildout approximately 9.1 MGD would still be available. Therefore, adequate capacity exists at the MRWPCA regional wastewater treatment facility to accommodate the proposed Specific Plan, and new or expanded wastewater facilities would not be required.

As development occurs under the proposed Specific Plan, sewer trunk lines would need to be upgraded to accommodate additional flow associated with specific projects. As discussed in Chapter 5, *Infrastructure*, of the Specific Plan, proposed wastewater system upgrades include:



- 24 inch sewer line in Reservation Road (Del Monte Boulevard to 1,400 feet west)
- 18 inch sewer line in Del Monte Boulevard (Reservation Road to Carmel Avenue)
- 18 inch sewer line in Reservation Road (Del Monte Boulevard to 500 feet east of Seacrest Avenue)
- 15 inch sewer line in Carmel Avenue (Del Monte Boulevard to Seacrest Avenue)
- 10 inch sewer line in Carmel Avenue (Seacrest Avenue to 550 feet east of Seacrest Avenue)
- 10 inch sewer line in Del Monte Boulevard (Highway 1 to midblock between Reindollar Avenue and Hillcrest Avenue)
- 10 inch sewer line from Del Monte Boulevard north of Highway 1 north 500 feet
- Additional pump at Marina Pump Station to handle Specific Plan flows (1,826 gallons per minute)

These upgrades would occur on an as needed basis as development occurs under the Downtown Vitalization Specific Plan. The installation of these upgrades may cause short term construction impacts due to noise, traffic, and ground disturbance; however, these impacts are temporary in nature, and are discussed in Sections 4.4, *Noise*, and 4.2, *Transportation*, and other relevant sections of this EIR. In addition, these upgrades would replace existing sewer lines within an existing urbanized area, which would not result in new long term environmental impacts. Therefore, because adequate capacity exists at the regional wastewater treatment plant and the necessary upgrades would occur on an as needed basis without significant environmental effects, impacts would be Class III, *less than significant*.

Reservation Road Four-Lane Option. Impacts to wastewater infrastructure are based on the amount of wastewater generated and whether existing infrastructure has the capacity to accommodate the additional wastewater generated. The Reservation Road Four-Lane Option would not influence the amount of wastewater generated by the Downtown Vitalization Specific Plan, as the level of development expected under the Four-Lane Option would be the same as that discussed above.

Reservation Road Two-Lane Option. Impacts to wastewater infrastructure are based on the amount of wastewater generated and whether existing infrastructure has the capacity to accommodate the additional wastewater generated. The Reservation Road Two-Lane Option would not influence the amount of wastewater generated by the Downtown Vitalization Specific Plan, as the level of development expected under the Two-Lane Option would be the same as that discussed above.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include policies that mitigate impacts to wastewater facilities.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.



Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PS-8 Buildout of the Downtown Vitalization Specific Plan would generate approximately 5.75 tons of solid waste per day. The existing MRWMD landfill has a surplus capacity of 2,900 tons of waste per day. Therefore, adequate capacity exists to serve the Specific Plan and impacts would be Class III, less than significant.

Development facilitated by the proposed Downtown Vitalization Specific Plan could accommodate up to 2,400 new residences and 380,150 square feet of new non-residential space upon buildout. Based on generation rates¹ of four pounds per dwelling unit per day for residential uses and five pounds per 1,000 square feet per day for non-residential uses, residential development under the proposed Specific Plan would generate up to 1,752 tons of solid waste per year and non-residential development would generate up to 347 tons of solid waste per year, for a total of 2,099 tons per year. This converts to approximately 4.8 tons of solid waste per day for residential uses and 0.95 tons of solid waste per day for non-residential uses, for a total of 5.75 tons per day. Currently the MRWMD has the capacity to accommodate an additional 2,900 tons per day and is expected to serve the existing service area for next 166 years. Solid waste generated by the Downtown Vitalization Specific Plan would utilize less than 1 percent of the available remaining capacity. Therefore, adequate capacity exists to serve future development facilitated by the proposed Specific Plan and impacts would be Class III, less than significant.

Reservation Road Four-Lane Option. Impacts to the landfill are based on the amount of solid waste generated and whether the existing landfill has the capacity to accommodate the additional waste generated. The Reservation Road Four-Lane Option would not influence the amount of solid waste generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of landfill capacity available. Impacts would therefore be consistent with the above description.

Reservation Road Two-Lane Option. Impacts to the landfill are based on the amount of solid waste generated and whether the existing landfill has the capacity to accommodate the additional waste generated. The Reservation Road Two-Lane Option would not influence the amount of solid waste generated by the Downtown Vitalization Specific Plan, nor would it influence the amount of landfill capacity available. Impacts would therefore be consistent with the above description.

Specific Plan Policies which Reduce Impacts. The proposed Downtown Vitalization Specific Plan does not include policies that mitigate impacts to solid waste facilities. However, the Marina General Plan contains the following policy related to solid waste reduction:

- *Community Infrastructure:*
 - Policy 3.3-15 *Promote reductions in the generation of non-recyclable solid waste.*

¹ Solid waste generation rates are derived from the California Integrated Waste Management Board's website: <http://www.calrecycle.ca.gov/wastechar/wastegenrates/>



Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road Four-Lane Option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road Two-Lane Option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts.

Fire Protection Services. Cumulative buildout of the City of Marina General Plan would increase the demand for fire protection services due to an increased population. The increase in demand for fire protection may require additional staffing to adequately serve the future population. Much of this increased demand would result from anticipated future development and associated population growth along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Should the Fire Department propose to expand or construct new facilities to serve future development, such facilities would be subject to subsequent environmental review under CEQA in which potential environmental impacts would be addressed accordingly. It should be noted that the allocation of funding for Fire Department staffing is the responsibility of the City of Marina and would be addressed as specific projects are proposed in the future. In addition, future projects would be required to pay impact mitigation fees pursuant to the City of Marina's developer fee schedule. Payment of impact mitigation fees would be the funding equivalent to the provision of fire protection services to offset potential impacts associated with development. Therefore, cumulative impacts would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative fire protection services impacts would not be cumulatively considerable.

Police Protection Services. Cumulative buildout of the City of Marina General Plan would increase the demand for police services due to an increased population. The increase in demand for police services may require additional staffing to adequately serve the future population. Much of this increased demand would result from anticipated future development and associated population growth along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Should the City and Police Department determine in the future that a new or expanded facility is needed, any new Police Department facilities or expansions to existing facilities built in the future would be subject to additional environmental review under CEQA in which potential environmental impacts would be addressed accordingly. It should be noted that the allocation of funding for Police Department staffing is the responsibility of the City of Marina and would be addressed as specific projects are proposed in the future and as the population of Marina increases. In addition, future projects under the Specific Plan would be required to pay impact mitigation fees pursuant to the City of Marina's developer fee schedule. Payment of impact mitigation fees would constitute funding equivalent to the provision of police services to offset potential impacts associated with development facilitated by the proposed Specific Plan. Therefore,



cumulative impacts would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative police service impacts would not be cumulatively considerable.

Public Schools. Cumulative buildout of the City of Marina General Plan would increase the demand for school facilities due to an increased population and associated increase in student population. Much of this increased demand would result from anticipated future development and associated student generation along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Without increases in staffing and facilities correlating to these student population increases, potentially significant impacts could occur. However, because development would occur incrementally over the next several years, it is unlikely that MPUSD schools would be impacted immediately. Rather, as development occurs, schools would modify their facilities or augment class size on an as needed basis. In addition, individual development within the City would be required to pay its fair share of school impact mitigation fees in accordance with MPUSD's developer fee schedule. These fees would be used to offset service demand impacts. As stated in Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to compliance with CGC §65994(h), cumulative impacts relating to schools would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative public school impacts would not be cumulatively considerable.

Parks and Recreation. Cumulative buildout of the City of Marina General Plan would increase the demand for parkland due to an increased population. Much of this increased demand would result from anticipated future development and associated population growth along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). However, based on the City's parkland standard of 5.3 acres per 1,000 residents, the City's current inventory of 756 acres of parkland would adequately serve a population of 142,641. The population of Marina in the year 2035 is forecast to be 32,942 (Monterey Bay Area 2008 Regional Forecast, 2008). In the year 2035, approximately 23 acres of parkland would be available per 1,000 residents, which is above the City's standard. Therefore, cumulative impacts to park and recreation would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative public school impacts would not be cumulatively considerable.

Library Facilities. Cumulative buildout of the City of Marina General Plan would increase the demand for library facilities due to an increased population. Much of this increased demand would result from anticipated future development and associated population growth along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). The Marina Library is 18,500 square feet in size, and based on the National Library Standard of 0.6 square feet of library space per person, the existing library has the capacity to serve a population of 30,833. The City of Marina is not expected to have a population of 30,833 until the year 2027 (Monterey Bay Area 2008 Regional Forecast, 2008). As such, the existing library would adequately serve the City of Marina for the



next 17 years. Therefore, cumulative impacts to library facilities would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative public school impacts would not be cumulatively considerable.

Water Supply and Infrastructure. The WSA prepared for the Specific Plan includes total demand throughout the Central Marina Service area as well as total water supplies. The Central Marina Service area includes the entire City of Marina as well as the proposed Specific Plan area and potential annexation areas (Armstrong Ranch and Lonestar). The analysis in Impact PS-6 above is cumulative in nature and therefore captures cumulative water demand and supply under current conditions and future (2030) conditions. As discussed in Impact PS-6, adequate water supply would be available to serve the proposed Specific Plan as well as all other future demands within the Central Marina Service area without the need to extract new groundwater sources. As such, the proposed Specific Plan's contribution to cumulative water supply and groundwater impacts would not be cumulatively considerable.

Wastewater Services. Cumulative buildout of the City of Marina General Plan would generate additional wastewater. Much of this additional wastewater would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). The MRWPCA regional wastewater treatment facility has the capacity to accommodate an additional 9.6 MGD (Garret Haertnel, Personal Communication, May 5, 2010). The provision of wastewater capacity is granted on a first-come first-serve basis. As cumulative development occurs, individual projects incrementally reduce the amount of available capacity; however, each future project would be required to receive confirmation from the MRWPCA that adequate capacity exists to serve the project. This would ensure that adequate wastewater capacity is available for cumulative development. Therefore, cumulative impacts to wastewater facilities would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative public school impacts would not be cumulatively considerable.

Solid Waste Services. Cumulative buildout of the City of Marina General Plan would generate additional solid waste. Much of this additional solid waste would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). The MRWMD landfill currently receives 600 tons per day and has the capacity to accommodate an additional 2,900 tons of solid waste per day. In addition, the landfill is expected to serve the region for the next 167 years. Adequate capacity would be available to serve cumulative buildout of the City of Marina General Plan. Therefore, cumulative impacts to solid waste facilities would be Class III, *less than significant*, and the proposed Specific Plan's contribution to cumulative public school impacts would not be cumulatively considerable.



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4.11 GREENHOUSE GAS EMISSIONS

4.11.1 Setting

a. Climate Change and Greenhouse Gases. Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline, against which these changes are measured, originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2007), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (90 percent or greater chance) that the global average net effect of human activities since 1750 has been one of warming. The prevailing scientific opinion on climate change is that most of the observed increase in global average temperatures, since the mid-20th century, is likely due to the observed increase in anthropogenic GHG concentrations (IPCC, 2007).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and sulfur hexafluoride (SF₆) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CDE or CO₂E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH₄) has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis.



The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, Earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO₂ are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (U.S. Environmental Protection Agency [USEPA], April 2008). CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. Concentrations of CO₂ in the atmosphere have risen approximately 35 percent since the industrial revolution. Per the IPCC (2007), the global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. The atmospheric concentration of CO₂ in 2005 exceeds the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. The average annual carbon dioxide concentration growth rate was larger during the last 10 years (1995–2005 average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates. Currently, CO₂ represents an estimated 82.7 percent of total GHG emissions (Department of Energy [DOE] Energy Information Administration [EIA], December 2008). The largest source of CO₂, and of overall GHG emissions, is fossil fuel combustion.

Methane. Methane (CH₄) is an effective absorber of radiation, though its atmospheric concentration is less than that of CO₂ and its lifetime in the atmosphere is limited to 10 to 12 years. It has a global warming potential (GWP) approximately 21 times that of CO₂ (refer to *Greenhouse Gas Inventory* below for a discussion of GWP). Over the last 250 years, the concentration of CH₄ in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH₄ include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA, April 2008).

Nitrous Oxide. Concentrations of nitrous oxide (N₂O) began to rise at the beginning of the industrial revolution. N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N₂O emissions. Nitrous oxide's GWP is approximately 310 times that of CO₂.

Fluorinated Gases (HFCS, PFCS and SF₆). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF₆), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical



transmission and distribution systems account for most SF₆ emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO₂, CH₄, and N₂O, but these compounds have much higher GWPs. SF₆ is the most potent GHG the IPCC has evaluated.

Greenhouse Gas Inventory. Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons (MMT) CDE in 2004, including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO₂ emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 million metric tons CDE (includes land use changes) and all CO₂ emissions are 76.7 percent of the total. Methane emissions account for 14.3 percent of GHG and N₂O emissions for 7.9 percent (IPCC, 2007).

Total U.S. GHG emissions were 7,049 million metric tons CDE in 2008 (DOE EIA, Table 12.1, August 2010), or about 14 percent of worldwide GHG emissions. U.S. emissions rose by 13.9 percent from 1990 to 2008. The residential and commercial end-use sectors accounted for 17 percent and 15 percent, respectively, of CO₂ emissions from fossil fuel combustion in 2008 (DOE EIA, Table 12.4, August 2010). Both sectors rely heavily on electricity for meeting energy demands, with 71 percent and 79 percent, respectively, of their emissions attributable to electricity consumption for lighting, heating, cooling, and operating appliances. The remaining emissions were due to the consumption of natural gas and petroleum for heating and cooking.

Based upon the California Air Resources Board (ARB) *California Greenhouse Gas Inventory for 2000-2008* (<http://www.arb.ca.gov/cc/inventory/data/data.htm>), California produced 478 MMT CDE in 2008. The major source of GHG in California is transportation, contributing 37 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing 24 percent of the state's GHG emissions (California Energy Commission [CEC], June 2010). California emissions are due in part to its large size and large population compared to other States. By contrast, California had the fourth lowest CO₂ emissions per capita from fossil fuel combustion in the country in 2004, due in part to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise (CEC, 2006). Another factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. ARB staff has projected statewide unregulated GHG emissions for the year 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, will be 596 MMT CDE (ARB, 2007).

Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place, including substantial ice loss in the Arctic (IPCC, 2007).

According to the California Energy Commission's (CEC) Draft Climate Action Team Biennial Report, potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and



more drought years (CEC, March 2009). Below is a summary of some of the potential effects reported by an array of studies that could be experienced in California as a result of climate change.

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (May, 2009), climate change has the potential to induce significant sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding.

The study identifies that over the past century the California coast has experienced a sea level rise of approximately eight inches. Based on the results of various global climate change models, sea level rise is expected to continue. The 2009 California Climate Adaptation Strategy estimates a sea level rise of up to 55 inches by the end of this century.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC, March 2009).

Water Supply. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. Studies have found that, “considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain, until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change” (California Department of Water Resources [DWR], 2006). For example, some studies identify little change in total annual precipitation in projections for California (California Climate Change Center [CCCC], 2006). Other studies show significantly more precipitation (DWR, 2006). Even assuming that climate change leads to long-term increases in precipitation, analysis of the impact of climate change is further complicated by the fact that no studies have identified or quantified the runoff impacts that such an increase in precipitation would have in particular watersheds (CCCC, 2006). Also, little is known about how groundwater recharge and water quality will be affected (Ibid.). Higher rainfall could lead to greater groundwater recharge, although reductions in spring runoff and higher evapotranspiration could reduce the amount of water available for recharge (Ibid.).

The California Department of Water Resources (DWR) (2006) report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta concludes that “[c]limate change will likely have a significant effect on California’s future water resources... [and] future water demand.” DWR also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain” (DWR, 2006).



This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006). DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky, 2003; DWR, 2006; Cayan, 2006, Cayan, D., et al, 2006).

Hydrology. As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half of the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise as discussed previously: 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species’ composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith, 2004).

While the above-mentioned potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general scientific modeling tools are currently unable to predict what impacts would occur locally.

b. Regulatory Setting. The following regulations address both climate change and GHG emissions.

International and Federal Regulations. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced by the United Nations in 1992. The objective of the treaty is “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous



anthropogenic interference with the climate system.” This is generally understood to be achieved by stabilizing global greenhouse gas concentrations between 350 and 400 ppm, in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC 2007). The UNFCCC itself does not set limits on greenhouse gas emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called “protocols,” that would identify mandatory emissions limits.

Five years later, the UNFCCC brought nations together again to draft the *Kyoto Protocol* (1997). The Protocol established commitments for industrialized nations to reduce their collective emissions of six greenhouse gases (carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons) to 5.2 percent below 1990 levels by 2012. The United States is a signatory of the Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol’s commitments (UNFCCC, 2007).

The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol’s mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (led by the Secretaries of Energy and Commerce) that is charged with carrying out the President’s National Climate Change Technology Initiative (USEPA, December 2007; <http://www.epa.gov/climatechange/policy/cctp.html>).

However, recent court cases may change the voluntary approach to address climate change and greenhouse gas emissions. The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the United States Environmental Protection Agency (EPA) has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act.

California Regulations. Assembly Bill (AB) 1493 (2002), referred to as Pavley I, requires CARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” On June 30, 2009, EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year.

In 2005, Governor Schwarzenegger issued Executive Order S-3-05, establishing statewide GHG emissions reduction targets. Executive Order (EO) S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006, published the Climate Action Team Report (the “2006 CAT Report”) (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/ infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc.

California’s major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the “California Global Warming Solutions Act of 2006,” signed into law in 2006. AB 32 codifies



the Statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 25 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, the ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CDE. The Scoping Plan was approved by ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Senate Bill (SB) 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing ARB to develop regional greenhouse gas emission reduction targets to be achieved from vehicles for 2020 and 2035. SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010 ARB adopted final regional targets for reducing greenhouse gas emissions in 2020 and 2035.

ARB Resolution 07-54 establishes 25,000 metric tons of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California's total inventory of GHG emissions for 2004.

For more information on the Senate and Assembly bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and <http://www.arb.ca.gov/cc/cc.htm>.

Local Regulations and CEQA Requirements. Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, they give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment



and mitigation of GHGs and climate change impacts. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. Quantitative significance thresholds for this topic have not yet been adopted by the Monterey Bay Unified APCD (MBUAPCD). The MBUAPCD's CEQA Air Quality Guidelines (2008) contain a chapter heading entitled: "Climate Change and Assessment of Project Impacts from Greenhouse Gases." However, as of this date, the Guidelines simply indicate that "[t]his chapter is reserved." (Page 12-1.)

In addition, in an effort to guide professional planners, land use officials, and CEQA practitioners, OPR prepared *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA)*. This document offers informal guidance regarding the steps lead agencies should take to address climate change in CEQA documents. This guidance was developed in cooperation with the Resources Agency, Cal EPA, and the ARB.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds. Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines, in conjunction with the CAPCOA guidelines and quantitative thresholds discussed below, are used in evaluating the cumulative significance of GHG emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed Specific Plan would be significant if future development would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, because neither the MBUAPCD nor the City of Marina has adopted GHG emissions thresholds, and no GHG emissions reduction plan with established GHG emissions reduction strategies has yet been adopted, the proposed Specific Plan is evaluated based on its compliance with the Bay Area Air Quality Management District's (BAAQMD) recently-adopted quantitative GHG emissions thresholds (May, 2010), which are the most recently-adopted thresholds currently in use in California. The BAAQMD has set a threshold for stationary sources of 10,000 metric tons CDE/year. For projects that are not stationary sources, like future development facilitated by the Specific Plan, there are three ways to evaluate significance. First the BAAQMD has set a "bright-line threshold" (i.e., a mass emissions significance



threshold) of 1,100 metric tons CDE/year, and has developed a list of “screening level” standards that can be used to assess whether a project would fall below the 1,100 metric ton limit. Second, a project would not have a significant impact if it is consistent with a local GHG reduction plan that meets the requirements of the State CEQA Guidelines. Third, the BAAQMD has also established two “efficiency” thresholds that are intended to avoid penalizing large projects that incorporate emissions-reducing features and/or that are located in a manner that results in relatively low vehicle miles traveled. These thresholds establish a maximum allowable quantity of emissions per capita or per “service population,” defined in the BAAQMD document as residents plus employees. One threshold – 6.6 metric tons CDE/year per service population – applies to General Plans that are comprised of a variety of types of land use-related emissions. A second and lower threshold – 4.6 metric tons CDE/year per capita – applies to all other projects, including Specific Plans.

Based on this guidance, the Downtown Vitalization Specific Plan’s contribution to cumulative impacts of GHG emissions and climate change would be cumulatively considerable if buildout of the Specific Plan would produce in excess of 4.6 metric tons CDE/year per service population.

Study Methodology. Calculations of CO₂, CH₄, and N₂O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO₂, N₂O, and CH₄ because these make up 98.9 percent of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF₆, were also considered for the analysis. However, because the Specific Plan would primarily facilitate residential and commercial development, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent weight in CO₂ (CDE). Minimal amounts of other main GHGs (such as chlorofluorocarbons [CFCs]) would be emitted, and these other GHG emissions would not substantially add to the calculated CDE amounts. Calculations are based on the methodologies discussed in the CAPCOA CEQA and Climate Change white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

On-Site Operational Emissions. Operational emissions of CO₂ associated with space heating and architectural coatings were quantified using the URBEMIS 2007 (version 9.2.4) software model. CO₂ emissions associated with electricity generation, as well as N₂O and CH₄ emissions, were quantified using the CCAR General Reporting Protocol (January 2009) indirect emissions factors for electricity use (see Appendix G for calculations). The calculations and emission factors contained in the General Reporting Protocol have been selected based on technical advice provided to the CCAR by the California Energy Commission. This methodology is considered reasonable and reliable for use, as it has been subjected to peer review by numerous public and private stakeholders, and in particular by the California Energy Commission, and is recommended by CAPCOA (January 2008).

Mobile Emissions. Emissions of CO₂ from transportation sources were quantified using the URBEMIS 2007 (version 9.2.4) computer model based on annual Vehicle Miles Traveled (VMT). N₂O and CH₄ emissions were quantified using the CCAR General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (see Appendix G for calculations). Total annual mileage was calculated in URBEMIS 2007. Emission rates were based on the vehicle mix output generated by URBEMIS 2007, and the emission factors found in CCAR General Reporting Protocol.



It should be noted that one of the limitations of a quantitative analysis is that emission models, such as URBEMIS, evaluate aggregate emissions and do not demonstrate, with respect to a global impact, what proportion of these emissions are “new” emissions, specifically attributable to a proposed project. For most projects, the main contribution of GHG emissions is from motor vehicles and the total VMT, but the quantity of these emissions appropriately characterized as “new” is uncertain. Traffic associated with a project may be relocated trips from other locales, and consequently, may result in either higher or lower net VMT. In this instance, it is likely that some of the proposed project-related GHG emissions associated with traffic and energy demand would be truly “new” emissions. However, it is also likely that some of the emissions represent diversion of emissions from other locations. Thus, although GHG emissions quantified herein are associated with the Specific Plan, it is not possible to discern how much diversion is occurring or what fraction of those emissions represents global increases. In the absence of information regarding the different types of trips, the VMT estimate generated by URBEMIS is used as a reasonable worst-case estimate of Plan area emissions.

Construction Emissions. Emissions of CO₂ from construction were quantified using the URBEMIS 2007 (version 9.2.4) computer model. The URBEMIS 2007 model does not calculate N₂O or CH₄ emissions from construction sources. Therefore, because CO₂ makes up the majority of GHG emissions, it is considered to be an acceptable metric for total construction emissions. Construction emissions are short-term, one-time emissions. However, climate change is a long-term impact based on worldwide concentrations of GHGs. In order to more accurately account for this, total construction emissions are amortized over the 30-year planning horizon of the Plan by dividing them by 30 and adding the result to the annual operational phase emissions.

b. Project Impacts and Mitigation Measures.

Impact GHG-1 Buildout of the proposed Specific Plan would accommodate new residences, businesses, and other uses that would generate greenhouse gas emissions and incrementally contribute to climate change. However, the Specific Plan’s GHG emissions would be lower than the plan-level “efficiency” threshold. This would be a Class III, less than significant impact.

As there are no adopted City or MBUAPCD methodologies or thresholds related to GHG emissions, this analysis conforms closely to the methodologies recommended in the CAPCOA *CEQA and Climate Change* white paper (January 2008), and utilizes the BAAQMD’s recently-adopted quantitative GHG emissions thresholds (May, 2010), as discussed in Section 4.11.2(a), (Methodology and Significance Thresholds). Inventories of projected GHG emissions associated with buildout of the Specific Plan are provided below. For specific calculations, refer to Appendix G.

On-Site Operational Emissions. This category includes emissions from consumption of electricity and natural gas as part of building operation and heating/cooling. The proposed Specific Plan would increase electricity consumption within the Plan area by an estimated 20,050,200 kilowatt-hours [kWh]/year (refer to Appendix G). The generation of electricity used in the Specific Plan area occurs at off-site power plants, much of which is generated by the



combustion of fossil fuels that yields substantial amounts of CO₂, and to a smaller extent N₂O and CH₄.

As discussed above, GHG emissions from the generation of electricity can be calculated using emissions factors from the CCAR General Reporting Protocol. CO₂ emission estimates using the URBEMIS model also take into account emissions from operational sources such as natural gas used for space heating. Table 4.11-1 shows the increase in operational emissions of GHGs associated with the proposed Specific Plan, estimated at 12,486 metric tons per year.

Table 4.11-1. Annual On-Site Operational Emissions of Greenhouse Gases: Specific Plan Buildout

Emission Source	Annual Emissions	
	Emissions	CDE
Carbon Dioxide (CO ₂) ¹	13,728.88 tons (short, US)	12,455 metric tons
Methane (CH ₄) ²	0.30 metric tons	6 metric tons
Nitrous Oxide (N ₂ O) ²	0.08 metric tons	25 metric ton
Total On-Site Operational Emissions		12,486 metric tons

Sources:

1. See Appendix G for calculations. Includes energy from electrical usage and area source emissions from natural gas and heating.
2. California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009, page 33-40.
See Appendix G for GHG emission factor assumptions and calculations.

Emissions from Mobile Combustion. Mobile source GHG emissions were estimated using the total annual VMT estimate generated by the URBEMIS 2007 model using trip generation factors from the traffic study (Appendix B). The URBEMIS 2007 model estimates that buildout of the Specific Plan would increase annual VMT within the Specific Plan area by approximately 57,920,551 VMT/year. Table 4.11-2 depicts the estimated increase in mobile emissions of GHGs based on this VMT.

Table 4.11-2. Annual Mobile Emissions of Greenhouse Gases: Specific Plan Buildout

Emission Source	Annual Emissions	
	Emissions	CDE
Carbon Dioxide (CO ₂) ¹	25,307.93 tons (short, US)	22,959 metric tons
Methane (CH ₄) ²	3.22 metric tons	68 metric ton
Nitrous Oxide (N ₂ O) ²	2.80 metric tons	1,177 metric ton
Total Mobile Emissions		24,204 metric tons

Sources:

1. Mobile Emissions from URBEMIS 2007 (version 9.2.4).
2. California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009, page 41-48.
See Appendix G for GHG emission factor assumptions and calculations.



Construction Emissions. Construction emissions were estimated using the total CO₂ construction emissions generated by the URBEMIS 2007 model. The URBEMIS 2007 model estimated that buildout of the Specific Plan area would generate approximately 2,541.35 tons of CO₂ emissions, or 2,305 metric tons of CO₂. This equates to 77 metric tons of CO₂ per year, over the assumed 30-year planning horizon of the Specific Plan.

Combined Stationary and Mobile Source Emissions. Table 4.11-3 combines the increase in operational, mobile, and construction GHG emissions associated with buildout of the proposed Specific Plan, which would total approximately 36,767 metric tons per year CDE. These emissions projections indicate that the majority of the project GHG emissions are associated with vehicular travel (66 percent). It should be noted that mobile emissions are in part a redirection of existing travel to other locations, and so may already be a part of the total California GHG emissions.

Table 4.11-3. Combined Annual Emissions of Greenhouse Gases: Specific Plan Buildout

Emission Source	Annual Emissions
Operational	12,486 metric tons CDE
Mobile	24,204 metric tons CDE
Construction	77 metric tons CDE
Specific Plan Total	36,767 metric tons CDE

Sources: Operational Emissions from URBEMIS 2007 (v.9.2.4). California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

The proposed Specific Plan would accommodate the development of up to 2,400 new dwelling units and 380,150 square feet of new non-residential space in the Marina downtown area. Buildout of the proposed Specific Plan would add an estimated 6,730 residents (based on 2.804 persons per household [Department of Finance, 2010]) and 1,360 new employees (based on employment generation factors found in the *Employment Density Summary Report*, completed for the Southern California Association of Governments [SCAG] by The Natelson Co., Inc. [October, 2001]) to the City (refer to Table 4.1-4 in Section 4.1, *Land Use, Population, and Housing*). Therefore, the service population (sum of population and employees) that would be added to the City would be 8,090. Based on the service population that would be generated by development pursuant to the Specific Plan, the total volume of GHG emissions generated by the Specific Plan equates to approximately 4.5 metric tons CO₂E per service population.

As discussed in Section 4.11.2(a), (Methodology and Significance Thresholds), the Specific Plan’s contribution to cumulative impacts of GHG emissions and climate change would be cumulatively considerable if it would produce in excess of 4.6 metric tons CDE/year per service population. Therefore, the GHG emissions of 4.5 metric tons CO₂E per service population anticipated from new development and redevelopment that could occur under the Specific Plan would not be cumulatively considerable. This is a Class III, *less than significant*, impact.

Reservation Road Four-Lane Option. The level of development accommodated by the Downtown Vitalization Specific Plan would not change from the above description under the



Reservation Road four-lane option. Impacts to cumulative GHG emissions and climate change from this option would therefore be consistent with the above description.

Reservation Road Two-Lane Option. Roundabouts would be provided at three major intersections under this scenario (Reservation Road and Del Monte Boulevard, Reservation Road and Vista Del Camino, and Reservation Road and DeForest Road). Roundabouts provide emission reductions, as compared to conventional intersections, due to the reduction in vehicle idling times. In one study this reduction in CO₂ emissions was shown to be between 16 percent and 59 percent during the AM and PM peak hours (Mandavilli, et. al., 2003). Peak hour GHG emissions from these specific intersections would represent a very small portion of the overall emissions from the Specific Plan area; therefore the potential reduction in emissions would not substantially reduce the overall emissions from buildout of the Specific Plan in the description above. The potential emissions from the Specific Plan area are based on the level of development accommodated by the proposed Specific Plan, which would not otherwise change from the above description under the Reservation Road two-lane option. Therefore, impacts to cumulative GHG emissions and climate change from this option would be consistent with the description above.

Specific Plan Policies which Reduce Impacts. The proposed Specific Plan includes goals and policies that would allow higher residential densities, encourage sustainable development, and result in future development that encourages walking, bicycling, and transit. These goals and policies would reduce energy- and transportation-based GHG emissions from Plan area land uses. Specific goals and policies include:

- *Land Use and Development Goals and Policies:*
 - *Land Use and Development Goal 3. Allow for and promote higher residential densities and a compact development pattern in accordance with Transit Oriented Development (TOD) to accommodate an intensification of existing residential and commercial land uses within the context of multiple use development.*
 - *Land Use and Development Goal 4. Create pedestrian- and transit-oriented civic and public spaces within Downtown where people can gather and enjoy various social, cultural, educational and recreational opportunities.*
 - *Land Use and Development Goal 5. Develop a land use pattern for Downtown that embraces and enhances the unique character of the City of Marina, provides opportunities for a variety of uses within a pedestrian friendly environment and minimizes the consumption or degradation of natural resources to the greatest extent feasible.*
 - *LUD-1. Ensure development standards and design guidelines result in high quality development, which reflects the cultural diversity of Marina and is consistent with a pedestrian-oriented scale and character.*
 - *LUD-5. Encourage lot consolidation to allow for added flexibility in multiple use, commercial, and residential development.*



- *Mobility Goals and Policies:*
 - *Mobility Goal 2. Create visually pleasing pedestrian and bicycle circulation that safely, efficiently, and effectively serves the Downtown, making it a place where people prefer to walk, bike, or use public transit rather than use a vehicle.*
 - *Mobility Goal 5. Create a transportation system that allows a viable choice in travel modes.*
 - *M-1. Design and redevelop streets to provide convenient and safe traffic flow and to support transit, bicycle, and pedestrian movement.*
 - *M-4. Develop efficient pedestrian pathways and bicycle circulation throughout Downtown.*

- *Infrastructure Policies:*
 - *INF-4. Improve crosswalks and intersections within the Plan Area to enhance the pedestrian environment and encourage pedestrian mobility.*
 - *INF-5. Ensure that all streets accommodate pedestrians with continuous sidewalks on both sides of the street, and curb ramps for people with mobility impairments. Ensure existing sidewalks are repaired or replaced as necessary, and meet City code.*

- *Sustainability Goals and Policies:*
 - *Sustainability Goal 1. Support sustainable development and redevelopment in Downtown Marina.*
 - *Sustainability Goal 2. Allow for compact form and multiple use patterns of development that reduce dependency on the automobile, and support other modes of transportation.*
 - *Sustainability Goal 3. Employ green building practices that reduce overall environmental impacts associated with development.*
 - *SUS-1. Reduce residents' and workers' dependence on fossil fuels, and other non-renewable natural resources.*
 - *SUS-2. Create high-density and high-intensity, multiple use areas that promote travel by transit, walking and bicycling.*
 - *SUS-3. Encourage green building techniques that conserve resources and produce more healthful living and working environments.*
 - *SUS-4. Encourage development to use renewable energy sources and meaningful energy conservation measures.*



- *SUS-9. Utilize construction materials and methods appropriate to the local area. Materials should be locally available (within 200 miles) wherever possible, and preferably have at least some recycled components.*
- *Design Goals:*
 - *Design Goal 4. Respond to environmental constraints and energy savings throughout the design process.*

In addition to the design-oriented goals and policies outlined above, the Specific Plan contains Plan area-wide design guidelines, design guidelines by land use (for multiple use and commercial, residential, and civic uses), streetscape guidelines, and landscape guidelines (refer to Specific Plan Chapter 4, *Design Guidelines*). The intent of these guidelines is to create a well-connected downtown environment that fosters a pedestrian and bicycle transportation and other energy-saving measures.

Furthermore, the following green building design standards are described in Chapter 6, *Sustainability*, of the Specific Plan. These measures are intended for new development and redevelopment within the Specific Plan area, and are recommended to be applied within the Plan area to the greatest extent feasible.

Site Design

- Incorporate passive solar orientation to optimize solar access.
- Use water conservation measures whenever possible.

Building HVAC and Appliance

- Insulate all hot water pipes and install On-Demand Hot Water Circulation System
- Use engineered parallel piping
- Install High Efficiency Toilets¹
- Install ENERGY STAR® Appliances
- Install separate garage exhaust fans
- Design and install HVAC System to ACCA recommendations
- Install Sealed Combustion (Direct Vent) furnaces and water heaters
- Install ENERGY STAR® ceiling fans with CFLs
- Install Ventilation System for

Refrigerants

- Install High Efficiency HVAC Filter
- Install Zoned, Hydronic Radiant Heating with Slab Edge Insulation
- Install tankless water heaters
- Install water heaters with Energy Factor >0.62
- Install High Efficiency Furnace (AFUE 90 percent or higher)
- Install High Efficiency Air Conditioner (SEER >13) with a Thermostatic Expansion Valve (TXV)

¹ Toilets that use less than 1.3 gallons per flush



Building Architecture and Materials

- All new buildings should incorporate sustainable building design and meet LEED certification criteria to the maximum extent feasible.
- Every structure should incorporate multiple sustainability aspects in roof design, including “green roofs” and rooftop patios as appropriate.
- Solar hot-water heating, photovoltaic and “cool roof” design shall be incorporated if necessary by modifying building design and orientation.
- Design and build Energy STAR®’s High Performance Homes
- Meet ENERGY STAR®’s Indoor Air Quality Package Requirements
- Reduce solar heat gain through exterior surfaces by using light exterior colors or paints with reflective pigments
- Apply Optimal Value Engineering (Advanced Framing)
- Use Engineered Lumber
- Use FSC-Certified Wood for framing
- Use Oriented Strand Board (OSB) for subfloor and sheathing
- Use recycled-content decking (avoid virgin plastic)
- Install recycled-content insulation
- Install Insulation that is low emitting for formaldehyde and volatile organic compounds (Certified Section 01350)
- Use Low-VOC or Zero-VOC Paint
- Use Low-VOC, water-based wood finishes
- Use Low-VOC Adhesives and Caulks
- Provide permanent walk-off mats at building entrances
- Use rapidly renewable trim materials
- Use recycled-content materials
- Reduce Formaldehyde in Interior Finishes
- Use rapidly renewable flooring materials
- Use recycled-content ceramic tiles
- Use flooring that is low-emitting (Section 01350 or Green Label Plus)

Mitigation Measures. As noted above, the proposed Specific Plan would reduce the generation of GHGs through a variety of land use and circulation strategies, including a mix of general office and commercial land uses, and multiple use development, which reduces trip lengths and VMT by allowing residents to live closer to places of employment and shopping opportunities. In addition, the Specific Plan incorporates the fundamental concepts contained in the *Pedestrian and Bicycle Master Plan*, and includes provisions for bikeways, pedestrian walkways, and transit circulation that will reduce the need for vehicle transportation and therefore reduce the total volume of GHG emissions.

In addition, mitigation measures AQ-2(a) (MBUAPCD recommended mitigation measures for commercial, industrial, and institutional land uses) and AQ-3(a) (construction and demolition performance standards and associated emissions reduction measures) in Section 4.3, *Air Quality*, would reduce GHG emissions from buildout under the Specific Plan. No additional mitigation measures would be required to reduce GHG emissions from the proposed Specific Plan area.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.



Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Greenhouse gases and climate change are, by definition, cumulative impacts. Refer to Impact GHG-1 for discussion of climate change and GHG emissions. Impacts related to this issue would be Class III, *less than significant*.

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4.12 HAZARDS AND HAZARDOUS MATERIALS

4.12.1 Setting

a. Hazardous Materials. The federal government defines a hazardous material as a substance that is toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic, bioaccumulative properties, persistence in the environment, or that are water reactive. Improper use, storage, transport, and disposal of hazardous materials and waste may result in harm to humans, surface and groundwater degradation, air pollution, fire, and explosion. The risk of hazardous material exposure can come from a range of sources; these may include household uses, agricultural/commercial/industrial uses, transportation of hazardous materials, and abandoned industrial sites known as brownfields.

Use, Storage, and Handling of Hazardous Materials. Numerous federal, state, and local regulations regarding use, storage, transportation, handling, processing and disposal of hazardous materials and waste have been adopted since the passage of the federal Resource Conservation and Recovery Act (RCRA) of 1976. The goal of RCRA is to assure adequate tracking of hazardous materials from generation to proper disposal. California Fire Codes (CFC) Articles 79, 80 et al., which augment RCRA, are the primary regulatory guidelines used to govern the storage and use of hazardous materials. The CFC also serves as the principal enforcement document from which corresponding violations are written.

Hazardous substances include both hazardous wastes and hazardous materials. In general, a material or waste is classified as hazardous if it is one of more than 700 chemicals specifically listed in the California Code of Regulations; if it contains one of these chemicals; or if it is reactive, ignitable, corrosive, or toxic. Because of their potential threat to public health and the environment, hazardous substances are closely regulated by federal, state, and local laws that focus on controlling their production, handling, storage, transportation, and disposal.

Federal and state environmental laws provide that all property owners be required to pay for cleanup, when necessary, of contamination by hazardous materials on or originating from their land. Because of the potential liability, purchasers or developers of commercial, industrial, or agricultural property should perform environmental assessments before development or purchase. In addition to being liable for cleanup, the owner can be responsible for toxic effects on human health, and measures should be taken to avoid exposing people to hazardous materials. The transportation of hazardous materials is regulated by the Department of Transportation (Caltrans), USEPA, California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP), and California State Fire Marshal regulations. Under the California Vehicle Code, the CHP has the authority to adopt regulations for transporting hazardous materials in California. The CHP can issue permits and specify the route for hazardous material delivery.

To determine the presence of hazardous materials in the Specific Plan area, Rincon Consultants, Inc. conducted a search of available environmental records using Environmental Data Resources, Inc. software. The search met the specific requirements of the American Society for Testing and Materials (ASTM) E1527-00 associated with government databases, search



distances, and data currency. Forty six sites with environmental listings are reported to be present within or near the boundaries of the subject property (refer to Table 4.12-1).

Table 4.12-1. EDR Listing Summary of Sites in the Downtown Vitalization Specific Plan Vicinity

Site Name	Site Address	Distance from Project Site	Database Reference
Fort Ord Military Reservation (Closed)	Fort Ord Military Reservation, Monterey County, CA	< 1/8 mile	DOD
US Army Fort Ord	DIR ENGR HOUSING AFZW DE PD Fort Ord, CA 93941	< 1/8 mile	RCRA-TSDF NPL CERCLIS CORRACTS RCRA-LQG US ENG CONTROLS US INST CONTROL ROD PADS FINDS
Peninsula Dry Cleaner	266 Reservation Road #N Marina, CA 93933	< 1/8 mile	DRYCLEANERS HAZNET RCRA-SQG FINDS
TOMRA Pacific Inc.	270 Reservation Road Marina, CA 93933	< 1/8 mile	SWRCY
Marina One Hour Photo	266 Reservation Road, # C Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS
Dewey Pest Control	3114 A Del Monte Boulevard Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS
Pacific Bell	227 Carmel Avenue Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS HAZNET
El Rancho Dry Cleaners	350 Reservation Road Marina, CA 93933	< 1/8 mile	DRYCLEANERS HAZNET
7-Eleven Food Store 2233-17488	320 Reservation Road Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Caltrans-Brawley Maintena	200 PALM Bradley, CA 92227	< 1/8 mile	HIST CORTESE
Fast Gas	3144 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST UST HAZNET
Dons Dry Cleaner	215 C Reservation Road Marina, CA 93933	< 1/8 mile	SLIC DRYCLEANERS
Arco Facility # 2141	211 Reservation Road Marina, CA 93933	< 1/8 mile	SWEEPS UST S100224812 Notify 65
Marina Dry Cleaners	3170 Vista del Camino Road Marina, CA 93933	< 1/8 mile	DRYCLEANERS
Don's One Hour Cleaners	215-C Reservation Road Marina, CA 93933	< 1/8 mile	RCRA-NonGen FINDS



**Table 4.12-1. EDR Listing Summary of Sites in the
Downtown Vitalization Specific Plan Vicinity**

Site Name	Site Address	Distance from Project Site	Database Reference
Billy M Scyphers	211 Reservation Road Marina, CA 93933	< 1/8 mile	HIST UST
Beacon Station #730	3144 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST CORTESE LUST SWEEPS UST
ARCO Products Company	211 Reservation Road Marina, CA 93933	< 1/8 mile	HIST CORTESE LUST HAZNET
Del Monte Auto Supply	3148 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Penny Saver	267 Carmel Avenue Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Stericycle, Marina S	407 Reservation Road Marina, CA 93933	< 1/8 mile	MWMP
Advanced Waste Solutions, Inc.	407 Reservation Road, Suite 1 Marina, CA 93933	< 1/8 mile	HWT
Equilon Enterprise LLC	3030 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST CORTESE HAZNET
Shell Branded Service Station	3030 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	LUST
M.A. Refining	224 Reindollar Avenue, # 110 Marina, CA 93933	< 1/8 mile	RCRA-NonGen FINDS HAZNET
Marina Self Storage	224 L Reindollar Avenue Marina, CA 93933	< 1/8 mile	RCRA-NonGen FINDS
Radionics Incorporated	228 Reindollar Avenue Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS
Andy's Auto Body Shop	3016-A Del Monte Boulevard Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS HAZNET
M.A. Refining	224-L Reindollar Avenue Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS HAZNET
Complete Automotive Repair SPE	3032 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Marina Texaco	3044 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST UST CA FID UST
Quickstop STOP # 108	209 Cypress Avenue Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Spectrum Paint and Body	206 Cypress Avenue Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS HAZNET



Table 4.12-1. EDR Listing Summary of Sites in the Downtown Vitalization Specific Plan Vicinity

Site Name	Site Address	Distance from Project Site	Database Reference
Marina BP	3044 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST CORTESE LUST SWEEPS UST HAZNET
Service Station - 135571	3030 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	RCRA-LQG HAZNET
Marina Shell	3030 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST
Dewey Pest Control	389 Reservation Road Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS
C A R Specialists	3032 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS HAZNET
Marina Exxon	3184 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	LUST SWEEPS UST
H K M II	3184 Del Monte Boulevard Marina, CA 93933	< 1/8 mile	HIST CORTESE LUST HAZNET
Public Works Department	3040 Lake Court Marina, CA 93933	< 1/8 mile	HIST UST SWEEPS UST HAZNET
Commercial Press	465 Reservation Road Marina, CA 93933	< 1/8 mile	RCRA-SQG FINDS
Fort Ord Pump Station	End of Marina Drive Marina, CA 93933	1/8 - 1/4 mile	HIST UST
Hackney	3244 Del Monte Boulevard Marina, CA 93933	1/8 - 1/4 mile	HIST UST
Central Coast High School Expansion Site	2995 Rendova Road	1/4-1/2	SCH ENVIROSTOR
7-Eleven Store #32415	140 Beach Road	1/4-1/2	LUST

The review of the EDR orphan list records also identifies 24 sites that due to poor or inadequate address information cannot be plotted.

Due to its proximity to the City of Marina, listings related to the clean-up or remediation of identified hazardous waste sites on former Fort Ord lands are included in Table 4.12-1. Past military and industrial-type uses at the former Fort Ord generated a variety of hazardous wastes, including industrial chemicals, petrochemicals, domestic and industrial waste sites (landfills), and above-ground storage tanks. Because of the extent of hazardous materials present, the former Fort Ord was added to the U.S. Environmental Protection Agency's National Priorities List of Hazardous Waste Sites (also known as the "Superfund" list) in February 1990. However, the proposed Specific Plan area would not occur on former Fort Ord lands. Other hazardous materials listings are primarily related to commercial and industrial uses in the Specific Plan area. Potentially hazardous materials used by businesses may include petroleum based fuels, chlorinated solvents, acrylic coatings, corrosive or caustic additives, and to a lesser extent, chemical fertilizers, pesticides, and herbicides. The majority of users of



hazardous materials include gas stations and other automotive service-related business, utilities, dry cleaners, and pest control businesses, as indicated in Table 4.12-1 above.

Another common source of hazardous materials is found or used in the home. Waste oil is a common hazardous material that is often improperly disposed of and can contaminate surface water through runoff. Other household hazardous wastes (used paint, pesticides, cleaning products, and other chemicals) are common and often improperly stored in garages and homes throughout the community.

Asbestos. Asbestos is a highly crumbly material often found in older buildings (pre-1979), typically used as insulation in walls or ceilings. It was formerly popular as an insulating material; however, it can pose a health risk when very small particles become airborne. In conformance with the Clean Air Act, the EPA established the National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. The asbestos regulations under NESHAP control work practices during the demolition and renovation of institutional, commercial, or industrial structures. In addition, the Monterey Bay Unified Air Pollution Control District (MBUAPCD) operates an Asbestos Program to protect the public from uncontrolled emissions of asbestos by enforcement of the Federal Asbestos Standard and Air District Rule 424. The Asbestos Program covers most renovations and demolition projects in the Monterey Bay Tri-County air basin. Elements of the Asbestos Program include Survey and Notification Requirements prior to beginning a project, as well as Work Practice Standards and Disposal Requirements. The Asbestos Program regulates asbestos materials as a “Cradle to Grave” regulation covering all aspects of handling from discovery and removal, through transportation and disposal. All asbestos containing material (ACM) removed from on-site structures is required to be hauled to a licensed receiving facility and disposed of under proper manifest by a transportation company certified to handle asbestos.

Lead-Based Paint. Prior to the enactment of federal regulations limiting their use in the late 1970s, lead-based paint (LBP) was often used in residential construction. Lead is a highly toxic metal that was used for many years in products found in and around homes. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. The primary source of lead exposure in residences is deteriorating LBP. Lead dust can form when LBP is dry scraped, dry sanded, or heated. Dust also forms when painted surfaces bump or rub together. Lead-based paint that is in good condition is usually not a hazard. Regulations for LBP are contained in the Lead-Based Paint Elimination Final Rule 24 CFR 33, governed by the U.S. Housing and Urban Development (HUD) requires sellers and lessors to disclose known lead-based paint and lead-based paint hazards to perspective purchasers and lessees. Additionally, all lead-based paint abatement activities must be in compliance with California and Federal OSHA, and with the State of California Department of Health Services requirements. Only lead-based paint trained and certified abatement personnel are allowed to perform abatement activities. All lead-based paint removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material. In addition, the lead contaminated material be taken to a landfill or receiving facility licensed to accept the waste.

b. Airport Hazards. The Marina Municipal Airport is an 845.5-acre site located within the City of Marina, approximately one mile east of the proposed Specific Plan’s easternmost boundary. The Marina Airport is on the site of the previous Fritschze Army Air Field, which



served as the airport for the former Fort Ord from the 1950s to 1995. The site was conveyed by the Army to the City of Marina for use as a municipal airfield in August 1995 (Marina Municipal Airport Comprehensive Land Use Plan, April 2006).

To enhance safety, land surrounding an airport is classified into different zones, each relating to potential different levels of risk. Land use policies addressing that potential risk are then developed for each zone. The safety zones for the Marina Municipal Airport, as established in the airport's Comprehensive Land Use Plan (CLUP), are shown in Figure 4.12-1. As shown therein, the easternmost portion of the proposed Specific Plan area is within Safety Zone 6 (the Traffic Pattern Zone). In accordance with Policy 1.1 of the CLUP, land uses and development proposals in this area are subject to reviewed by the Monterey County Airport Land Use Commission (ALUC) for consistency with the CLUP. Specifically, proposals for the following types projects in this zone would require review:

- Residential subdivisions or Planned Unit Developments consisting of 30 or more units;
- Transient lodging facilities consisting of more than 100 units;
- Commercial development that will result in a density of more than 150 persons per acre;
- Requests for structures over 45 feet in height;
- Any proposed land use action that may involve a question of compatibility with airport activities.

c. Emergency Preparedness. The City of Marina's *Standardized Emergency Management System Multihazard Functional Plan* provides a framework which guides the City's effort to respond in the event of an emergency.

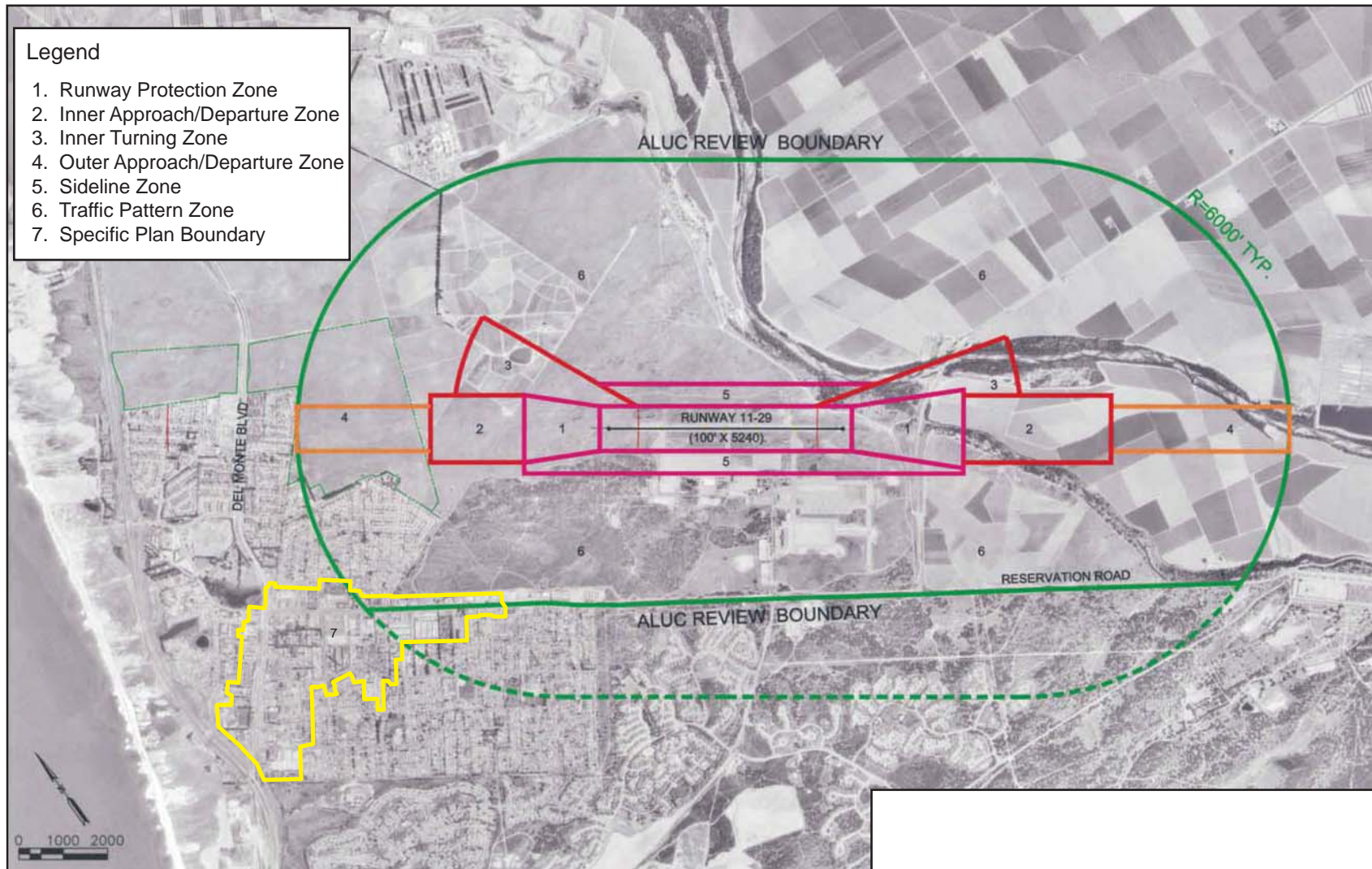
4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. Based on the City's Initial Study and Appendix G of the State CEQA Guidelines, a significant impact could occur if development pursuant to the Specific Plan would result in one or more of the following conditions:

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;*
- *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment; or*
- *For a project located within an airport land use plan, would the project result in a safety hazard for people residing or working in the project area.*

It should be noted that the Specific Plan is not located in the vicinity of a private air strip or in an area subject to wildland fire hazards. As a result, the checklist items related to these thresholds were excluded from the above list.





Source: Wadell Engineering Corporation, from the Draft Marina Municipal Airport Comprehensive Land Use Plan, April, 2006.

Marina Municipal Airport Safety Zones

Figure 4.12-1
City of Marina



Impacts related to flood and tsunami hazards are discussed in Section 4.8, *Drainage and Water Quality*.

b. Impacts and Mitigation Measures.

Impact HAZ-1 Potential development that could be facilitated near known hazardous material users, or construction in areas with existing hazardous materials, could expose individuals to health risks due to soil/groundwater contamination or emission of hazardous materials into the air. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, *less than significant*.

The proposed Specific Plan would facilitate development (including residences) within several areas in the downtown area where hazardous materials could be stored or used, or where previous use has resulted in contamination of the site (refer to Table 4.12-2). Development of residential uses in proximity to commercial or industrial uses that use or store hazardous materials could increase the risk of exposure to harmful health effects. Areas where users of hazardous materials are located are confined primarily to existing commercial and industrial areas of the city. By allowing for residential or mixed use development in commercial and industrial areas where there may have been past use or there may be current use of hazardous materials, the potential for exposure may increase due to: (1) potential soil/groundwater contamination resulting from past practices; and (2) the proximity of new residential development to ongoing activity involving the use of hazardous materials. This is particularly true for the southeastern most portion of the Specific Plan area that is currently designated Industrial, but would be re-designated as Multiple Use under the proposed Specific Plan (refer to Figures 2-3 and 2-4 in Section 2.0, *Project Description*, respectively). Development or redevelopment in this and other commercial areas would have the potential for exposure of hazardous materials to the public. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites.

The presence of soil or groundwater contamination would depend upon the location of the construction site and its proximity to sources of contamination. Depending on the previous land uses, new development could present potential risk of exposure to contamination associated with leaking underground storage tanks (LUSTs) and/or various industrial contaminants. Hence, development and redevelopment pursuant to the Specific Plan would increase the potential for exposure to soil and groundwater contamination hazards. However, any necessary assessment and remediation of the properties would be completed in accordance with applicable regulatory requirements prior to development. Further research, testing and remediation, including soil and groundwater sampling, under the appropriate oversight agency would therefore reduce the risk of possible contamination. Such assessments are beyond the scope of this program-level analysis, and would be completed as part of the project-level review for development in this area.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for development to occur near known



hazardous materials users, or in areas with existing hazardous materials, would therefore not change under the Reservation Road four-lane option compared to the description above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for development to occur near known hazardous materials users, or in areas with existing hazardous materials, would therefore not change under the Reservation Road two-lane option compared to the description above.

Specific Plan Policies which Reduce Impacts. There are numerous federal, state, and local regulations regarding use, storage, transportation, and disposal of hazardous materials and waste. There are no goals or policies within the Downtown Vitalization Specific Plan that reduce this impact. However, the Marina General Plan contains policies that aim to minimize adverse impacts to health and quality of life associated with the existing industrial area within the Plan area, and from exposure to hazardous materials in general. These include:

- *Community Land Use Policies:*
 - Policy 2.4.7 *Development shall be prohibited or restricted where natural conditions present a serious threat to life or may lead to the destruction of homes, businesses, or public facilities.*
 - Policy 2.83.1 *The potential for adverse impacts of industrial and commercial-services upon residential uses has been addressed principally by the physical separation of these areas from areas which have a significant level of existing residential use or potential for such use. However, there are two general areas designate for industrial and commercial-service uses which have close proximity to areas with a significant level of existing or potential residential use. These two general areas are (1) the Paul Davis Drive/Healy Avenue industrial and commercial service area and (2) the Reindollar Avenue industrial and commercial-service area. (2001-120)*
 - Policy 2.83.3 *In these two areas, industrial and commercial-service uses which have the potential for adverse impacts upon abutting residential uses shall be mitigated by a combination of design features and operational controls as might be appropriate given the individual circumstances. Design features should include the orientation of any open storage areas and building openings away from abutting parcels which have a significant level of existing or potential residential uses and, where such orientation is not possible, by the introduction of solid masonry wall and landscape buffering at the property line. Operational controls should include limitations upon the hours of operation, i.e., prohibiting certain operations or activities to typical business hours. (2001-120)*
 - Policy 2.85 *A 7.8-acre site at the south end of Del Monte Boulevard is designated as Industrial/Commercial Service. This designation recognizes the existing industrial and commercial-service use of the area. In the near-term, industrial and commercial-service types of use should be permitted to continue. However, given the location of this site at the south Del Monte Boulevard entrance to the City, its adjacency to planned visitor serving uses to the south, and its isolation from other industrial areas, longer-term visitor-serving or retail use of the areas is desirable.*



- *Community Design and Development Policies:*
 - Policy 4.103 *To protect the public from health threats posed by hazardous materials, the following policies shall be adhered to:*
 1. *The City shall support all local, regional and state efforts directed at preventing injuries and avoiding environmental contamination due to the uncontrolled release of hazardous substances. The City shall follow all applicable regulations and procedures related to the use, storage and transportation of toxic, explosive and other hazardous materials to prevent uncontrolled discharges.*
 2. *The City shall require discretionary review and approval of all commercial and industrial uses which will generate more than 27 gallons of hazardous wastes monthly (the limitation imposed by Monterey Regional Waste Management District for non-household hazardous wastes). City approval of these uses shall be contingent upon preparation and approval by the County Health Department of a hazardous-waste-disposal plan for these uses prepared in accordance with the requirements of the Monterey County Health Department.*
 3. *All uses involving the handling of significant amounts of hazardous materials shall be subject to discretionary approval. Hazardous-materials management and disposal plans shall be prepared in accordance with the requirements of the Monterey County Health Department for all such projects prior to the granting of any entitlements by the City.*
 4. *The City shall ensure that proposed industrial or commercial projects that will use or generate hazardous materials shall be compatible with surrounding uses as designated by the General Plan. Residential uses and other sensitive uses such as schools shall be adequately buffered from adjoining uses which involve the use or generation of hazardous materials.*
 - Policy 4.106
 1. *The City shall support all local, regional and State efforts directed at preventing injuries and avoiding environmental contamination due to the uncontrolled release of hazardous substances. The City shall follow all applicable regulations and procedures related to the use, storage and transportation of toxic, explosive and other hazardous materials to prevent uncontrolled discharges.*
 2. *In addition, the City shall require discretionary review and approval of all commercial and industrial uses which will generate more than 27 gallons of hazardous wastes monthly (the limitation imposed by Monterey Regional Waste Management District for non-household hazardous wastes). City approval of these uses shall be contingent upon preparation and approval by the County Health Department of a hazardous waste disposal plan for these uses.*
 3. *All uses involving the handling of significant amounts of hazardous materials shall be subject to discretionary approval. Hazardous materials management and disposal plans shall be prepared in accordance with the requirements of the Monterey County Health Department for all such Proposed Projects prior to the granting of any entitlements by the City.*
 4. *The City shall ensure that proposed industrial or commercial project that will use or generate hazardous materials shall be compatible with surrounding uses as designated by the General Plan. Residential uses and other sensitive uses such as*



schools shall be adequately buffered from adjoining uses which involve the use or generation of hazardous materials.

Mitigation Measures. As individual development projects are considered for construction, separate environmental review may be required, which could result in the implementation of project-specific mitigation measures for hazardous materials. In addition, compliance with federal, state, and local regulations, in combination with the General Plan policies listed above, would reduce impacts to a less than significant level.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Compliance with federal, state, and local regulations, in combination with applicable General Plan policies, would reduce potential hazardous materials impacts to less than significant level.

Impact HAZ-2 *Redevelopment within the Specific Plan area may require demolition of existing structures, which, depending on their age, may contain asbestos and/or lead-based paint. If not properly handled and disposed of, this could pose a potential health risk to people. Impacts would be Class II, significant but mitigable.*

Older structures throughout the City could potentially contain asbestos containing materials (ACM) and/or lead-based paint (LBP). Specifically, structures built prior to 1980 could contain ACMs and structures constructed prior to 1978 could contain LBP. If these existing structures were demolished as part of future redevelopment within the plan area, this could pose a potential health risk to people if these materials were not properly handled and disposed. To prevent health risks to occupants or construction workers, proper ACM and LBP abatement and disposal procedures, described in the regulatory setting section above, would be required. In addition, mitigation is required to ensure that this health risk is reduced to a less than significant level.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for demolition to release ACM or LBP would therefore not change under the Reservation Road four-lane option compared to the description above.

Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for demolition to release ACM or LBP would therefore not change under the Reservation Road two-lane option compared to the description above.



Specific Plan Policies which Reduce Impacts. The Specific Plan does not include goals or policies that would specifically reduce this impact.

Mitigation Measures. As The following mitigation measures are required to reduce impacts related to ACM and LBP:

HAZ-1(a) Asbestos Sampling. Prior to demolition work of buildings constructed prior to 1980, areas of the on-site structures shall be sampled as part of an asbestos survey in compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP). If asbestos is found in any building, asbestos-related work, including demolition, involving 100 square feet or more of asbestos containing materials (ACMs) shall be performed by a licensed asbestos abatement contractor under the supervision of a certified asbestos consultant and asbestos shall be removed and disposed of in compliance with applicable State laws. Regardless of whether asbestos is identified in any building, prior to demolition of existing structures the MBUAPCD shall be notified and an MBUAPCD Notification of Demolition and Renovation Checklist shall be submitted to both MBUAPCD and the City.

HAZ-1(b) Paint Waste Evaluation. If paint is separated from the building material (e.g. chemically or physically) during demolition of the existing buildings, the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations. According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Compliance with federal, state, and local regulations, in combination with mitigation measures HAZ-1(a) and HAZ-1(b), would reduce potential impacts from asbestos and lead-based paint to a less than significant level for both the four-lane and two-lane Reservation Road options.



Impact HAZ-3 **The transportation of hazardous materials could potentially create a public safety hazard for new development that could be accommodated along major transportation corridors under the proposed Specific Plan. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, less than significant.**

Trucks commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. In the event of an accident, such materials may be released, resulting in a public safety hazard. Development along Reservation Road and Del Monte Boulevard would be the most susceptible to exposure to hazardous materials that may be released, either in liquid or gas form, in the event of an accident. However, existing local, state and federal standard accident and hazardous materials handling and recovery procedures would reduce potential risk of upset impacts to a Class III, *less than significant*. In addition, the proposed Specific Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, including the City of Marina's *Standardized Emergency Management System Multihazard Functional Plan*.

Reservation Road Four-Lane Option. The potential for hazardous materials to be released under the Reservation Road four-lane option would be consistent with the description above.

Reservation Road Two-Lane Option. The reduction of Reservation Road from four to two-lanes would not change the potential for risk of upset conditions, including hazardous materials releases due to an accident. However, a reconfiguration to a narrow through-lane design may reasonably be expected to create a disincentive for truckers to use the road. This may result in a modest alleviation of risk-of-upset impacts in the downtown core compared with the current condition or the four-lane option.

Specific Plan Policies which Reduce Impacts. There are numerous federal, state, and local regulations regarding transportation of hazardous materials and waste. In addition to the policies listed under Impact HAZ-1, the Marina General Plan contains the following policy to reduce exposure to hazardous materials being transported through the city:

- *Community Design and Development Policies:*
 - *Policy 4.105 In coordination with other emergency-response agencies within the County, the City shall implement the following emergency-preparedness policies as set forth by the City's emergency-preparedness plan (i.e., Standardized Emergency Management System Multi-hazard Functional Plan): emergency planning; training of emergency-response personnel; ensuring the provision of adequate resources, supplies and equipment to respond effectively to emergencies; promoting public awareness and education; and formulating measures, including land use, design and construction regulations, to reduce the likelihood and amount of losses from disasters.*

Mitigation Measures. Compliance with existing hazardous materials transportation regulations as well as continuing participation and maintenance of the city and countywide



emergency-preparedness plans would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-4 Aircraft from the Marina Municipal Airport would fly over portions of the Specific Plan area, which may result in a safety hazard for people residing or working in these areas. Impacts would be Class III, less than significant.

The Marina Municipal Airport is located approximately one mile east of the proposed Specific Plan's easternmost boundary, and the easternmost portion of the proposed Specific Plan area is within Safety Zone 6 (the Traffic Pattern Zone, or TPZ), as shown in Figure 4.12-1. Aircraft overflights of occupied urban areas present a potential for off-airport aircraft accidents, which could result in personal injury or property damage. According to the Marina Municipal Airport CLUP, there is a generally low likelihood of accident occurrence at most airports within the TPZ. Residential uses are allowed in this zone, while hospitals, schools, daycare centers, and other uses whose occupants have limited mobility should be avoided in the TPZ (Marina Municipal Airport CLUP, April 2006).

In accordance with Policy 1.1 of the CLUP, land uses and development proposals in the TPZ area are subject to reviewed by the Monterey County Airport Land Use Commission (ALUC) for consistency with the CLUP. Specifically, proposals for the following types projects in this zone would require review:

- Residential subdivisions or Planned Unit Developments consisting of 30 or more units;
- Transient lodging facilities consisting of more than 100 units;
- Commercial development that will result in a density of more than 150 persons per acre;
- Requests for structures over 45 feet in height;
- Any proposed land use action that may involve a question of compatibility with airport activities.

Development within the Specific Plan area within this zone would continue to be subject to ALUC review, as described above, to ensure that future land uses are compatible with airport-related land use restrictions. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the proposed Specific Plan would not result in significant airport-related safety hazards.

Reservation Road Four-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. The potential for airport safety hazards would therefore be consistent with the above description for the Reservation Road four-lane option.



Reservation Road Two-Lane Option. The proposed land use plan and areas of potential redevelopment under the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. The potential for airport safety hazards would therefore be consistent with the above description for the Reservation Road two-lane option.

Specific Plan Policies which Reduce Impacts. There are no goals or policies within the Downtown Vitalization Specific Plan that reduce this impact. However, the Marina General Plan contains the following policy related to aviation hazards:

- *Community Design and Development Policies:*
 - *Policy 4.104 Airport operation hazards are addressed by Community Land Use element policies that prohibit development within runway-protection zones, except that, when City acquisition of these lands is not feasible, limited nonresidential uses may be allowed in accordance with provisions of the Airport Land Use Plan which limit development in Approach Protection Zones to low intensity outdoor recreation and industrial and commercial-service uses with peak occupancy levels of 50 people per acre; and which further limit development in the designated Traffic Pattern Zone to residential use at a maximum density of 6 units per acre and to non-residential uses which do not generate more than 150 persons per acre unless a proposed development is reviewed and approved by the Airport Land Use Commission or otherwise approved by the City. The City and the Airport Land Use Commission will work cooperatively to address aviation hazards.*

In addition, the Marina Municipal Airport CLUP, prepared by the ALUC, sets forth appropriate land uses, including building height and density restrictions, for the areas within an airport's area of influence.

Mitigation Measures. Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Buildout of the City of Marina General Plan would gradually increase population and therefore gradually increase the number of people exposed to potential public safety hazards. Many of these impacts would result from anticipated future development along the periphery of the existing community, including strategic projects within the former Fort Ord (the Dunes on Monterey Bay, Cypress Knolls, and Marina Heights) and north of the existing community (Marina Station). Future development in accordance with the proposed Specific Plan would occur in the existing developed core of the City. Although this future development would be at a greater density and intensity than currently envisioned under the General Plan, buildout of the proposed Specific Plan would not create a significant hazard to the public or environment related to storage, use, or transport of hazardous materials, nor



would it create a significant safety hazard related to the Marina Municipal Airport. As described above, impacts of the proposed Specific Plan related to hazardous materials, asbestos and/or lead based paint, risk of upset, and airport safety hazards would be less than significant without mitigation, or less than significant upon implementation of mitigation measures described herein. In addition, future development would be required to remediate existing hazards in accordance with applicable policies and regulations. Accordingly, the proposed Specific Plan's contribution to cumulative public safety impacts would not be cumulatively considerable, and less than significant cumulative impacts would result.

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5.0 GROWTH INDUCING IMPACTS

Section 15126(d) of the State CEQA Guidelines requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. The Specific Plan's potential to induce growth is discussed in this section.

Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed Specific Plan's growth inducing potential is therefore considered significant if it could result in unavoidable significant effects in one or more environmental issue areas.

5.1 POPULATION AND ECONOMIC GROWTH

The proposed Specific Plan would accommodate the development of up to 2,400 new dwelling units and 380,150 square feet of new non-residential space in the Marina downtown area. Currently, the City's population is estimated at approximately 19,445 residents in 8,720 units. Buildout of the proposed Specific Plan would add an estimated 6,730 residents to the City (based on 2.804 persons per household and 2,400 new housing units). When added to the existing population, the Specific Plan would increase Marina's total population to an estimated 26,175 residents. This estimate is 5,835 less than the Association of Monterey Bay Area Governments (AMBAG) population forecasts (32,010 residents projected in the year 2030). Therefore, such increase in population would be less than significant from a growth inducing perspective, since it is consistent with long-term growth projections for the City.

As described in Section 4.1, *Land Use, Population, and Housing*, non-residential development facilitated by the Downtown Vitalization Specific Plan would generate an estimated 1,360 new jobs. Short-term employment opportunities would also be created during project construction. These jobs may be filled from the existing labor force in the downtown and larger Marina area, or from new residents attracted to the increased employment opportunities. Assuming that at least some of the estimated 1,360 new jobs would be filled by people from outside of Marina, the Specific Plan would be expected to indirectly generate some increase in population in the downtown area with an associated increase in demand for housing. However, as the Specific Plan has a residential component, the increase in demand for housing would be offset by the 2,400 new dwelling units included in the Specific Plan.

The Specific Plan includes a range of policies and actions intended to attract businesses to the City and downtown specifically. The economic growth that could be accommodated under the Specific Plan would have economic benefits in terms of jobs and City tax revenues. It would also contribute to various environmental effects, including increase traffic, air pollution, and noise. Refer to Sections 4.2, *Transportation*, 4.3, *Air Quality*, and 4.4, *Noise*, for analysis of these impacts.

The Specific Plan is designed to facilitate orderly development of the Downtown, such that the plan would reduce the potential for uncontrolled growth within the Plan area and associated environmental impacts. The Specific Plan would focus development in already urbanized portions of the City, which would result in an intensification of land use within the downtown area, with the potential for compatibility conflicts relating to such issues as traffic, aesthetics, and noise.



However, as noted in Section 4.0, the Specific Plan policies and actions as well as the incorporation of design techniques on future developments would minimize the potential for conflicts.

Reservation Road Four-Lane Option. The residential and employment populations generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Population and economic growth inducing impacts associated with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The residential and employment populations generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. Population and economic growth inducing impacts associated with this option would therefore be consistent with the description above.

Mitigation Measures. No mitigation measures are required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. Impacts would be less than significant without mitigation.

5.2 REMOVAL OF OBSTACLES TO GROWTH

Buildout of the Specific Plan area would introduce additional residential and commercial uses within the 295-acre Plan area. This area is already developed with approximately 933,000 square feet of commercial, office, industrial and public facilities uses and 1,630 dwelling units; thus, the site is already served by water and sewer infrastructure and would only require minor extensions of such infrastructure to serve new development. Existing roads in the Specific Plan area would serve the anticipated development, although new roads within the Specific Plan area would be required to provide access to the interior of individual sites within the area. These relatively minor utility and roadway infrastructure extensions are generally considered as infill development, rather than as an extension of new services into an area that is presently underserved by such improvements.

From a policy perspective, the Specific Plan sets the planning framework for the Plan area. It includes development standards and design guidelines that are intended to revitalize the area, guide future development of underutilized property within the Plan area, and to create a visually and environmentally appealing pedestrian oriented downtown setting. These development standards and design guidelines essentially replace the City's Zoning Ordinance requirements for the Plan area. In order to accomplish the Specific Plan objectives, the development standards contained within the Specific Plan include some deviations from the City's current Zoning Ordinance. However, given that these current requirements would be replaced by refined requirements with similar objectives to ensure the protection of public and environmental health and safety, these policy changes are not expected to result in significant growth inducement or precedent setting actions that would cause a significant environmental impact. Further, since the proposed Specific Plan requirements would only apply to future development within the Specific



Plan area, they would not be expected to result in any significant growth or precedent setting actions that could cause significant environmental effects outside of the area. If the proposed Specific Plan were to encourage similar development in another part of the City, any subsequent modification to the City's General Plan and/or Zoning Ordinance would be required to be processed through the City's development/permit review process and would undergo independent environmental analysis prior to approval.

Reservation Road Four-Lane Option. The residential and employment populations generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road four-lane option. Population and economic growth inducing impacts associated with this option would therefore be consistent with the description above.

Reservation Road Two-Lane Option. The residential and employment populations generated by the Downtown Vitalization Specific Plan would not change under the Reservation Road two-lane option. In addition, a *Business Impact Study* prepared by Applied Development Economics for the Downtown Vitalization Specific Plan (November 3, 2010) found that direct impacts of a reduction in travel lanes would result in potential short term loss in sales, but these economic impacts would be completely mitigated by longer term growth in the retail market. Population and economic growth inducing impacts associated with this option would therefore be consistent with the description above.

Mitigation Measures. No mitigation is required.

Reservation Road Four-Lane Option. No mitigation is specifically required for the Reservation Road four-lane option.

Reservation Road Two-Lane Option. No mitigation is specifically required for the Reservation Road two-lane option.

Significance after Mitigation. No significant environmental impacts relating to removal of obstacles to growth are anticipated.



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6.0 SIGNIFICANT IRREVERSIBLE CHANGES

The environmental effects of the proposed project are discussed in Section 4.0 of this EIR and are summarized in the executive summary. The CEQA Guidelines require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decisionmakers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed development.

Construction activity that would be accommodated under the Specific Plan would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development and are not unique to the City or Specific Plan. Similarly, the addition of new residential and non-residential development in the Downtown would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. Increasingly efficient building fixtures and automobile engines, as well as implementation of policies included in the Specific Plan are expected to offset the demand to some degree. Growth accommodated under the Specific Plan would not be expected to significantly affect local or regional energy supplies.

Growth accommodated under the Specific Plan would require an irreversible commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. Impacts to public services and utilities generally can be reduced to a less than significant level with implementation of Specific Plan policies and actions.

As discussed in Section 4.2, *Transportation*, buildout of the proposed Specific Plan would cause several intersections to operate at unacceptable levels of service. Impacts for the Reservation Road Two-Lane Option would be Class I, *significant and unavoidable*, under both Existing plus Project and Cumulative plus Project Scenarios. Impacts to freeway segments would also be Class I, *significant and unavoidable*, for both Reservation Road options under both Existing plus Project and Cumulative plus Project scenarios. As discussed in Section 4.3, *Air Quality*, operational emissions associated with the proposed Specific Plan would exceed MBUAPCD thresholds for ROG and NO_x and impacts would Class I, *significant and unavoidable*. Lastly, as described in Section 4.4, *Noise*, construction activities could intermittently generate noise levels above City standards at locations on and adjacent to construction sites. This would be a short term Class I, *significant and unavoidable*, impact.

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7.0 ALTERNATIVES

As required by Section 15126(f) of the State CEQA Guidelines, this EIR examines a range of reasonable alternatives to the proposed Specific Plan that could feasibly achieve similar objectives but would reduce the environmental impacts of the Specific Plan. The discussion focuses on alternatives that may be able to reduce one or more of the significant and unavoidable impacts associated with the proposed Specific Plan. As discussed in Section 4.0 of this EIR, this includes the following Class I, *significant and unavoidable*, impacts:

- Transportation. When compared to Existing Conditions, buildout of the proposed Specific Plan would cause several intersections to operate at unacceptable levels of service. Impacts for the Reservation Road two-lane option would be Class I, significant and unavoidable. Impacts to freeway segments would also be Class I, significant and unavoidable, for both Reservation Road options (Impact T-1)
- Transportation. When compared to Cumulative No Project Conditions, buildout of the Specific Plan would cause several intersections to operate at unacceptable levels of service. Impacts for both the two-lane and four-lane Reservation Road options would be Class I, significant and unavoidable. Impacts to freeway segments would also be Class I, significant and unavoidable, for both Reservation Road options (Impact T-2).
- Air Quality. Operational emissions associated with the proposed Specific Plan would exceed MBUAPCD thresholds for ROG and NO_x (Impact AQ-2).
- Noise. Construction activities could intermittently generate noise levels above City standards at locations on and adjacent to construction sites. This would be a short term Class I, significant and unavoidable, impact (Impact N-1)

Included in this analysis are the CEQA-required “no project” alternative, an existing General Plan alternative, and an alternative that would reduce both residential and non-residential buildout of the proposed Specific Plan. These are summarized below, and subsequently discussed in greater detail within the impact analysis for each alternative:

- *Alternative 1: No Project/No Development*
- *Alternative 2: No Project/Existing General Plan*
- *Alternative 3: Reduced Project Alternative*

The California Supreme Court, in *Citizens of Goleta Valley v. Board of Supervisors* (1990), indicated that a discussion of alternative sites is needed if the project “may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved” at another site.

As suggested in *Goleta*, several criteria form the basis of whether alternative sites need to be considered in detail. These criteria take the form of the following questions:

1. *Could the size and other characteristics of another site physically accommodate the project?*
2. *Is another site reasonably available for acquisition?*
3. *Is the timing of carrying out development on an alternative site reasonable for the applicant?*
4. *Is the project economically feasible on another site?*
5. *What are the land use designation(s) of alternative sites?*



6. Does the lead agency have jurisdiction over alternative sites? and
7. Are there any social, technological, or other factors which may make the consideration of alternative sites infeasible?

Based on discussions with City staff, an alternative project site is not evaluated in this EIR because of the unique characteristics of the downtown area relative to the project’s goals, which are specific to the downtown area.

7.1 ALTERNATIVE 1: No Project/No Development

7.1.1 Description

The No Project/No Development Alternative assumes that the proposed Specific Plan is not adopted, and that no new development would occur in the Downtown Specific Plan area or within the greater City of Marina. The downtown area would continue to support existing land uses, including approximately 933,000 square feet of commercial, office, industrial and public facilities uses and 1,630 dwelling units (refer to Table 7-1).

Table 7-1. Existing Development in the Downtown Vitalization Specific Plan Area

Land Use Designation	Acres	Existing Development	
		Square footage (sf)	Dwelling Units (du)
Multiple Use	28.9	60,000	250
Office/Research	7.2	39,000	-
Retail/Service	63.5	460,000	-
Visitor Serving	3.0	27,000	-
Industrial	15.3	270,000	-
Public Facilities – Civic	6.4	45,000	-
Public Facilities – Education	7.9	32,000	-
Multi-Family Residential	80.6	-	1,250
Single-Family Residential	25.5	-	130
TOTAL	295¹	933,000	1,630

1. Remaining 57 acres in plan area are roadways.

Existing development in the Specific Plan area is generally suburban and low-intensity in nature, predominated by a mixture of single-story retail commercial and office buildings, single family homes and one- to two-story multifamily residential units. The existing retail and office commercial uses are located primarily along Reservation Road and Del Monte Boulevard, visually the most obvious transportation corridors in the community. Commercial development on Del Monte Boulevard has been developed at a low-scale, highway-oriented density, whereas the commercial development along Reservation Road within the planning area is more typically suburban, with commercial buildings positioned at the rear of the sites behind surface parking lots. Existing residential uses are primarily located on the west side of Del Monte Boulevard, in the southern portions of the Plan area, and both north and south of the commercial development that fronts Reservation Road.



7.1.2 Impact Analysis

With the implementation of the No Project/No Development Alternative, no new development would occur in the downtown area. The primary benefits of the proposed Specific Plan are aesthetic, and the community design improvements would not be realized with this alternative. Since new development would not occur in the area, impacts related to construction as well as long-term site disturbances, such as geology and soils; cultural resources; drainage and water quality; and biological resources impacts would not occur. In addition, since no new residents or employees would be added to the area, impacts based on a per capita generation would not occur. These issues include population and housing; transportation; air quality; noise; public services and infrastructure; and greenhouse gas emissions. Because no residential development would occur, no additional residents or property would be exposed to hazards or hazardous materials.

The current availability of water would not be changed and no new water demand would be generated; therefore, impacts to water supply and associated infrastructure would not occur. In addition, no new wastewater would be generated and therefore no impacts to the wastewater treatment facility would occur .

Overall, impacts would be less than for the proposed Downtown Vitalization Specific Plan, because no new development and associated impacts would occur.

7.2 ALTERNATIVE 2: No Project/Existing General Plan

7.2.1 Description

The No Project/Existing General Plan Alternative assumes that the proposed Specific Plan is not adopted, and that future development in downtown Marina would occur in accordance with existing General Plan and zoning designations in the area.

Existing General Plan designations within the Downtown Vitalization Specific Plan area are shown in Figure 2-3 in Section 2.0, *Project Description*, and listed in the Table 7-1 above. As shown therein, existing development in the Specific Plan area includes approximately 933,000 square feet of commercial, office, industrial and public facilities uses and 1,630 dwelling units. Under the No Project/Existing General Plan Alternative, these land use designations would remain the same, but additional development could occur as currently allowed under these designations.

However, the downtown area is already developed, and there is very little vacant land in the urban core of the City. As determined by the Baseline Conditions Report (Appendix J), approximately 21 acres (7 percent) of the 295-acre Specific Plan area is either vacant or underutilized. Substantially underutilized lots are defined as those that do not meet at least half of the minimum FAR for the given land use designation, which excludes much of the development in the plan area. In general, relative to the size of the plan area and development that is currently on the ground, there is limited land available for development. This alternative does not preclude future development within the downtown area, but much of its development potential has already been realized.



Based on the land that is currently vacant, there is the potential for 81,900 square feet of visitor-serving development, 52,700 square feet of retail/service development, and 21 single family dwelling units. Estimated buildout of this alternative is shown in Table 7-2.

Table 7-2. Alternative 2: Potential New Development

Land Use Designation	Vacant Land within Designation	Buildout Potential Under Current General Plan	
		Square footage (sf)	Dwelling Units (du)
Single-family Residential ¹	0.6	-	21
Visitor-Serving ²	4.7	81,900	-
Retail/Service ³	2.2	52,700	-
Total	7.5	134,600	21

1. Based on 5 dwelling units per acre
2. Based on the current maximum FAR of 0.40
3. Based on the current maximum FAR of 0.55

It should be noted that, in the absence of the proposed Specific Plan, there would be no modifications to existing infrastructure, including the implementation of pedestrian-oriented roadway improvements, streetscape modifications, and public amenities. In addition, buildout in accordance with the General Plan would not fulfill the goals of the Specific Plan. The scattered location of vacant and underutilized lots within the downtown is not conducive to establishing a downtown core area. Although the majority of vacant and underutilized lots are designated as Retail Service and could therefore fulfill a large proportion of the commercial goals of the Specific Plan, they tend to be located on side-streets near Del Monte Boulevard. As such, they would not facilitate the establishment of a downtown core.

7.2.2 Impact Analysis

Land Use, Population and Housing. The No Project/Existing General Plan Alternative would be inherently consistent with the Marina General Plan, and no General Plan amendments would be required. However, this alternative would not contribute as effectively to establishing central Marina as a vital destination center, and would not promote compact infill development or pedestrian- and bicycle-orientation. This alternative would therefore not be consistent with the *Downtown Vision*, *Downtown Design Guidelines*, or *Pedestrian and Bicycle Master Plan*. Impacts related to consistency with existing plans and policies would therefore be both lesser and greater when compared to the proposed Specific Plan.

Because growth under this alternative is already reflected in the 2008 Monterey Bay Area Regional Growth Forecast, growth under this alternative would not alter the existing jobs/housing ratio of 1.39 or the future or the future (2035) jobs/housing ratio of 1.29 as estimated by the 2008 Monterey Bay Area Regional Growth Forecast. In comparison, the proposed Specific Plan would improve both the existing and future jobs/housing ratios to 1.38 and 1.28, respectively. Impacts related to jobs/housing ratio would therefore be worse than the proposed Specific Plan. Similarly, because population growth under this alternative is already reflected in the 2008 Monterey Bay Area Regional Growth Forecast, this alternative would be inherently consistent with population growth forecasts. Impacts related to population growth would be similar to the proposed Specific Plan.



Land use patterns would remain unchanged under this alternative such that new development that could occur would not displace existing housing units. Therefore impacts related to displaced housing would be similarly less than significant when compared to the Specific Plan. The proposed Specific Plan would change the existing land use designations in several areas to Multiple Use. This alternative would not result in such land use changes. Therefore, this alternative would not result in the level of land use changes patterns that may result in noise impacts associated with mixing commercial and residential land uses. Impacts related land use conflicts would be less under this alternative when compared to the proposed Specific Plan.

Transportation. The No Project/Existing General Plan would result in 2,379 fewer residential units and 245,550 fewer square feet of non-residential space when compared to the proposed Specific Plan. Consequently, less overall traffic would be generated. Significant impacts related to intersection levels of service and freeway segment levels of service would therefore be less under this alternative than under the proposed Specific Plan (for both the Four-Lane and Two-Lane Reservation Road options).

However, implementation of the proposed Specific Plan would result in the installation of additional and wider sidewalks, bicycle routes, and transit opportunities, thereby resulting in a Class IV, *beneficial*, impact to alternative transportation. The No Project/Existing General Plan Alternative would not improve the availability of these transportation modes. Impacts of the No Project/Existing General Plan Alternative would be worse than the proposed Specific Plan for this impact.

Air Quality. The No Project/Existing General Plan Alternative would reduce buildout from 2,400 new residential units and 380,150 square feet of new non-residential development under the proposed Specific Plan to 21 new residential units and 134,600 square feet of non-residential development. This equates to 2,379 fewer residential units (a 99 percent reduction) and 245,550 fewer square feet of non-residential space (a 65 percent reduction) when compared to the proposed Specific Plan. The No Project/Existing General Plan Alternative would therefore generate substantially less traffic and consequently fewer vehicle air emissions. Mobile and stationary source emissions associated with this alternative would not exceed MBUAPCD thresholds, as shown in Table 7-3. This alternative would result in a 87percent reduction in ROG, 80percent reduction in NO_x, 76percent reduction in CO and an 83percent reduction in PM₁₀ when compared to the Specific Plan. Air quality impacts of the No Project/Existing General Plan Alternative would therefore be less than the proposed Specific Plan.

In addition, because less development would occur, substantially fewer construction-related emissions would be generated. Emissions from demolition would be eliminated, since new development would only occur on vacant lots. Therefore, overall impacts related to construction emissions would be reduced when compared to the proposed Specific Plan.

According to the MBUAPCD Guidelines, a significant impact finding should be made if a population-generating project (including commercial, industrial, or institutional projects intended to meet the needs of the population) would be inconsistent with the population projections adopted by the Association of Monterey Bay Area Governments, which were used in developing the 2008 Air Quality Management Plan. Population growth under this alternative



**Table 7-3. Operational Emissions Associated with
 No Project/Existing General Plan Alternative (lbs/day)**

Emission Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)³	SO_x (lbs/day)	PM₁₀ (lbs/day)
Proposed Project Emissions¹					
Operational Emissions (mobile)	34.37	52.09	_ ²	_ ²	_ ²
Area Emissions (stationary)	2.39	1.59	3.68	0.00	0.01
Total Proposed Project Emissions	36.76	53.68	3.68	0.00	0.01
<i>MBUAPCD Recommended Thresholds</i>	<i>137 (stationary + mobile)</i>	<i>137 (stationary + mobile)</i>	<i>550 (stationary)</i>	<i>150 (stationary)</i>	<i>82 (stationary)</i>
<i>Emissions Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

¹ Total emissions represent buildout under existing/proposed land use within the Specific Plan area boundary under Alternative 2.

² Thresholds for CO, SO_x, and PM₁₀ apply to stationary sources only.

is already reflected in the 2008 Monterey Bay Area Regional Growth Forecast. Therefore, this alternative would be consistent with these population growth forecasts and would consequently be consistent with the 2008 Air Quality Management Plan, similar to the proposed Specific Plan.

Noise. While the No Project/Existing General Plan Alternative would result in less development overall, individual construction projects that could occur would likely require the use of heavy equipment that would create temporary noise level increases on and adjacent to individual construction sites. These construction activities could expose sensitive land uses to noise levels in excess of the City's 60 dB(A) threshold. Impacts related to construction noise would be reduced when compared to the proposed Specific Plan, because less overall development could occur, but the potential for a significant impact would remain.

Construction activities under this alternative have the potential to generate groundborne vibration. This is almost exclusively an issue during the nighttime hours. However, Section 15.04.055 of the Marina Municipal Code would prohibit construction from occurring during recognized sleep hours. Potential structural damage to existing buildings could result from excessive groundborne vibration if construction activities under this alternative included pile driving. Existing and future land uses could be affected if pile-driving occurs in close proximity to these uses. Impacts related to groundborne vibrations would be reduced when compared to the proposed Specific Plan, because less overall development could occur, but mitigation would continue to be required.

The No Project/Existing General Plan Alternative would result in substantially less development overall and consequently result in less vehicular traffic and lower transportation-related noise levels in the vicinity, and fewer sensitive land uses would be exposed to increased noise. Impacts related to traffic generate noise would be lessened under this alternative when compared to the Specific Plan.

The Specific Plan would facilitate the development of new Multiple Use development within the Plan area. This alternative does not propose such land use changes; therefore,



potential noise impacts associated Multiple Use land use designations would be eliminated.

Similar to the proposed Specific Plan, the No Project/Existing General Plan Alternative would not expose sensitive receptors to aircraft noise in excess of normally acceptable levels. Impacts would be similar and less than significant.

Geology and Soils. Development under this alternative would generally occur within the same geographic location as the proposed Specific Plan; therefore, future development that would occur under this alternative would still be exposed to similar geologic hazards. However, buildout of the No Project/Existing General Plan Alternative would expose fewer structures and people to surface rupture, groundshaking, liquefaction, landslides and other soil-related hazards. Impacts related to surface rupture, groundshaking, liquefaction, landslides and other soil-related hazard would therefore be slightly reduced when compared to the Specific Plan.

Cultural and Historic Resources. All development under this alternative would occur on vacant land; therefore, the potential to damage or demolish existing historic structures as a result of redevelopment would be eliminated.

This alternative would result in less overall ground disturbance. However, because development would occur on vacant land, the potential for uncovering previously unknown archeological deposits and/or human remains still exists. Impacts related to uncovering previously unknown resources would be reduced when compared to the proposed Specific Plan, as less overall development would occur, but mitigation would continue to be required.

Aesthetics and Community Design. The No Project/Existing General Plan Alternative would result in substantially less development than the proposed Specific Plan, and existing land use patterns would not change. In addition, because future development in accordance with this alternative is assumed to occur on vacant land, existing development would not change. Therefore, this alternative would not alter the existing visual character of the downtown area. However, future development under this alternative would not be required to adhere to the design guidelines that would be set forth in the proposed Specific Plan. These design guidelines would establish procedures for the consistent promotion of high quality, well designed and visually attractive developments throughout the Specific Plan Area, intended to improve overall aesthetics of the downtown area. Since the aesthetic benefits would not be realized, the impacts of this alternative would be greater than with the Specific Plan.

This alternative would introduce substantially fewer new sources of nighttime lighting and daytime glare than the proposed Specific Plan. However, the proposed Specific Plan design guidelines include dark-sky friendly lighting requirements, which would likely reduce adverse lighting impacts from current conditions. Because existing development in the downtown area would remain as-is under the No Project/Existing General Plan Alternative, and because lighting requirements otherwise imposed on new development would not be adhered to, impacts related to nighttime lighting would be worse under this alternative than the proposed Specific Plan.

Drainage and Water Quality. Because less overall development would occur under this alternative, the potential for construction-related erosion and sedimentation to degrade water quality would be reduced. Construction-related impacts would therefore be reduced when compared to the proposed Specific Plan.

However, new development under this alternative would occur on vacant land, thereby resulting in a net increase in impervious surfaces and thus an increase in stormwater runoff. The proposed Specific Plan would similarly result in development on these vacant lands, and consequently result in a comparable increase in stormwater runoff and the need for improved stormwater infrastructure. However, unlike this alternative, the proposed Specific Plan would require all development to implement Low Impact Development (LID) technologies, which would reduce overall stormwater runoff and contaminants therein. In addition, the stormwater infrastructure improvements identified in the Specific Plan would not be implemented under this alternative. Therefore, long-term impacts related to impervious surfaces, stormwater runoff and stormwater infrastructure would be greater under this alternative than under the proposed Specific Plan.

None of the vacant parcels on which development under this alternative would occur would be located within the 100-year flood zone. Impacts related to flooding would therefore be eliminated under this alternative.

Biological Resources. Development under this alternative would occur on vacant land and therefore convert ruderal/disturbed habitat to urban uses, similar to the proposed Specific Plan. However, the conversion of this habitat would not significantly impact biological resources. Impacts related to the conversion of ruderal/disturbed habitat to urban uses would be similar under this alternative when compared to the proposed Specific Plan.

The vacant/undeveloped land upon which development would occur contains sparsely located tree species. Future development would have the potential to impact these tree species, which could include Monterey cypress, Monterey pine, coast live oak, blue gum, and Sydney golden wattle, which are known to occur in the area and are protected under the City of Marina Municipal Code. Impacts related to protected tree species would therefore be similar under this alternative when compared to the Specific Plan.

Special status plant and animal species that occur within the vicinity may be impacted by development under this alternative as these species may be present on the vacant/undeveloped parcels on which development would occur. Impacts to biological resources would therefore be similar to the proposed Specific Plan.

Public Services and Infrastructure. The No Project/Existing General Plan Alternative would reduce buildout from 2,400 new residential units and 380,150 square feet of new non-residential development under the proposed Specific Plan to 21 new residential units and 134,600 square feet of non-residential development. This equates to 2,379 fewer residential units (a 99 percent reduction) and 245,550 fewer square feet of non-residential space (a 65 percent reduction) when compared to the proposed Specific Plan. Based on an average of 2.804 persons per household (Department of Finance, 2010), this alternative would generate a population of 59 new residents, whereas the proposed Specific Plan would generate a population of 6,730.



Therefore, demand for police protection and fire protection services would be substantially reduced under this alternative. As discussed in Section 4.10 *Public Services and Infrastructure*, existing police and fire protection services would be able to accommodate buildout of the Specific Plan. Because this alternative would result in substantially less development than the Specific Plan, fire and police protection services would be able to serve development under this alternative as well.

Student enrollment would also be reduced under this alternative. As shown in Tables 7-4 and 7-5, this alternative would not overcrowd applicable public schools, whereas buildout of the proposed Specific Plan would result in overcrowding at Marina Vista Elementary and J.C. Crumpton Elementary. Impacts to area schools would therefore be substantially reduced when compared to the proposed Specific Plan.

**Table 7-4. Student Generation Factors and Student Generation
 No Project/Existing General Plan Alternative**

Land Use	Potential New Residential Units	Generation Factor (students per unit)	Students Generated
Residential	21	0.15 (K-5)	4
		0.05 (6-8)	2
		0.07 (9-12)	2
Total			8

Source: Student generation rates provided by MPUSD.

Table 7-5. Student Generation and School Capacity Utilization

School Name	Grades	2009-2010 Enrollment	Existing Capacity	Students Generated	Enrollment with Specific Plan Buildout	Capacity Utilization (%)
Marina Vista Elementary	K-5	502	550	2	504	92
J.C. Crumpton Elementary	K-5	473	550	2	475	86
Los Arboles Middle School	6-8	669	729	2	671	92
Marina High School	9-12	494	783	2	496	63
TOTAL	-	2,138	2,612	8	2,146	82

Based on the City standard of 5.3 acres of parkland and recreational space per 1,000 residents, the population generated by this alternative would generate a demand for approximately 0.3 acres of parkland. The City currently provides a total of 756 acres of parkland and the current parkland ratio is approximately 39 acres per 1,000 residents (based on a current population of 19,445). This alternative would increase the population of Marina to 19,504 and therefore lower the parkland ratio to approximately 38.7 acres of parkland per 1,000 residents. However, this ratio continues to be well above the City’s minimal requirement of 5.3 acres per 1,000 residents. Therefore, adequate parkland would be available to serve the population generated under this alternative. Buildout of the proposed Specific Plan would similarly be adequately served by existing parkland.



Based on the National Library Standard 0.6 square feet of library space per resident, the population generated by this alternative would generate a demand for approximately 35 additional square feet. The Marina Library is 18,500 square feet in size, which currently provides 0.95 square feet per resident (based on a current population of 19,445). This alternative would increase the population of Marina to 19,504 and thereby result in the provision of approximately 0.94 square feet of library space per resident, which continues to exceed the National Library Standard of 0.6 square feet per person. Therefore, adequate library space would be available to serve the population generated under this alternative. Buildout of the proposed Specific Plan would similarly be adequately served by existing library facilities.

Based on the water duty factors for residential and commercial land uses in the Water Supply Assessment (2011) prepared for the Specific Plan, this alternative would demand approximately 46 acre feet of water per year, whereas buildout of the proposed Specific Plan would demand 650 acre feet per year. Currently, the City has a surplus of 820 acre feet per year, and in 2030, the City is expected to have a surplus of 928 acre feet per year. Therefore, adequate water supply would be available to serve future development under this alternative, as well as the proposed Specific Plan.

Based on the wastewater generation factors provided in Impact PS-7 in Section 4.10 *Public Services and Infrastructure*, this alternative would generate approximately 17,371 gallons of wastewater per day, or 0.017 million gallons per day, whereas the proposed Specific Plan would generate 503,417 gallons of wastewater per day, or 0.5 million gallons per day. The MRWPCA regional wastewater treatment facility currently has the capacity to accommodate an additional 9.6 MGD (Garret Haertnel, Personal Communication, May 5, 2010). Therefore, adequate capacity exists as the MRWPCA treatment facility to serve future development under this alternative, as with the proposed Specific Plan.

Based on the solid waste generation factors provided in Impact PS-8 in Section 4.10 *Public Services and Infrastructure*, this alternative would generate approximately 123 tons of solid waste per year or 0.34 tons per day, whereas the proposed Specific Plan would generate 2,099 tons per year or 5.75 tons per day. Currently the MRWMD landfill has the capacity to accommodate an additional 2,900 tons per day. Therefore, adequate capacity exists at the landfill to accommodate this alternative and the proposed Specific Plan.

Overall, impacts to public services and infrastructure would be reduced under this alternative.

Greenhouse Gas Emissions. The No Project/Existing General Plan Alternative would result substantially less development than the proposed Specific Plan. As such, fewer vehicle miles traveled and associated greenhouse gas emissions would occur. This alternative would result in approximately 4,811 metric tons of CO₂E as a result of operational and mobile emissions, whereas buildout of the Specific Plan would result in 36,690 metric tons of CO₂E. Construction emissions under this alternative would generate approximately 9 metric tons of CO₂E per year for 30 years, whereas the proposed Specific Plan would generate 77 metric tons of CO₂E per year for 30 years. Gross GHG emissions would therefore be substantially less under this alternative when compared to the proposed Specific Plan.

However, the service population generated by this alternative would be 450 (59 residents plus 391 employees). This equates to 10.7 tons of CO₂E per service population, which exceeds the 4.6 tons of CO₂E per service population threshold. The proposed Specific Plan would result in 4.5 tons of CO₂E per service population, which is below the threshold. The large increase in service population emissions is attributed to the relatively large amount of commercial development that would occur under this alternative, which generates GHG emissions but results in minimal population, combined with the relatively small amount of residential development. In other words, the service population of this alternative would be proportionally lower than the service population of proposed Specific Plan, and thus emissions on a per service population basis would increase.

Although gross GHG emissions would be substantially lower under this alternative than the proposed Specific Plan, per service population emissions would exceed thresholds under this alternative. In addition, this alternative would not include the sustainability policies of the proposed Specific Plan nor promote vehicle-trip reduction compact development. Impacts related to GHG emissions would therefore be greater under this alternative when compared to the proposed Specific Plan.

Hazards and Hazardous Materials. Development under this alternative could be located where hazardous materials could be stored or used, or where previous use has resulted in contamination of the site (refer to Table 4.12-2 in Section 4.12 *Hazards and Hazardous Materials*). Development of residential uses in proximity to commercial or industrial uses that use or store hazardous materials could increase the risk of exposure to harmful health effects. The number of people that would be exposed to such risks would be reduced under this alternative, but people could still be exposed to such risks. In addition, depending on the historic land uses on the vacant lands that would be developed under this alternative, new development could present potential risk of exposure to contamination associated with leaking underground storage tanks and/or various industrial contaminants. Impacts related to exposure to hazardous materials would be slightly reduced under this alternative, because fewer people could be exposed, but some hazards would continue to occur.

Development under this alternative would only occur on vacant parcels. Therefore, no demolition of existing structures would occur, and impacts associated with exposure to lead and asbestos as a result of demolition activities would be eliminated.

While this alternative would result in less development overall, development under this alternative would continue to be exposed to trucks that commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. In the event of an accident, such materials may be released, resulting in a public safety hazard. However, existing local, state and federal standard accident and hazardous materials handling and recovery procedures would ensure that impacts are not significant. Impacts would be slightly reduced under this alternative when compared to the proposed Specific Plan, and would continue to be less than significant.

No vacant parcels upon which development under this alternative would occur are located within the airport safety zone. Impact related to aircraft safety hazards would therefore be eliminated.



7.3 ALTERNATIVE 3: Reduced Project

7.3.1 Description

The Reduced Project Alternative would reduce the number of new residential units that could be constructed as well as the total square footage of non-residential development that could be construction. The purpose of this alternative is to reduce or eliminate the adverse long-term air quality impact identified in Section 4.3, *Air Quality* (Impact AQ-2).

To reduce air pollutant emissions below MBUAPCD thresholds of significance, the total allowable residential units under this alternative would be reduced to 1,088 units, and the total allowable non-residential development would be reduced to 172,270 square feet. These represent a 55 percent decrease in overall development compared to the proposed Specific Plan. The residential buildout reduction would result in a population of 3,051 new residents into the downtown area (based on an average of 2.804 persons per household).

Although new development would be reduced by 55 percent under this alternative, the proposed Specific Plan boundary would remain the same. The reduction in buildout would be achieved through a corresponding reduction in density allowances over the parcels designated Multiple Use, Retail/Service, Public Facilities – Civic, Single-family Residential, and Multi-family Residential. Goals, policies, and development standards contained in the Downtown Vitalization Specific Plan related to land use, mobility, infrastructure, and sustainability would continue to apply to this alternative. Similarly, design guidelines within the Specific Plan, which are intended to consistently promote high quality, well-designed developments, would also continue to apply.

7.3.2 Impact Analysis

Land Use, Population and Housing. The Reduced Project Alternative would require General Plan amendments, similar to the proposed Specific Plan. Upon approval of required amendments, it would be considered consistent with the General Plan. Similar to the proposed Specific Plan, this alternative would contribute to establishing central Marina as a vital destination center, and would promote compact infill development and pedestrian- and bicycle-orientation. This alternative would therefore be consistent with the *Downtown Vision*, *Downtown Design Guidelines*, and the *Pedestrian and Bicycle Master Plan*. Impacts related to consistency with existing plans and policies would therefore be similar when compared to the proposed Specific Plan.

This alternative would generate approximately 534 jobs and would provide 1,088 residential units. When added to the Countywide jobs/housing ratio, this alternative would improve the existing ratio from 1.39 to 1.38 and the future (2035) ratio from 1.29 to 1.28. These are the same figures as the proposed Specific Plan. Impacts related to jobs/housing ratio would therefore be similar under this alternative when compared to the proposed Specific Plan.

This alternative would add an estimated 3,051 residents to the City (based on 2.804 persons per household and 1,088 new housing units). When added to the existing population of Marina (19,445 in 2010), this alternative would increase Marina's total population to an estimated 22,496



residents. This estimate is 9,514 less than AMBAG's population forecasts (32,010 in 2030). In comparison, the proposed Specific plan would generate 5,835 residents less than AMBAG's population forecasts in 2030. Neither the Reduced Project Alternative nor the proposed Specific Plan would exceed population growth forecasts.

This alternative would provide an additional 1,088 residential units in addition to the existing 1,630 residential units within the Specific Plan area for a total of 2,718 units. Although some existing residences would be replaced by new residential development, a substantial displacement of existing housing or residents would only occur if allowed land uses displace more residences than what is accommodated through the proposed development such that a net decrease in available housing would occur. Impacts related to the displacement of housing would be similar under this alternative when compared to the proposed Specific Plan, and would be less than significant.

This alternative would change the existing land use designations in several areas to Multiple Use. Therefore, this alternative would potentially result in differing, and potentially conflicting, land uses patterns and/or noise impacts associated with mixing commercial and residential land uses. Impacts related land use conflicts would therefore be similar under this alternative when compared to the proposed Specific Plan.

Transportation. The Reduced Project Alternative would reduce buildout from 2,400 new residential units and 380,150 square feet of new non-residential development under the proposed Specific Plan to 1,088 new residential units and 172,270 square feet of non-residential development. Consequently, less overall traffic would be generated. Significant impacts related to intersection levels of service and freeway segment levels of service would therefore be less under this alternative than under the proposed Specific Plan (for both the Four-Lane and Two-Lane Reservation Road options).

However, implementation of the proposed Specific Plan would result in the installation of additional and wider sidewalks, bicycle routes, and transit opportunities, thereby resulting in a Class IV, *beneficial*, impact to alternative transportation. The Reduced Project Alternative would not improve the availability of these transportation modes. Impacts of the Reduced Project Alternative would be worse than the proposed Specific Plan for this impact.

Air Quality. The Reduced Project Alternative would reduce buildout from 2,400 new residential units and 380,150 square feet of new non-residential development under the proposed Specific Plan to 1,088 new residential units and 172,270 square feet of non-residential development. The Reduced Project Alternative would therefore generate substantially less traffic and consequently fewer vehicle air emissions. Mobile and stationary source emissions associated with this alternative would not exceed MBUAPCD thresholds, as shown in Table 7-6. This alternative would result in a 55percent reduction in ROG, 55percent reduction in NO_x, 38percent reduction in CO and a 27percent reduction in PM₁₀ when compared to the Specific Plan. Air quality impacts of the Reduced Project Alternative would therefore be less than the proposed Specific Plan.



Table 7-6. Operational and Area Source Emissions Associated with Reduced Project Alternative (lbs/day)

Emission Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)³	SO_x (lbs/day)	PM₁₀ (lbs/day)
Proposed Project Emissions¹					
Operational Emissions (mobile)	77.51	112.24	- ²	- ²	- ²
Area Emissions (stationary)	59.46	9.76	9.38	0.00	0.04
Total Proposed Project Emissions	136.97	122	9.38	0.00	0.04
<i>MBUAPCD Recommended Thresholds</i>	<i>137 (stationary + mobile)</i>	<i>137 (stationary + mobile)</i>	<i>550 (stationary)</i>	<i>150 (stationary)</i>	<i>82 (stationary)</i>
<i>Emissions Exceed Threshold?</i>	No	No	No	No	No

¹ Total emissions represent buildout under existing/proposed land use within the Specific Plan area boundary under Alternative 2.

² Thresholds for CO, SO_x, and PM₁₀ apply to stationary sources only.

In addition, because less development would occur, fewer construction-related emissions would be generated. Impacts related to construction emissions would be slightly reduced when compared to the proposed Specific Plan.

According to the MBUAPCD Guidelines, a significant impact finding should be made if a population-generating project (including commercial, industrial, or institutional projects intended to meet the needs of the population) would be inconsistent with the population projections adopted by the Association of Monterey Bay Area Governments, which were used in developing the 2008 Air Quality Management Plan. This alternative would add an estimated 3,051 residents to the City (based on 2,804 persons per household and 1,088 new housing units). When added to the existing population of Marina (19,445 in 2010), this alternative would increase Marina’s total population to an estimated 22,496 residents. This estimate is 9,514 less than Association of Monterey Bay Area Governments population forecasts (32,010 in 2030). Therefore, this alternative would be consistent with the 2008 Air Quality Management Plan, similar to the proposed Specific Plan.

Noise. While the Reduced Project Alternative would result in less development overall, individual construction projects that could occur would likely require the use of heavy equipment that would create temporary noise level increases on and adjacent to individual construction sites. These construction activities could expose sensitive land uses to noise levels in excess of the City’s 60 dB(A) threshold. Impacts related to construction noise would be reduced when compared to the proposed Specific Plan, because less overall development could occur, but the potential for a significant impact would remain.

Construction activities under this alternative have the potential to generate groundborne vibration. This is almost exclusively an issue during the nighttime hours. However, Section 15.04.055 of the Marina Municipal Code would prohibit construction from occurring during recognized sleep hours. Potential structural damage to existing buildings could result from excessive groundborne vibration if construction activities under this alternative included pile driving. Existing and future



land uses could be affected if pile-driving occurs in close proximity to these uses. Impacts related to groundborne vibrations would be reduced when compared to the proposed Specific Plan, because less overall development could occur, but mitigation would continue to be required.

The Reduced Project Alternative would result in less development overall and consequently result in less vehicular traffic and lower transportation-related noise levels in the vicinity, and fewer sensitive land uses would be exposed to increased noise. Impacts related to traffic generate noise would be reduced under this alternative when compared to the Specific Plan. This alternative would facilitate the development of new residential, office/ research, retail, public facilities, and multiple use development. Stationary noise in the Specific Plan area would be limited to sources common to residential, retail, and office uses, such as: rooftop heating, ventilation, and air conditioning equipment. These sources generate low levels of noise and are not generally substantial sources of nuisance noise. Impacts related to land use noise conflicts would be similar under this alternative when compared to the proposed Specific Plan.

Similar to the proposed Specific Plan, the Reduced Project Alternative would not expose sensitive receptors to aircraft noise in excess of normally acceptable levels. Impacts would be similarly less than significant.

Geology and Soils. Development under this alternative would generally occur within the same geographic location as the proposed Specific Plan; therefore, future development that would occur under this alternative would still be exposed to similar geologic hazards. However, buildout of the Reduced Project Alternative would expose fewer structures and people to surface rupture, groundshaking, liquefaction, landslides and other soil-related hazards. Impacts related to exposure to these hazards would therefore be slightly reduced under when compared to the Specific Plan.

Cultural and Historic Resources. The Reduced Project Alternative would result in less development overall. However, this alternative would continue to allow for some redevelopment which has the potential damage existing historic structures. Because the overall amount of redevelopment would be reduced, the potential to damage existing historic structures under this alternative would be slightly reduced. However, mitigation would continue to be required.

This alternative would result in less overall ground disturbance. However, because development would occur on vacant land, the potential for uncovering previously unknown archeological deposits and/or human remains still exists. Impacts related to uncovering previously unknown resources would be reduced when compared to the proposed Specific Plan, as less overall development would occur, but mitigation would continue to be required.

Aesthetics and Community Design. Although this alternative would result in less development overall, future development facilitated by this alternative would result in a intensification of development in the downtown area beyond that which could occur under the General Plan. Similar to the proposed Specific Plan, future development under the Reduced Project Alternative would be required to adhere to the design guidelines established in the Specific Plan. These design guidelines include procedures for the consistent promotion of high quality, well designed and visually attractive developments throughout the Specific Plan Area,



and are intended to improve overall aesthetics of the downtown area. Because development under the Reduced Project Alternative would be required to adhere to these same standards, impacts related to degradation of existing visual character would be similar to the proposed Specific Plan.

This alternative would introduce fewer new sources of nighttime lighting and daytime glare than the proposed Specific Plan. In addition, this alternative would adhere to design guidelines within the proposed Specific Plan, which include dark-sky friendly lighting requirements. Impacts related to light and glare would therefore be similar to the proposed Specific Plan.

Drainage and Water Quality. Because less development would occur under this alternative, the potential for construction-related erosion and sedimentation to degrade water quality would be reduced. Construction-related impacts would therefore be slightly reduced when compared to the Specific Plan.

New development under this alternative would result in a net increase in impervious surfaces and thus an increase in stormwater runoff, similar to the proposed Specific Plan. However, the proposed Specific Plan would require all development to implement LID technologies, which reduce overall stormwater runoff and contaminants therein. This alternative would similarly implement these improvements. In addition, the stormwater infrastructure improvements identified in the Specific Plan would be implemented under this alternative, thereby reducing impacts to stormwater infrastructure. Impacts related to impervious surfaces, stormwater runoff and stormwater infrastructure would therefore be similar under this alternative when compared to the proposed Specific Plan.

Development under this alternative would have the potential to be located within the 100-year flood zone. The General Plan requires any development within a 100-year flood zone to be constructed at least one foot above the established floodplain elevation. This would require the foundation of any redevelopment to be constructed at least one foot higher than the base flood elevation for that particular property, which would ensure that property or life is not exposed to flood hazards associated with the 100-year flood zone. Impacts related to flooding would be slightly reduced under this alternative, because fewer overall structures would be exposed to flood hazards, and would continue to be less than significant.

Biological Resources. Development under this alternative would convert ruderal/disturbed habitat to urban uses, similar to the proposed Specific Plan. However, the conversion of this habitat would not significantly impact biological resources. Impacts related to the conversion of ruderal/disturbed habitat to urban uses would be similar under this alternative when compared to the proposed Specific Plan.

Vacant/undeveloped land within the Reduced Project Alternative area contains sparsely located tree species. Future development would have the potential to impact these tree species, which could include Monterey cypress, Monterey pine, coast live oak, blue gum, and Sydney golden wattle, which are known to occur in the area and are protected under the City of Marina Municipal Code. Impacts related to protected tree species would therefore be similar under this alternative when compared to the Specific Plan.

Special status plant and animal species that occur within the vicinity may be impacted by development under this alternative as these species may be present on the vacant/undeveloped parcels within the Reduced Project Alternative area. Impacts to biological resources would therefore be similar to the proposed Specific Plan.

Public Services and Infrastructure. The Reduced Project Alternative would reduce buildout from 2,400 new residential units and 380,150 square feet of new non-residential development under the proposed Specific Plan to 1,088 new residential units and 172,270, square feet of non-residential development. Accordingly, this alternative would generate substantially less population. Based on an average of 2.804 persons per household (Department of Finance, 2010), this alternative would generate a population of 3,051 new residents, whereas the proposed Specific Plan would generate a population of 6,730. Therefore, demand for police protection and fire protection services would be reduced. As discussed in Section 4.10 *Public Services and Infrastructure*, existing police and fire protection services would be able to accommodate buildout of the Specific Plan. Because this alternative would result in less development than the Specific Plan, fire and police protection services would be able to serve development under this alternative.

Student enrollment would also be reduced under this alternative. As shown in Tables 7-7 and 7-8, this alternative would not overcrowd applicable public schools, whereas buildout of the proposed Specific Plan would result in overcrowding at Marina Vista Elementary and J.C. Crumpton Elementary. Impacts to area schools would therefore be reduced when compared to the proposed Specific Plan.

**Table 7-7. Student Generation Factors and Student Generation
 Reduced Project Alternative**

Land Use	Potential New Residential Units	Generation Factor (students per unit)	Students Generated
Residential	1,088	0.15 (K-5)	63
		0.05 (6-8)	54
		0.07 (9-12)	76
Total			193

Source: Student generation rates provided by MPUSD.

Table 7-8. Student Generation and School Capacity Utilization

School Name	Grades	2009-2010 Enrollment	Existing Capacity	Students Generated	Enrollment with Specific Plan Buildout	Capacity Utilization (%)
Marina Vista Elementary	K-5	502	550	32	534	97
J.C. Crumpton Elementary	K-5	473	550	31	504	92
Los Arboles Middle School	6-8	669	729	54	723	99
Marina High School	9-12	494	783	76	570	73
TOTAL	-	2,138	2,612	8	2,331	89



Based on the City standard of 5.3 acres of parkland and recreational space per 1,000 residents, the population generated by this alternative would generate a demand for approximately 16 acres of parkland. The City currently provides a total of 756 acres of parkland and the current parkland ratio is approximately 39 acres per 1,000 residents (based on a current population of 19,445). This alternative would increase the population of Marina to 22,496 and therefore lower the parkland ratio to approximately 33.6 acres of parkland per 1,000 residents. However, this ratio continues to be well above the City's minimal requirement of 5.3 acres per 1,000 residents. Therefore, adequate parkland would be available to serve the population generated under this alternative. Buildout of the proposed Specific Plan would similarly be adequately served by existing parkland.

Based on the National Library Standard 0.6 square feet of library space per resident, the population generated by this alternative would generate a demand for approximately 1,830 additional square feet. The Marina Library is 18,500 square feet in size, which currently provides 0.95 square feet per resident (based on a current population of 19,445). This alternative would increase the population of Marina to 22,496 and thereby result in the provision of approximately 0.82 square feet of library space per resident, which continues to exceed the National Library Standard of 0.6 square feet per person. Therefore, adequate library space would be available to serve the population generated under this alternative. Buildout of the proposed Specific Plan would similarly be adequately served by existing library facilities.

Based on the water duty factors for residential and commercial land uses in the Water Supply Assessment (2011) prepared for the Specific Plan, this alternative would demand approximately 324 acre feet of water per year, whereas buildout of the proposed Specific Plan would demand 650 acre feet per year. Currently, the City has a surplus of 820 acre feet per year, and in 2030, the City is expected to have a surplus of 928 acre feet per year. Therefore, adequate water supply would be available to serve future development under this alternative, as well as the proposed Specific Plan.

Based on the wastewater generation factors provided in Impact PS-7 in Section 4.10 *Public Services and Infrastructure*, this alternative would generate approximately 226,887 gallons of wastewater per day, or 0.23 million gallons per day, whereas the proposed Specific Plan would generate 503,417 gallons of wastewater per day, or 0.5 million gallons per day. The MRWPCA regional wastewater treatment facility currently has the capacity to accommodate an additional 9.6 MGD (Garret Haertnel, Personal Communication, May 5, 2010). Therefore, adequate capacity exists as the MRWPCA treatment facility to serve future development under this alternative, as with proposed Specific Plan.

Based on the solid waste generation factors provided in Impact PS-8 in Section 4.10 *Public Services and Infrastructure*, this alternative would generate approximately 951 tons of solid waste per year or 2.6 tons per day, whereas the proposed Specific Plan would generate 2,099 tons per year or 5.75 tons per day. Currently the MRWMD landfill has the capacity to accommodate an additional 2,900 tons per day. Therefore, adequate capacity exists at the landfill to accommodate this alternative and the proposed Specific Plan.

Overall, impacts to public services and infrastructure would be reduced under this alternative.



Greenhouse Gas Emissions. The Reduced Project Alternative would result less development than the proposed Specific Plan. As such, fewer vehicle miles traveled and associated greenhouse gas emissions would occur. This alternative would result in approximately 16,014 metric tons of CO₂E as a result of operational and mobile emissions, whereas buildout of the Specific Plan would result in 36,690 metric tons of CO₂E. Construction emissions under this alternative would generate approximately 38 metric tons of CO₂E per year for 30 years, whereas the proposed Specific Plan would generate 77 metric tons of CO₂E per year for 30 years. Gross GHG emissions would therefore be less under this alternative when compared to the proposed Specific Plan.

The service population generated by this alternative would be 3,585 (3,051 residents plus 534 employees). This equates to 4.47 tons of CO₂E per service population. This is below the 4.6 tons of CO₂E per service population threshold, and is slightly below the proposed Specific Plan's emissions (4.5 tons of CO₂E per service population). Impacts related to GHG emissions would therefore be less under this alternative than under the proposed Specific Plan, and would continue to be less than significant.

Hazards and Hazardous Materials. Development under this alternative could be located where hazardous materials could be stored or used, or where previous use has resulted in contamination of the site (refer to Table 4.12-2 in Section 4.12 *Hazards and Hazardous Materials*). Development of residential uses in proximity to commercial or industrial uses that use or store hazardous materials could increase the risk of exposure to harmful health effects. The number of people that would be exposed to such risks would be reduced under this alternative, but people could still be exposed to such risks. In addition, depending on the past land uses on parcels to be developed under this alternative, new development could present potential risk of exposure to contamination associated with leaking underground storage tanks and/or various industrial contaminants. Impacts related to exposure to hazardous materials would be slightly reduced under this alternative, because fewer people could be exposed, but some hazards would continue to occur.

This alternative would allow for some redevelopment, which could result in the demolition of older structures that potentially contain asbestos containing materials (ACM) and/or lead-based paint (LBP). Specifically, structures built prior to 1980 could contain ACMs and structures constructed prior to 1978 could contain LBP. If these existing structures were demolished as part of future redevelopment, this could pose a potential health risk to people if these materials were not properly handled and disposed. Because less overall redevelopment would occur under this alternative, impacts related to these health risks would be slightly reduced when compared to the proposed Specific Plan. However, mitigation would continue to be required. While this alternative would result in less development overall, development under this alternative would continue to be exposed to trucks that commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. In the event of an accident, such materials may be released, resulting in a public safety hazard. However, existing local, state and federal standard accident and hazardous materials handling and recovery procedures would ensure that impacts are not significant. Impacts would be slightly reduced under this alternative when compared to the proposed Specific Plan, and would continue to be less than significant.

Similar to the proposed Specific Plan, the easternmost portion of the Reduced Project Alternative boundary area is within Safety Zone 6 (the Traffic Pattern Zone, or TPZ). Aircraft overflights of occupied urban areas present a potential for off-airport aircraft accidents, which could result in personal injury or property damage. Impacts related to aircraft overflight safety hazards would be slightly reduced under this alternative when compared to the proposed Specific Plan, because fewer new residents could be exposed to such hazards.

7.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

This section compares the findings for the proposed Specific Plan and the three alternatives under consideration. It then identifies the environmentally superior alternative for each issue area, as shown on Table 7-9. If the No Project Alternative is identified as the Environmentally Superior Alternative for a given issue area, the development scenario among the remaining alternatives that produces the fewest impacts is noted, in accordance with CEQA. In addition, the table shows whether each alternative’s environmental impact is greater than, less than, or similar to the proposed Specific Plan for each issue area.

Table 7-9 Alternative Comparison

Issue	Proposed Project	Alt. 1 No Project/No Development	Alt. 2 No Project/ Existing General Plan	Alt. 3 Reduced Project
Land Use, Population and Housing	=	+	+/-	=
Transportation	=	+	+/-	+/-
Air Quality	=	+	+	+
Noise	=	+	+	+/=
Geology and Soils	=	+	+	+
Cultural and Historical Resources	=	+	+	+
Aesthetics and Community Design	=	-	-	=
Drainage and Water Quality	=	+	+/-	+/=
Biological Resources	=	+	=	=
Public Services and Infrastructure	=	+	+	+
Greenhouse Gas Emissions	=	+	-	+
Hazards and Hazardous Materials	=	+	+	+
Overall	=	+	+	+/=

- Inferior to the proposed Specific Plan
- + Superior to the proposed Specific Plan
- +/- Characteristics both better and worse than the proposed Specific Plan
- +/= Characteristics both better and similar than the proposed Specific Plan
- = Similar impact to the proposed Specific Plan

Based on the comparison provided in Table 7-9, the No Project/No Development Alternative (Alternative 1) would be considered environmentally superior overall, since no development



that could result in significant environmental impacts would occur. It should be noted, however, that this alternative would not foster the revitalization of the downtown core of the City, would not realize community design improvements facilitated by the Plan, and would not meet any of the project objectives (outlined in Section 2.5 of Section 2.0, *Project Description*). The No Project/Existing General Plan Alternative (Alternative 2) can also be considered environmentally superior to the proposed Specific Plan. However, this alternative would similarly fail to foster the revitalization of the downtown core of the City, and would also not meet any of the project objectives (outlined in Section 2.5 of Section 2.0, *Project Description*). This alternative would reduce population-oriented impacts, including impacts to police and fire protection, public schools, noise, traffic, water and wastewater, solid waste, libraries, and parkland. In addition, this alternative would reduce vehicle miles traveled and associated air emissions, as well as emissions associated with development. However, this alternative would result in higher GHG emissions per service population.

The Reduced Project Alternative (Alternative 3) would also be considered environmentally superior to the proposed Specific Plan for certain impacts, which include impacts to air quality, noise, geology and soils, cultural and historic resources, public services and infrastructure, and greenhouse gas emissions. In addition, Alternative 3 would be considered environmentally superior because it would be consistent with and facilitate implementation of the *Downtown Vision*, *Downtown Design Guidelines*, and the *Pedestrian and Bicycle Master Plan* and would meet some of the project objectives outlined in Section 2.5 of Section 2.0, *Project Description*. However, it would not facilitate the buildout level called for in the Specific Plan, which is supported by the *Retail Leakage Analysis* and directed by the Marina City Council.

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