



New Elementary School in Foster City

for the San Mateo–Foster City School District

August 2017 | Public Review Draft EIR



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1. Executive Summary

This chapter presents an overview of the proposed New Elementary School in Foster City, located at what is now the Charter Square Shopping Center, herein referred to as the “proposed Project” or “Project.” This executive summary also provides conclusions of the analyses contained in Subchapters 4.1 through 4.14 of this Draft Environmental Impact Report (Draft EIR), a summary of the alternatives to the proposed Project, and issues to be resolved and questions. For a complete description of the proposed Project, see Chapter 3, Project Description. For a discussion of alternatives to the proposed Project, see Chapter 6, Alternatives to the proposed Project.

This Draft EIR addresses the environmental effects associated with adoption and implementation of the proposed Project. An EIR is a public document designed to provide the public, local, and State governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects.

This Draft EIR has been prepared pursuant to the requirements of CEQA (California Public Resources Code, Division 13, Section 21000, et seq.) and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000, et seq.) to determine if the Project could have a significant impact on the environment. Information for this Draft EIR was obtained from on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, greenhouse gas emissions, noise, geotechnical, and transportation and traffic). The San Mateo–Foster City School District (SMFCSD) as the Lead Agency has reviewed and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment including reliance on applicable SMFCSD technical personnel and review of all technical reports.

1.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed Project. The six main objectives of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental impacts.
- To prevent environmental impacts through implementation of feasible alternatives or mitigation measures.
- To disclose significant environmental effects.

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- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the CEQA statute and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of any environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and if needed, adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

1.1.1 EIR ORGANIZATION

This Draft EIR is organized into the following chapters:

- **Chapter 1: Executive Summary.** Summarizes environmental consequences that would result from implementation of the Project, describes recommended mitigation measures, and indicates the level of significance of environmental impacts before and after mitigation.
- **Chapter 2: Introduction.** Provides an overview describing the Draft EIR document.
- **Chapter 3: Project Description.** Describes the proposed Project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- **Chapter 4: Environmental Evaluation.** Organized into 14 sub-chapters corresponding to the environmental resource categories identified in Appendix G of the CEQA Guidelines, this section provides a description of the physical environmental conditions in the vicinity of the proposed Project as they existed at the time the Notice of Preparation was published, from both a local and regional perspective. Additionally, this chapter provides an analysis of the potential environmental impacts of the proposed Project, and recommended mitigation measures, if required, to reduce the impacts to less than significant where possible, and to reduce their magnitude or significance when impacts cannot be reduced to a less-than-significant level. The environmental setting included in each sub-chapter provides baseline physical conditions, which provide a context, which the lead agency uses to determine the significance of environmental impacts resulting from the proposed Project. Each sub-chapter also includes a description of the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the proposed Project; and the potential cumulative impacts associated with the proposed Project.
- **Chapter 5: Alternatives to the Proposed Project.** Considers alternatives to the proposed Project, including the CEQA-required "No Project" Alternative, a Reduced Future Capacity Alternative, and an Alternative Site Layout Alternative.

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- **Chapter 6: CEQA-Mandated Sections.** Discusses growth inducement, cumulative impacts, unavoidable significant effects, and significant irreversible changes as a result of the proposed Project.
- **Chapter 7: Organizations and Persons Consulted.** Lists the people and organizations that were contacted during the preparation of this EIR for the proposed Project.
- **Appendices:** The appendices for this document (presented in PDF format on a CD attached to the back cover) contain the following supporting documents:
 - Appendix A: Notice of Preparation and NOP Comment Letters
 - Appendix B: Air Quality and Greenhouse Gas Data
 - Appendix C: Geotechnical Report
 - Appendix D: Noise Impact Report
 - Appendix E: Traffic Impact Assessment

1.1.2 TYPE AND PURPOSE OF THIS DRAFT EIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

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 Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) with the San Mateo-Foster City School District (SMFCSD) as the Lead Agency. This Draft EIR assesses the potential environmental consequences of implementing the Project, and identifies Mitigation Measures and Alternatives to the Project that would avoid or reduce significant impacts. This Draft EIR is intended to inform SMFCSD decision-makers, other responsible agencies, and the general public as to the nature of the Project's potential environmental impacts.

1.2 PROJECT LOCATION

The Project site is located in the central area of the City of Foster City, a municipality midway between the cities of San Francisco to the north and San José to the south. The Project site is an approximately six-acre parcel with identified addresses of 1050-1064 Shell Boulevard. The western boundary of the Project site is 1.17 miles east of Highway 101 (US-101). Highway 101 and State Route 92 provide regional access to the site. Local access is provided via north-south running Shell Boulevard, and east-west running Beach Park Boulevard.

1.3 PROJECT SUMMARY

The proposed New Elementary School In Foster City would be SMFCSD's fourth elementary school in Foster City. Development of the proposed Project would involve demolition of the seven existing structures, totaling 56,000 square feet, located in Charter Square, a courtyard-style neighborhood

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shopping center built in 1977. The 250 surface parking spaces and most ornamental landscaping would also be removed.

The proposed Project would involve construction of an elementary school serving up to fifth grade students. The school is projected to enroll 430 to 460 students with a maximum capacity of 600 students. The proposed school would consist of classrooms, education and administration-related indoor spaces, as well as outdoor physical education, instructional and recreational components. It would include approximately 75 onsite surface parking spaces and internal drop-off and passing lanes designed for onsite traffic flow and reduced queuing at school entrances.

Project components include:

- **Sustainable Design.** The design of the school maximizes natural daylight with vision windows and clerestory windows, and interior light shelves. Landscaping, bioswales and green buffers would conserve water and maintain local water quality.
- **Classrooms.** The school would include approximately 23,250 square feet of classroom space consisting of 15 standard classrooms, three kindergarten rooms, one Annex classroom for before and after school care and four classrooms for future use.
- **Collaboration Spaces.** The school would include three indoor student collaboration spaces totaling approximately 3,600 square feet.
- **Library/Learning Center.** The school would include a 1,900 square foot library, as well as a supporting technology and maker's lab.
- **Multipurpose Building.** The school would include a 5,750 square-foot multipurpose structure composed primarily of a 3,200 square-foot space for school gatherings and lunch, as well as a kitchen prep area and custodial and storage facilities.
- **Administration Building.** An approximately 2,700 square-foot building would include space for administration and faculty work, a reception area for parents and other visitors, a work room, a staff room, a conference room, a principal's office and various school support spaces.
- **Outdoor Resources.** Outdoor space would include instructional and recreational areas of various size and type, including four covered classroom collaboration areas, hardscaped play area, kindergarten play area, active play structures, a natural turf area and outdoor learning nooks.

1.4 ISSUES TO BE RESOLVED

Section 15123(b) (3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, including whether or how to mitigate potentially significant impacts and the choice among alternatives. With regard to the proposed Project, the major issues to be resolved include decisions by SMFCSD, as Lead Agency, related to:

- Whether this Draft EIR adequately describes the environmental impacts of the Project.
- Whether the proposed land use changes are compatible with the character of the existing area.
- Whether the identified mitigation measures should be adopted or modified.

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- Whether there are other mitigation measures that should be applied to the Project besides those Mitigation Measures identified in the Draft EIR.
- Whether there are any alternatives to the Project that would substantially lessen any of the significant impacts of the Project and achieve most of the basic objectives.

1.5 QUESTIONS AND CONCERNS

The SMFCSD issued a Notice of Preparation (NOP) on March 10, 2017. A scoping meeting was held on March 27, 2017 to receive oral comments and the CEQA-mandated scoping period for this EIR was from March 14, 2017 to April 14, 2017, during which interested agencies and the public could submit comments about environmental concerns regarding the proposed Project to be addressed in the EIR. During this time, SMFCSD received comment letters from a variety of State and local agencies as well as oral and written comments from the public. The comments received focused primarily on the following issues that are likely to be of particular concern to agencies and interested members of the public during the environmental review process:

- Operational traffic impacts related to student drop-off and pick-up.
- Impacts to the performance of surrounding intersections.
- Operational and construction-related noise impacts to residences adjacent the Project site.
- Emergency ingress and egress to and from site.

While every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive, but rather attempts to capture those concerns that are likely to generate the greatest interest based on the input received during the scoping process.

1.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant impact on the environment is defined 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 and aesthetic significance.

Table 1-2 summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of impacts and mitigation measures identified. It is organized to correspond with the environmental issues discussed in Section 4, Subchapters 4.1 through 4.14. The table is arranged in four columns: 1) environmental impacts; 2) significance prior to mitigation; 3) recommended mitigation measures; and 4) significance after mitigation. For a complete description of potential impacts, please refer to the specific discussions in Section 4, Subchapters 4.1 through 4.14.

As tallied in Table 1.1, it has been demonstrated that the proposed Project would result in a *less-than-significant* impact in regard to nearly all 91 thresholds across all 14 environmental areas.

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TABLE 1.1 **SUMMARY OF THRESHOLD CONCLUSIONS**

Level of Impact	Number of Conclusions	Percent
No Impact (NI)	6	6%
Less than Significant (LTS)	69	76%
Potentially Significant (PS) or Significant (S) mitigated to LTS	14	15%
Significant and Unavoidable (SU)	2	2%
TOTAL¹	91	100%

1.Total not 100 due to rounding

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
AESTHETICS			
AES-1: The proposed Project would not have a substantial adverse effect on a scenic vista.	LTS	N/A	N/A
AES-2: The proposed Project would not substantially degrade the view from a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings.	NI	N/A	N/A
AES-3: The proposed Project would not degrade the existing visual character or quality of the site and its surroundings.	LTS	N/A	N/A
AES-4: The proposed Project would not expose people on- or off- site to substantial light or glare which would adversely affect day or nighttime views in the area.	LTS	N/A	N/A
AES-5: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to aesthetics.	LTS	N/A	N/A
AIR QUALITY			
AQ-1: Implementation of the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.	LTS	N/A	N/A
AQ-2: The Project could violate an air quality standard, contribute substantially to an existing or projected air quality violation, and would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).	S	<p>AQ-2: The project developer shall require its construction contractor to comply with the following BAAQMD Best Management Practices (BMPs) for reducing construction emissions of PM₁₀ and PM_{2.5}:</p> <ul style="list-style-type: none"> Water all active construction areas at least twice daily or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour (mph). Reclaimed water should be used whenever possible. Pave, apply water twice daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. Cover all trucks hauling soil, sand, and other loose materials or 	LTS

NI = No Impact, LTS = Less than Significant, PS = Potentially Significant, S = Significant, LTS/M = Less than Significant with Mitigation, SU = Significant and Unavoidable, N/A = Not Applicable

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>require all trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).</p> <ul style="list-style-type: none"> ▪ Sweep daily (with water sweepers using reclaimed water if possible) or as often as needed all paved access roads, parking areas, and staging areas at the construction site to control dust. ▪ Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material. ▪ Hydro-seed or apply non-toxic soil stabilizers to inactive construction areas. ▪ Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (e.g., dirt, sand). ▪ Limit vehicle traffic speeds on unpaved roads to 15 mph. ▪ Replant vegetation in disturbed areas as quickly as possible. ▪ Install sandbags or other erosion control measures to prevent silt runoff from public roadways. <p>The project developer shall verify compliance that these measures have been implemented during normal construction site inspections</p>	
AQ-3: The Project would 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).	S	AQ-3: Implementation of Mitigation Measures AQ-2 would reduce cumulative air quality impacts.	LTS
AQ -4: Construction activities of the project could expose sensitive receptors to substantial concentrations of TAC and PM2.5.	S	<p>AQ-4: The construction contractor(s) shall use construction equipment with fitted with Level 3 Diesel Particulate Filters (DPF) and engines that meet the United States Environmental Protection Agency (USEPA)-Certified Tier 3 emissions standards for all equipment of 50 horsepower or more. Tier 3 or higher engine standards and DPFs are capable of reducing 50 to 90 percent of diesel exhaust and particulate emissions from off-road equipment. Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet Level 3 Verified Diesel Emissions Control Strategy emissions requirements. Therefore, Level</p>	LTS

NI = No Impact, LTS = Less than Significant, PS = Potentially Significant, S = Significant, LTS/M = Less than Significant with Mitigation, SU = Significant and Unavoidable, N/A = Not Applicable

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>3 DPF would not be required for engines that meet Tier 4 Interim or Final standards.</p> <p>Prior to construction, the construction contractor(s) shall ensure that all construction plans submitted to the project developer/SMFCSD clearly show the requirement for Level 3 DPF and EPA Tier 3 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor(s) shall maintain a list of all operating equipment in use on the project site for verification by the District's Director of Facilities, Maintenance and Operations, and Transportation or designee. The construction equipment list shall state the makes, models, and number of construction equipment on-site. Equipment shall be properly serviced and maintained in accordance with manufacturer recommendations. The contractor shall ensure that all non-essential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.</p> <p>Mitigation Measure AQ-3 would reduce the project's localized construction emissions. The mitigated health risk values were calculated and are summarized in Table 4.2-8. The results indicate that, with mitigation, cancer risk and PM2.5 would be less than the BAAQMD's significance thresholds for residential receptors. Therefore, the project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions.</p> <p>Results of the HRA indicate that, with mitigation, the incremental cancer risk for off-site residents close to the site during the construction period is 6.5 per million which is below the cancer risk threshold. Likewise, PM2.5 annual concentrations would not exceed the BAAQMD significance thresholds for off-site residents. For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than 1 for off-site residents. Therefore, chronic non-carcinogenic hazards are within acceptable limits.</p>	

NI = No Impact, LTS = Less than Significant, PS = Potentially Significant, S = Significant, LTS/M = Less than Significant with Mitigation, SU = Significant and Unavoidable, N/A = Not Applicable

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
AQ-5: Implementation of the proposed project would not create or expose a substantial number of people to objectionable odors.	LTS	N/A	N/A
AQ-6: Implementation of the project would cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.	S	Implementation of Mitigation Measures AQ-2 and AQ-4 would reduce cumulative air quality impacts.	LTS
BIOLOGICAL RESOURCES			
BIO-1: The proposed Project would have a substantial adverse effect, either directly or through habitat modifications, on special-status species.	S	<p>BIO-1: Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and California Department of Fish and Game Code when in active use. This shall be accomplished by taking the following steps:</p> <ul style="list-style-type: none"> ▪ If tree removal and initial construction is proposed during the nesting season (March to August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of tree and vegetation removal or building demolition, in order to identify any active nests on the site and surrounding area within 100 feet of proposed construction. The site shall be resurveyed to confirm that no new nests have been established if vegetation removal and demolition has not been completed or if construction has been delayed or curtailed for more than 7 days during the nesting season. ▪ If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September to February), tree and vegetation removal and building construction may proceed with no restrictions. ▪ If bird nests are found, an adequate setback shall be established around the nest location and vegetation removal, building demolition, and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW, and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with 	LTS

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		temporary orange construction fencing if construction is to be initiated on the remainder of the site. A report of findings shall be prepared by the qualified biologist and submitted to SMFCSD for review and approval prior to initiation of vegetation removal, building demolition and other construction during the nesting season (March to August). The report shall either confirm absence of any active nests or shall confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if vegetation removal, building demolition, and other construction is initiated during the non-nesting season (September to February) and continues uninterrupted according to the above criteria.	
BIO-2: The proposed Project would not have a substantial adverse effect on sensitive natural communities.	LTS	N/A	N/A
BIO-3: The proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.	LTS	N/A	N/A
BIO-4: The proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LTS	N/A	N/A
BIO-5: The proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS	N/A	N/A
BIO-6: The proposed Project contribution to cumulative impacts on biological resources would be less than significant.	LTS	N/A	N/A
CULTURAL RESOURCES			
CULT-1: The proposed Project would not cause a substantial adverse change in the significance of a historical resource.	NI	N/A	N/A
CULT-2: The proposed Project would cause a substantial adverse change in the significance of an archeological	PS	CULT-2: If any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50	LTS

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
resource pursuant to CEQA Guidelines Section 15064.5.		feet of the resources shall be halted and a qualified archaeologist shall be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives from the District and the archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation. All significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the District shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out	
CULT-3: The proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.	PS	CULT-3: In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery as needed, in accordance with Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 1995), evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the Project based on the qualities that make the resource important. The excavation plan shall be submitted to the District for review and approval prior to implementation.	LTS

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TABLE 1-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
CULT-4: The proposed Project would not disturb any human remains, including those interred outside of formal cemeteries.	LTS	N/A	N/A
CULT-5: The proposed Project would cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.	PS	CULT-5: Implement Mitigation Measures CULT-2 and CULT-3.	LTS
CULT-6: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to cultural resources.	LTS	N/A	N/A
GEOLOGY AND SOILS			
GEO-1: The proposed Project would not result in substantial soil erosion or the loss of topsoil.	LTS	N/A	N/A
GEO-2: The proposed Project would result in a significant impact related to development on unstable geologic units and soils or result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse.	S	GEO-2: Prior to project construction, the project developer/SMFCSD Geotechnical Engineer shall prepare a Geohazard Report, consistent with DSA requirements IR A-4.13 and the Geohazard Report content requirements of the California Geological Survey (CGS). Construction cannot commence until the report is approved by the DSA and the associated permit issued.	LTS
GEO-3: The proposed Project would create substantial risks to property as a result of its location on expansive soil, as defined by Section 1803.5.3 of the California Building Code.	S	GEO-3: Implementation of Mitigation Measure GEO-2.	LTS
GEO-4: The proposed Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	NI	N/A	N/A
GEO-5: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to geology, soils, and seismicity.	LTS	N/A	N/A
GREENHOUSE GAS EMISSIONS			
GHG-1: Implementation of the proposed Project would directly and indirectly generate greenhouse gas (GHG)	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
emissions but would not result in an increase in community emissions from baseline conditions and, therefore, would not have a significant impact on the environment.			
GHG-2: The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	N/A	N/A
HAZARDS AND HAZARDOUS MATERIALS			
HAZ-1: The proposed Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	S	HAZ-1: A systematic plan for identifying, handling, and removing hazardous building materials for structures proposed for demolition at the Project site shall be prepared by a licensed professional and submitted to the project developer/SMFCSD prior to demolition. The plan shall follow all applicable site assessment, risk assessment, and remediation guidance documents prepared in accordance with the requirements of the California Department of Toxic Substances and Control (DTSC) for the proposed project. Under DTSC oversight, a No Further Action or letter of certification shall be obtained stating that the site does not pose a significant risk and is suitable for elementary school use.	LTS
HAZ-2: The proposed Project would not 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.	LTS	N/A	N/A
HAZ-3: The proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.	NI	N/A	N/A
HAZ-4: The proposed Project would not 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, create a significant hazard to the public or the environment.	NI	N/A	N/A
HAZ-5: The proposed Project would not be located within an airport land use plan or, where such a plan has not	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the project area.			
HAZ-6: The proposed Project would not be within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the Project area.	NI	N/A	N/A
HAZ-7: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to hazards and hazardous materials.	LTS	N/A	N/A
HYDROLOGY AND WATER QUALITY			
HYD-1: The proposed Project would not violate any water quality standards or discharge requirements.	LTS	N/A	N/A
HYD-2: The proposed Project would not 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).	LTS	N/A	N/A
HYD-3: The proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site.	LTS	N/A	N/A
HYD-4: The proposed Project would not substantially alter the existing drainage pattern of the site or area, including through 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.	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation	Significance After Mitigation	Mitigation Measures
HYD-5: The proposed Project would not 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.	LTS	N/A	
HYD-6: The proposed Project would not otherwise substantially degrade water quality.	LTS	N/A	
HYD-7: Implementation of the Plan could result in the placement of housing or other structures within the 100-year floodplain or within areas subject to sea level rise/coastal high hazard.	LTS	N/A	
HYD-8: The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a levee or dam.	LTS	N/A	
HYD-9: The proposed Project would not expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.	LTS	N/A	
HYD-10: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to hydrology and water quality.	LTS	N/A	
LAND USE AND PLANNING			
LAND-1: The proposed Project would not physically divide an established community.	LTS	N/A	
LAND-2: The proposed Project would not 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 or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	N/A	
LAND-3: The proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	NI	N/A	
LAND-4: Implementation of the proposed Project, in combination with past, present, and reasonable	LTS	N/A	

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
foreseeable projects, would result in less-than-significant cumulative impacts with respect to land use and planning.			
NOISE			
NOISE-1: Typical daytime student activities at the proposed school would create noise levels that exceed Foster City L_{max} and L_5 thresholds at sensitive receptors immediately adjacent to the project site.	S	NOISE-1: An 8-foot-tall noise reduction barrier shall be constructed along the property line between the outdoor use areas and the neighboring residences and church (see Figure 4.10-2). This entirely gap-free barrier of simple wood-construction, with a surface weight of 2.5 pounds per square foot, would reduce noise from outdoor recreational and instructional activities by 8 dBA at first floor (ground level) elevation. This would be a noticeable reduction in noise associated with students on the play area. However, as shown in Table 4.10-13, noise levels would still exceed an L_5 of 60 dBA and an L_{max} of 65 dBA at the nearest residences.	SU
NOISE-1a: Mechanical equipment that would be located on school rooftops could generate noise levels that above municipal thresholds.	PS	NOISE-1a: The project developer/SMFCSD shall demonstrate that project mechanical equipment has been designed to meet the City's noise ordinance limits. For example, at the adjacent residences, the noise ordinance limit for continuously operation equipment is 60 dBA during the daytime and 50 dBA at night.	LTS
NOISE-2: Equipment used during project construction would generate excessive groundborne vibration with severe, albeit temporary, effects on residential properties as close as 40 feet from the site of construction.	S	NOISE-2: During construction, locate machinery and tools such as a hoe ram and large bulldozers away from the sensitive receptors as practically as possible. Alternatively, if feasible, minimize the use of hoe rams by using smaller jackhammers to minimize the groundborne vibration transfer to adjacent properties. Though the aforementioned measures would provide measurable vibration reductions at the property line, construction activities would still produce vibration that exceeds 80 VdB at points along the property line nearest construction activity.	SU
NOISE-3: The proposed project would result in an increase in ambient (background or baseline) noise levels at sensitive receptors that exceeds the City of Foster City thresholds.	S	NOISE-3: Implementation of Mitigation Measure NOISE-1.	LTS
NOISE-4: Project construction could result in noise levels up to 93 dBA at residences west of the proposed playground areas.	PS	NOISE-4: In order to minimize disruption and potential annoyance during demolition and construction, the following are required: <ul style="list-style-type: none"> All equipment shall be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition and appropriate for the equipment. 	LTS

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> All equipment shall be maintained to minimize noise emissions. Stationary equipment shall be located on the site so as to maintain the greatest possible distance to the sensitive receptors. Unnecessary idling of internal combustion engines shall be strictly prohibited. Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing. The construction contractor shall provide the name and telephone number of an on-site construction liaison. In the event that construction noise is intrusive to the community, the construction liaison shall investigate the source of the noise and require that reasonable measures be implemented to correct the problem. 	
NOISE-5: The proposed Project would not result in significant and unavoidable cumulatively excessive noise levels within the city.	LTS	N/A	N/A
POPULATION AND HOUSING			
POP-1: Implementation of the proposed Project would not induce substantial unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	LTS	N/A	N/A
POP-2: Implementation of the proposed Project would not displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.	NI	N/A	N/A
POP-3: Implementation of the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	LTS	N/A	N/A
POP-4: Implementation of the proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to population and housing.	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
PUBLIC SERVICES AND RECREATION			
SVCS-1: The proposed Project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
SVCS-2: The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to fire protection services.	LTS	N/A	N/A
SVCS-3: The proposed Project would not result in the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
SVCS-4: The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to police services.	LTS	N/A	N/A
SVCS-5: The proposed Project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	NI	N/A	N/A
SVCS-6: The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to school services.	NI	N/A	N/A
SVCS-7: The proposed Project would not result in the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation		Mitigation Measures	Significance After Mitigation
SVCS-8: The proposed Project would not increase 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.	LTS	N/A		N/A
SVCS-9: The proposed Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	LTS	N/A		N/A
SVCS-10: The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to parks.	LTS	N/A		N/A
SVCS-11: The proposed Project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	NI	N/A		N/A
SVCS-12: The proposed Project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to the construction of library facilities.	NI	N/A		N/A
TRANSPORTATION AND TRAFFIC				
TRAF-1: The proposed Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	LTS	N/A		N/A
TRAF-2: The proposed Project would not conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the	LTS	N/A		N/A

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
county congestion management agency for designated roads or highways.			
TRAF-3: The proposed Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	NI	N/A	N/A
TRAF-4: The proposed Project would not substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersection) or incompatible uses (e.g. farm equipment).	LTS	N/A	N/A
TRAF-5: The proposed Project would not result in inadequate emergency access.	LTS	N/A	N/A
TRAF-6: The proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LTS	N/A	N/A
TRAF-7: The proposed Project, in combination with past, present and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation and traffic.	LTS	N/A	N/A
UTILITIES AND SERVICE SYSTEMS			
UTIL-1: The proposed Project would have sufficient water supplies available to serve the proposed Project from existing entitlements and resources, and would not require new or expanded entitlements.	LTS	N/A	N/A
UTIL-2: The proposed Project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	NI	N/A	N/A
UTIL-3: The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.	LTS	N/A	N/A
UTIL-4: Implementation of the proposed Project would not exceed wastewater treatment requirements of the	LTS	N/A	N/A

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Potential Impact	Significance Before Mitigation		Mitigation Measures	Significance After Mitigation
San Francisco Bay Regional Water Quality Control Board.				
UTIL-5: The proposed Project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	LTS	N/A		N/A
UTIL-6: The proposed Project would not result in the determination by the wastewater treatment provider, which serves or may serve the Project that it does not have adequate capacity to serve the Project’s projected demand in addition to the provider’s existing commitments.	LTS	N/A		N/A
UTIL-7: The proposed Project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.	LTS	N/A		N/A
UTIL-8: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project’s solid waste disposal needs.	LTS	N/A		N/A
UTIL-9: The proposed Project would comply with federal, State, and local statutes and regulations related to solid waste.	LTS	N/A		N/A
UTIL-10: The proposed Project, in combination with past, present, and reasonably foreseeable development, would result in less-than-significant impacts with respect to solid waste.	LTS	N/A		N/A
UTIL-11: Implementation of the proposed Project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.	LTS	N/A		N/A
UTIL-12: The proposed Project, in combination with past, present, and reasonably foreseeable development, would result in less than significant impacts with respect to energy conservation.	LTS	N/A		N/A

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1.7 SUMMARY OF PROJECT ALTERNATIVES

This Draft EIR analyzes alternatives to the proposed Project that are designed to reduce the significant environmental impacts of the proposed Project and feasibly attain most of the proposed Project objectives. There is no set methodology for comparing the alternatives or determining the environmentally superior alternative under CEQA. Identification of the environmentally superior alternative involves weighing and balancing all of the environmental resource areas by the District. The following alternatives to the proposed Project were considered and analyzed in detail:

- No Project Alternative
- Alternative Site Layout Alternative
- Reduced Future Capacity Alternative

Chapter 6, Alternatives to the Proposed Project of this Draft EIR includes a complete discussion of these alternatives and of alternatives that were rejected for various reasons.

1.7.1 NO PROJECT ALTERNATIVE

Consistent with Section 15126.6(e)(2) of the CEQA Guidelines, under the No Project Alternative, the proposed Project would not be adopted or implemented, the shopping center would not be demolished and would continue operations, subject to existing policies, regulations, development standards, and land use designations under the existing Foster City General Plan. Overcapacity at existing elementary schools in Foster City would not be addressed.

1.7.2 ALTERNATIVE SITE LAYOUT ALTERNATIVE

Under the Alternative Site Layout Alternative, the footprint of the school buildings would be rotated along the north-south axis and shifted to the west, so that the Multipurpose Building and classrooms would abut the west property line. Under this Alternative, the administration building and classrooms for future enrollment would extend away from the end of the main classroom building toward Shell Boulevard, rather than toward the western property line. As a result, the outdoor learning and recreation areas, which sit in the pocket formed by the classroom and administration buildings, would be located on the eastern, external side of the project site, between the school buildings and the circulation and parking areas. Under this Alternative, the circulation and parking areas would remain in the same locations. Potential aesthetic impacts to residences west of the site and potential security issues associated with outdoor recreation and learning areas adjacent to circulation and parking areas would need to be considered.

1.7.3 REDUCED FUTURE CAPACITY ALTERNATIVE

Under the Reduced Future Capacity Alternative, the proposed Project would not include classrooms for future enrollment included in the proposed design to accommodate future student enrollment increases in Foster City. In the current design, the future enrollment classrooms would total approximately 2,850 square feet and extend to the west from the administration building. As would be the case with the standard classrooms, they would surround an outdoor collaboration space. The classrooms would accommodate approximately 130 to 170 students. Therefore, under this Alternative, the maximum future

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capacity of the school would be 430 to 470 students rather than 600. Under this Alternative, the outdoor collaboration space associated with the classrooms for future enrollment would be integrated into the larger outdoor recreational and learning area and the restrooms in this area of the proposed project would not be developed.

2. *Introduction*

This Draft Environmental Impact Report (Draft EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) with the San Mateo-Foster City School District (SMFCSD) as the Lead Agency. This Draft EIR assesses the potential environmental consequences of implementing the New Elementary School in Foster City (“proposed Project” or “Project”) at the site of the Charter Square Shopping Center, and identifies mitigation measures and alternatives to the proposed Project that would avoid or reduce significant impacts. This Draft EIR is intended to inform decision-makers, responsible agencies, and the general public about the nature of the project’s environmental impacts.

2.1 PROPOSED PROJECT

Pursuant to State CEQA Guidelines Section 15063, the SMFCSD determined that the project could result in potentially significant environmental impacts and that an EIR would be required. The project would include a demolishing a courtyard-style shopping center built in 1977 and containing 56,000 square feet of structures, and developing an elementary school serving up to fifth grade. The school would include approximately 42,500 square feet of indoor space and have a projected enrollment of 430 to 460 students, with the capacity for 600 students. For a more detailed analysis of the project components, please refer to Chapter 3, Project Description, of this Draft EIR.

2.2 EIR SCOPE

Pursuant to State CEQA Guidelines Section 15161, this document is a “Project EIR” that analyzes potential environmental impacts that could result from the proposed Project. As a Project EIR, the environmental analysis primarily focuses on the changes in the environment that would result from the development of the project. This Project EIR examines the specific short-term impacts (construction) and long-term impacts (operation) that would occur as a result of project approval.

For a complete listing of environmental topics covered in this Draft EIR, see Chapter 4, Environmental Analysis.

2.3 IMPACTS CONSIDERED LESS THAN SIGNIFICANT

CEQA Guidelines Section 15128 allows environmental issues for which there is no likelihood of significant impacts to be “scoped out” and not analyzed further in the EIR. It was determined that several resource categories would not result in significant impacts and thus are not further analyzed in this Draft EIR. A list of the resources categories or thresholds “scoped out” is included in Chapter 6, CEQA Mandated Sections, of this Draft EIR.

INTRODUCTION

2.4 ENVIRONMENTAL REVIEW PROCESS

2.4.1 DRAFT EIR

Pursuant to State CEQA Guidelines Section 15063, SMFCSD decided to do a comprehensive EIR because of the public's interest in the project and potential environmental impacts. In compliance with Section 21080.4 of the California Public Resources Code, the SMFCSD circulated the Notice of Preparation (NOP) of an EIR for the proposed Project to the Office of Planning and Research (OPR) State Clearinghouse and interested agencies and persons on March 10, 2017 for a 30-day review period. The NOP solicited comments from identified responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR. Appendix A of this Draft EIR contains the NOP as well as the comments received by SMFCSD in response to the NOP.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period from August 2 through September 18, 2017. During the comment period, all are invited to submit written or e-mail comments on the Draft EIR to the San Mateo-Foster City School District. Written comments should be submitted to:

Carolyn Chow
Chief Business Official, San Mateo-Foster City School District
1170 Chess Drive
Foster City, CA 94404
newschool@smfcsd.net

2.4.2 FINAL EIR

Upon completion of the 45-day review period, SMFCSD will review all written comments received and prepare written responses to each comment. A Final EIR will then be prepared incorporating all of the comments received, responses to the comments, and any changes to the Draft EIR that result from the comments received. The Final EIR will then be presented to the SMFCSD Board of Trustees for potential certification as the environmental document for the proposed Project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before SMFCSD.

All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to the hearing on EIR certification. The SMFCSD Board will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The School Board may find that the mitigation measures are outside the jurisdiction of the Board or that there are no feasible mitigation measures for a given significant impact. In the latter case, the Board may nonetheless determine that the proposed Project is necessary or desirable due to specific overriding considerations.

2.4.1 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that the lead agency adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code 21081. Such a

INTRODUCTION

program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR. The Mitigation Monitoring and Reporting Plan (MMRP) for the proposed Project will be completed as part of the Final EIR.

INTRODUCTION

3. *Project Description*

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed New Elementary School in Foster City, to be located at the site of what is currently the Charter Square Shopping Center, herein referred to as the “Project” or “proposed Project” analyzed in the EIR. The Draft EIR has been completed in accordance with the California Environmental Quality Act (CEQA). CEQA requires that State and local public agencies analyze proposed Projects to determine potential impacts on the environment and disclose any such impacts.¹

This chapter provides a detailed description of the Project, including the location, setting, and characteristics of the Project site, Project objectives, principal Project features, and approximate construction schedule, as well as required permits and approvals. Additional descriptions of the environmental setting as they relate to each of the environmental issues analyzed in Chapter 4, Environmental Assessment, are included in Subchapters 4.1 through 4.14.

In accordance with Section 15367 of the CEQA Guidelines, the San Mateo-Foster City School District (SMFCSD or “District”) is the Lead Agency for the environmental review of the proposed Project, as it will serve as “the public agency which has the principal responsibility for...approving the project.”

3.1 OVERVIEW

The SMFCSD proposes to develop a new elementary school on the site of an existing 6-acre retail commercial center known as Charter Square in Foster City, California. The Project would be the District’s fourth elementary school in Foster City. It has been designed as an educational environment that supports both modern and traditional learning strategies. The proposed Project would consist of classrooms, education and administration-related indoor spaces, as well as outdoor physical education, instructional and recreational components. It would also include internal onsite surface parking and internal onsite drop-off and pick-up lanes and passing lanes. Development would involve demolition of existing on-site structures and construction of Project buildings and infrastructure.

3.2 SITE LOCATION AND CHARACTERISTICS

3.2.1 REGIONAL LOCATION

The Project site is located centrally in Foster City, a planned community in the County of San Mateo, California. Foster City is located on the San Francisco Peninsula, midway between the cities of San Francisco to the north and San José to the south. It is positioned directly on San Francisco Bay, with its

¹ CEQA Guidelines, Section 15002(a).

PROJECT DESCRIPTION

eastern boundary extending into the Bay itself and its western boundary about 1.12 miles east of Highway 101 (US-101). East-west running State Route 92 (SR 92) extends across the northern portion of the City, about 1.03 miles from the Project site. Both of these highways provide regional access to the City and Project site. The location of the site within regional and local contexts is illustrated in Figure 3-1.

3.2.2 LOCAL SETTING

The Project site is located at 1050-1064 Shell Boulevard in Foster City. The site consists of Assessor's Parcel Number (APN) 094-473-030 and encompasses a total parcel area of just over 6 acres. Local access to the Project site is provided north-south running along Shell Boulevard/Halsey Boulevard just east of the site, and east-west running along Beach Park Boulevard just south of the site.

The site falls into the City's General Plan Neighborhood 5. As can be seen in Figure 3-2, it is surrounded by residential and public/semi-public land uses. Immediately north of the site lies a neighborhood church and associated parking lot, followed by Foster City's Catamaran Public Park which hosts a soccer field and tennis courts. Multi-family housing and a second church property across Shell Boulevard parallel the majority of the eastern site boundary. Single family housing is located across Beach Park Boulevard to the south; and a large pocket of both single- and multi-family residences is located to west of the Project site. These single and multi-family units range from one to three stories in height. All are generally reflective of 1970s and 1980s suburban architecture, and consist of traditional ornamental landscaping, including turf grass, trees, and shrubs.

3.2.3 EXISTING SITE CHARACTER

Charter Square is a courtyard-style, neighborhood-serving open-air shopping center built in 1977. It is generally flat and includes seven (five connected and two free standing) wood construction, cement foundation single-story structures totaling 56,000 square feet. There are also two small kiosk structures and a playground on the northwestern quadrant of the site (see Figure 3-2). Figure 3-3 includes images of the existing site from three perspectives. It demonstrates the consistency of the height, design and aesthetic of the buildings, each with vertical siding, shingled roof overhangs, and white slat rooftops. While over 50 percent of tenant spaces are vacant, existing uses in the shopping center include a preschool/daycare center serving approximately 80-120 children, music school, restaurants, and other commercial and retail services. A branch of the United States Post Office and Postal Service in the northeast corner of the site occupies one of the seven buildings.

The existing Project site includes 250 surface parking spaces. As evident in Figure 3-2, these spaces are concentrated in lots on the northern and southern portions of the site, with a smaller group of spaces that line the eastern site boundary, along Shell Boulevard. Sidewalks on Shell Boulevard and Beach Park Boulevard establish the southern and eastern perimeter of the site. Four driveways provide access to and from the site, including three on Shell Boulevard and one on Beach Park Boulevard. The existing Project site consists of perimeter landscaping, including ornamental trees, shrubs, and patches of grass. Courtyards between the grouped buildings contain ornamental trees, bushes, and planters that also serve as benches. Medians within the parking areas also support small trees and shrubs (see Figure 3-3).

PROJECT DESCRIPTION



Source: PlaceWorks, 2016; City of Foster City; ESRI, 2015.

-  Project Site
-  Railway
-  City Limits

Figure 3-1
Regional and Local Context

PROJECT DESCRIPTION



Source: PlaceWorks, 2016. Google Earth Pro., 2016.



 Project Site

Figure 3-2
Local Context Map

PROJECT DESCRIPTION



Current view north from south side of project site.



Current view northwest from northernmost Shell Boulevard entrance.



Current View west from east side of project site.

Source: PlaceWorks, 2017.

Figure 3-3
Photographs of Existing Site

PROJECT DESCRIPTION

3.5.1 LAND USE AND ZONING

GENERAL PLAN

As noted, the Project site is assigned APN 094-473-030. The property is designated Neighborhood Commercial (NC) on the 2025 Foster City General Plan Land Use Map. Uses allowed in this designation generally include neighborhood convenience shopping centers, and, in specific cases, a mix of housing and commercial development. According to the General Plan, Charter Square and other neighborhood commercial centers are intended to “emphasize goods and services which are intended to meet the needs of the adjacent neighborhoods.”²

ZONING

The Project property is zoned to C-1/PD (Neighborhood Business/Planned Development) in the City’s Municipal Code. Permitted uses in the C-1/PD District include but are not limited to, retail stores and service establishments, administrative, professional, and business offices, and parking lots.³ Uses permitted in the C-1/PD District with a conditional use permit include but are not limited to, automotive service stations, churches and other religious institutions, and public buildings and grounds.⁴ The existing Charter Square shopping center exemplifies typical C-1/PD land use. Designated land use and zoning designations are shown in Figure 3-4.

MUNICIPAL CODE EXEMPTION

Government Code Section 53094 authorizes the board of a local school district, by two-thirds vote, to render city ordinances inapplicable to the proposed use of certain property for educational purposes. On December 8, 2016, the Board of Trustees of the San Mateo-Foster City School District took action to exempt the proposed New Elementary School for Foster City from the application of Foster City zoning ordinances and regulations. The City was formally notified of this action on December 13, 2016.

Notwithstanding the fact that the District is not bound by local zoning requirements and ordinances, this Draft EIR discloses all potentially relevant local plans, policies, and ordinances and discusses the Project’s consistency with those requirements for informational purposes, consistent with CEQA’s purpose.

3.3 PROJECT OBJECTIVES

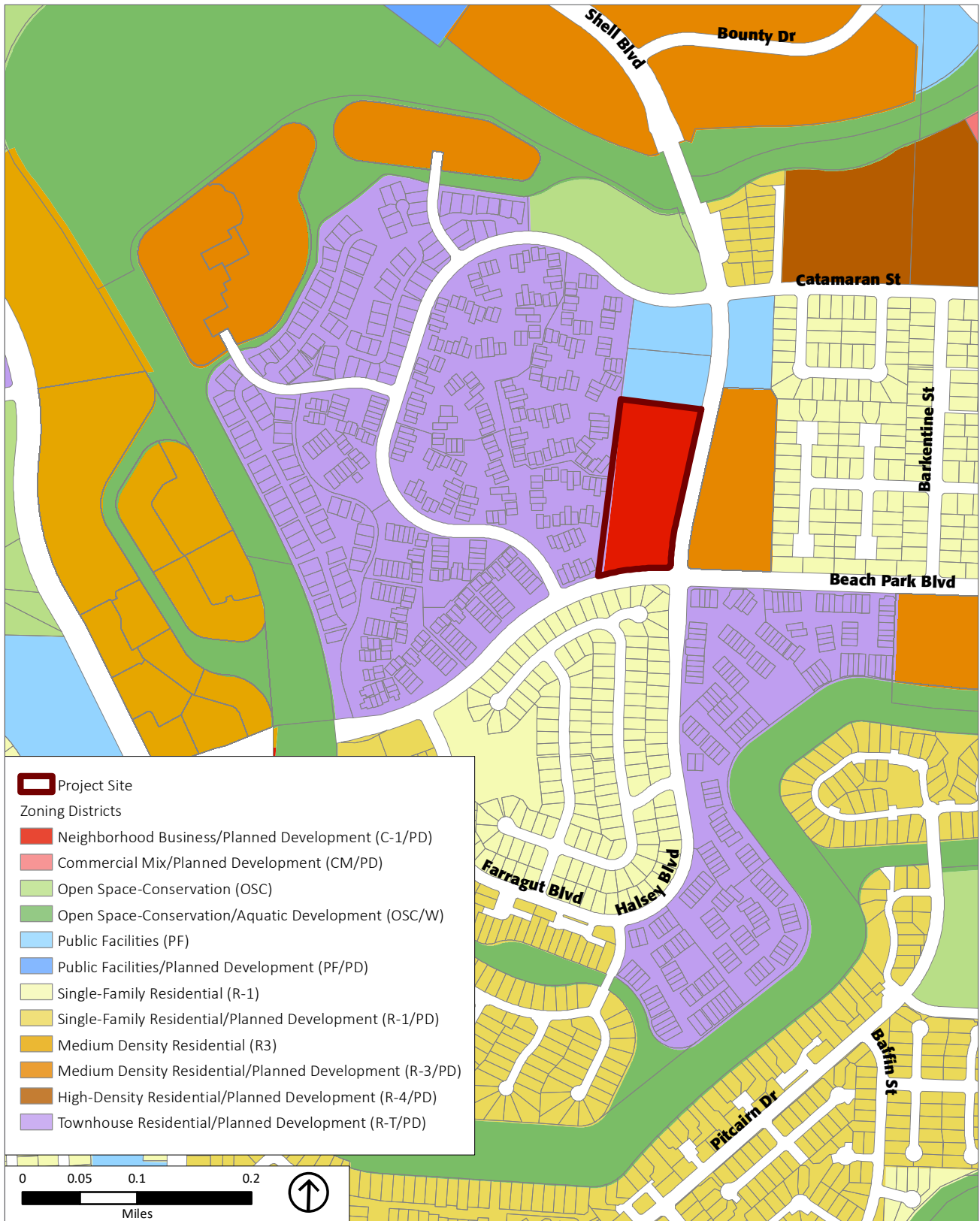
The primary objective of the proposed Project is to provide a new elementary school to serve the current and future student population in Foster City. The District has developed the following seven Project objectives that are meant to aid decision-makers in their review of the proposed Project, the alternatives to the proposed Project, and the associated environmental impacts:

² Foster City, 2016 General Plan, Chapter 3: Land use and Circulation Element. Page 3-48.

³ Foster City Municipal Code, Title 17, Chapter 17.24, Section 17.24.020

⁴ Foster City Municipal Code, Title 17, Chapter 17.24, Section 17.24.030

PROJECT DESCRIPTION



Source: ESRI, 2017; PlaceWorks, 2017.

Figure 3-4
Zoning

PROJECT DESCRIPTION

1. Address the 24 percent increase in elementary school enrollments in Foster City during the last decade by providing a fourth elementary school with an enrollment of 430 to 600 students.
2. Address the over-capacity challenges at the three existing elementary schools in Foster City by providing a fourth elementary school and reassigning students from the current schools who live in the neighborhoods near the new school.
3. Create the capacity to enroll all elementary students living in Foster City who choose to attend a public elementary school in Foster City.
4. Reduce and distribute traffic caused by existing student pick-up/drop-off at current Foster City elementary schools with a fourth elementary school.
5. Fulfill the commitment to voters, who passed Measure X, to build a fourth elementary school in Foster City, pending land acquisition.
6. Provide a fourth school in Foster City with the same high standards, instructional staff and parent involvement that make the current three elementary schools outstanding academically.
7. Be a good neighbor to adjacent neighborhoods by locating the buildings closest to the streets and minimizing neighborhood traffic impacts by providing onsite parking for staff, parents and visitors and an on-site queuing lane for student drop off and pick up.

3.5 PROJECT CHARACTERISTICS

As previously noted, the proposed Project would involve demolishing seven existing commercial structures totaling approximately 56,000 square feet and constructing a single-story elementary school that would support a maximum student body of approximately 600 students.

3.5.1 SITE PLAN

The proposed Project would be composed of three buildings that form a generally linear campus spanning Beach Park Boulevard on the south to the property line on the north, as shown in the Conceptual Site Plan (Figure 3-5). It would include approximately 42,500 square feet of built indoor area. A Multipurpose Building would be located at the northern end of the property; a large, linear classroom building would extend north-south from the Multipurpose Building; and a smaller Administration Building and an additional classroom wing would be oriented east-west off the southern end of the site. The proposed school's outdoor instruction and activity areas would be located between the western property line and the campus buildings.

The main entryway to the school would be located between the classroom and administration buildings, near the intersection of Shell Boulevard and Beach Park Boulevard.

INDOOR COMPONENTS

Table 3-1 includes a preliminary program of proposed indoor spaces and square footages. Over half of the Project's total floor space would be composed of 23 standard elementary school classrooms.

PROJECT DESCRIPTION



Source: HMC Architects, 2017.



- | | | |
|------------------------|-------------------------|----------------|
| Classroom Sloping Roof | Flat Roof -2 | Roads |
| Solar Panels | Landscape/Soft Scape | Parking |
| Side Walk | Rainwater Tank | PV Opportunity |
| Play Area | Drop-Down Barrier Gates | |

Figure 3-5
Conceptual Site Plan

PROJECT DESCRIPTION

TABLE 3-1 PROPOSED INDOOR PROGRAM FRAMEWORK

Room Type	Square Feet
Multipurpose Building	
Multipurpose Room	3,200
Stage Area	800
Storage	400
Restrooms	250
Warming Kitchen	600
Janitorial	200
Various	200
Total	5,750
Classrooms	
Standard Classrooms (15)	13,440
Kindergarten Classrooms (3)	4,050
Annex Classroom and Afterschool Care Program classroom	1,920
Classrooms for Future Enrollment (4)	2,850
Total	23,250
Indoor Collaboration Spaces	
Shared Spaces (3)	3,600
Total	3,600
Library/Learning Center	
Library/Learning Center	1,900
Tech/Maker Lab	480
Circulation/Electrical	357
Total	2,737
Administration Building	
Reception/Lobby/Workstations	600
Faculty Work Room	250
Staff Lounge	550
Principal's Office	185
Conference Room	280
Admin. Staff Workroom	250
Health Clinic	100
Restrooms (2)	160
Janitorial	50

PROJECT DESCRIPTION

TABLE 3-1 PROPOSED INDOOR PROGRAM FRAMEWORK

Room Type	Square Feet
Circulation/Electrical	356
Total	2,731
Support Rooms/Areas	
RSP Classroom	480
Speech Room	240
Reading Specialist Room	240
Second Conference Room	150
Staff Restroom (4)	320
Student Restroom (8)	1,600
Storage/Flex/Janitorial	530
Circulation/Electrical	534
Total	4,094
Total Built Area	42,162

Source: SMFCSD, 2017; HMC Architects, 2017.

The 5,350-square-foot Multipurpose Building at the north end of campus would be composed primarily of a 3,200-square-foot space for school gatherings, instruction involving large groups of students and lunch distribution. The building would also include storage and food-warming areas. A covered outdoor lunch area would be adjacent the western side of the building.

Immediately south of the Multipurpose Building, the main campus building would extend north-south for the majority of the length of the property. This classroom building would contain the most campus indoor space, and would include 18 of the proposed school's 23 standard classrooms. As is evident in Figure 3-5, Conceptual Site Plan, the classroom layout strategy in this building is designed around three learning "clusters," each composed of a group of classrooms surrounding indoor collaborative/informal learning areas and covered outdoor collaborative learning areas. The building would also include three kindergarten classrooms and prep rooms totaling 4,050 square feet; the school's speech and reading specialist rooms; and a 2,380-square-foot Library/Learning Center composed mainly of a 1,900-square foot Library/Library Center and Tinker/Maker area.

Finally, the proposed administration building would contain the school's reception and lobby space, administration offices, a health clinic and staff support areas, a classroom for the Children's Annex Program (Before and After School Care) and the four classrooms. The four classrooms would be designated for future increases in school enrollment to provide for a maximum enrollment of up to 600 students. This building would total approximately 7,500 square feet.

PROJECT DESCRIPTION

OUTDOOR COMPONENTS

The Project's non-circulation related outdoor space would include instructional and recreational areas of various size and type. As previously noted and evident on Figure 3-4, these outdoor areas would be located internally on the site, to the west of the main campus building. The majority of the outdoor space would be hardscaped, with active play structures and basketball courts located to the far north, adjacent to the existing church's parking lot and immediately west of the proposed Multipurpose Building. Smaller play features, such as tetherball, hopscotch and foursquare courts would extend north-south along the length of the main classroom building. A kindergarten play area would be positioned at the southern end of the outdoor space, immediately west of the kindergarten classrooms. Finally, each of four shared outdoor collaborative spaces would be located immediately adjacent to the western side of the main classroom building (3) and north of the classroom wing that borders Beach Park Boulevard (1).

Lastly, there would be a natural turf area bounded to the north, south and east by hardscape areas described above, and to the west by the boundary of the Project site. The turf area is not intended for and would not be striped for soccer or league sports uses.

SITE CIRCULATION AND PARKING

The proposed Project was designed to minimize traffic-related impacts on both Shell and Beach Park Boulevards and the neighborhoods immediately surrounding the site. As shown in Figure 3-4, the school would be accessible by automobile via four entryways: One driveway from Beach Park Boulevard at the southwest corner of the site would allow both entry and exit, although outbound traffic would be restricted to right-turns only during the peak hours, as recommended by Hexagon Traffic Consultants, Inc., the SMFCSD's traffic consultant. Two driveways along Shell Boulevard would be for entry only, and a third driveway along Shell Boulevard would be for exit only.

All three entry driveways would guide drivers to parking and passing lanes that would provide access to four individual internal parking areas for staff, parents and visitors, totaling approximately 75 parking spaces. These parking areas would be located on the perimeter of the Project site. For drivers picking up or dropping off students, these entryways would also lead to one-way passing and drop-off lanes. Those entering the site via one of the two entry-only driveways on Shell Boulevard would rerouted to the exit-only driveway on Shell Boulevard, while those entering the site via the two-way Beach Park Boulevard driveway would be routed back to the same driveway (see Figure 3-5). This design, with multiple ingress/egress points and separated, one-way internal lanes designated for queuing, passing or pickup/drop-off, was developed to ensure coherent traffic flow and prevent queuing on Shell and Beach Park Boulevards.

Pedestrian access to the site would be provided at three locations. A pedestrian walkway from the Shell Boulevard sidewalk that would connect Shell Boulevard main entryway of the school, a pedestrian entry gate just north of the Multipurpose Building, and a pedestrian entry associated with the emergency access road from Beach Park Boulevard. The latter two would be restricted to before and after school hours for students that walk or bike. Finally, the SMFCSD's traffic consultant recommended that a new crosswalk across Catamaran Street, at its intersection with Beach Park Boulevard, would improve the overall network of sidewalks and crosswalks in the study area, improving safety and connectivity to the school.

PROJECT DESCRIPTION

To further promote consistent internal traffic flow and reduce external site queuing, the Project would include a program of staff and volunteer traffic direction. Participants would ensure that parents pull vehicles as far forward as possible, drop-off or pick-up students in the correct lane, and do not leave vehicles unattended in drop-off/pick-up or passing lanes. Staff or volunteers would also direct parents to load/unload students in a timely manner and then exit the loading zone using the passing lane. This program was also recommended by Hexagon.

The District would monitor traffic and circulation following the start of the first school year to make adjustments, as needed, to all circulation plan and programs.

LANDSCAPING

The proposed landscape plan was developed to respect the existing streetscape and support outdoor play and learning opportunities. As shown in Figure 3-6, Landscape Zones, the central features of the landscape plan would be:

- The addition of a green buffer along the north and west sides off the site.
- Maintenance of as much as possible the existing plantings and trees along Shell and Beach Park Boulevards.
- Landscaped “learning nodes” at the outdoor areas of each classroom cluster.

Figure 3-7 includes a rendering of the developed landscape plan, and illustrates the locations of various trees, greenery and features. It shows that existing or new trees would be located at all four existing auto driveways to the school. Examples of proposed tree species include *Acer Palmatum* (Japanese Maple), *Ginkgo Biloba* (Ginkgo) and *Sequoia Sempervirens* (Coast Redwood).

The external sides of the school’s buildings, facing Shell Boulevard and Beach Park Boulevard, would be lined with a pervious buffer containing various drought resistant native plant species, such as *Leymus Condensatus* (Canyon Prince) *Muhlenbergia Rigens* (Deer Grass) and *Salvia Apiana* (White Sage). Groups of trees would also be located in this buffer, concentrated near the recessed pockets of the classroom building formed by the building’s design (see Figure 3-7). Pervious swales would be located on the western sides of the main classroom building, and at the entrance to the school. The medians separating proposed parking and passing lanes would also be landscaped.

The covered outdoor area of the school’s administration area would be dominated by an area of pervious paving accented by a raised berm and water cistern, surrounded by pervious gabion seat walls.

Finally, the school collaborative outdoor “learning nodes” described in the *Outdoor Components* section above, would be ringed by various shade and fruit trees and edged by pervious swales, with elements such as student art walls, sundials, and benches. Figure 3-7 shows that these areas of landscaping would separate these spaces from the more active outdoor play areas immediately to the west.

PROJECT DESCRIPTION



Source: HMC Architects, 2017.

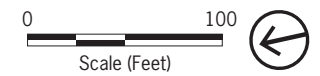


Figure 3-6
Landscape Zones

PROJECT DESCRIPTION



Source: HMC Architects, 2017.

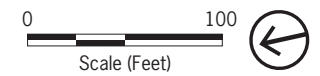


Figure 3-7
Landscape Rendering

PROJECT DESCRIPTION

LIGHTING

The new school would include 3 or 4 District standard exterior lighting types which will include parking lot LED lights on 12- to 14-foot poles to provide a minimum of 1 foot-candle per square foot. These would meet both District and City standards of illumination for parking lots. Additional walkway lighting would be provided by either LED down lighting hung from walkway canopies and shaded courtyards at the center of each classroom “cluster,” or up/down LED wall architectural wall sconces at “feature” areas such as the main campus archway entry. Also, LED wall-pack units will be provided for back of house areas such as trash enclosure, Multipurpose Room building receiving, or the walkway between the Multipurpose Room building and the northerly classroom “cluster.” Finally, there is no turf area lighting intended for the campus as it would be an elementary school without a formal District sports program and there is an existing residential community immediately adjacent to the Project site.

3.5.2 MASSING AND FORM

The site plan and Project design were developed to complement the mass and scale of surrounding structures in the area. Landscaping and pedestrian access would be emphasized throughout the Project. The Project design achieves a “human” scale that would be in keeping with the surrounding neighborhoods and institutional buildings, yet with an updated, contemporary appearance.

Project renderings in Figures 3-8 and 3-9 provide four perspectives of the proposed school: The main entrance (Figure 3-8), the Multipurpose Building and classrooms (Figure 3-8), the classrooms for the Annex and future enrollment (Figure 3-9), and classrooms viewed from within the school yard (Figure 3-9). The dominant design feature of the Project is the horizontal nesting of the single-story classrooms. This results in a series of stepped, in-and-out rooftops and articulated façades highlighted most clearly in Figure 3-8. The proposed Administration Building and Multipurpose Building, are consistent with the height of the main classroom building, but have a more traditional massing and rooftop design that would “bookend” the school’s more articulated learning spaces.

HEIGHT

Project elevations are illustrated in Figure 3-10 through Figure 3-13. As noted, the proposed Project would be a single story elementary school. Although the nested classroom design described above would result in varied building heights, the tallest point of any of the proposed buildings would be the peak of the roof of the Multipurpose Building, at 22 feet 2 inches above grade. The maximum height of the main classroom clusters would be 19 feet 6 inches. The maximum height of the administration building would be the mechanical screen atop the adjacent classroom wing at 19 feet above grade.

PROJECT DESCRIPTION



Proposed Multipurpose Building and Classrooms.



Proposed School Entrance and Administration Building.

Source: HMC Architects, 2017.

Figure 3-8
Project Renderings: Multipurpose and Administration Buildings

PROJECT DESCRIPTION



Proposed Classrooms for Future Enrollment.



Proposed Outdoor Area and Classrooms.

Source: HMC Architects, 2017.

Figure 3-9
Project Renderings: Classrooms and Outdoor Area

PROJECT DESCRIPTION



Source: HMC Architects, 2017.

0 32
Scale (Feet)

Figure 3-10
North Elevation

PROJECT DESCRIPTION



Source: HMC Architects, 2017.

0 32
Scale (Feet)

Figure 3-11
South Elevation

PROJECT DESCRIPTION



Figure 3-12
East Elevation

PROJECT DESCRIPTION



Source: HMC Architects, 2017.

0 64
Scale (Feet)

Figure 3-13
West Elevation

PROJECT DESCRIPTION

3.12.1 SUSTAINABLE FEATURES

Long-term sustainability and energy efficiency strategies are integrated into the design of the proposed Project.

NATURAL DAYLIGHTING

The proposed design of the school maximizes natural light. As illustrated by classroom rendered in Figure 3-8, the nesting of spaces increases vertical wall area of each classroom. Each classroom would have windows on two walls: Vision windows on the east or west walls and north facing clerestory windows. This design results in the capture of maximum natural light, ideal for teaching and learning. In addition, interior light shelves and exterior shading would be employed to minimize glare and cut excess solar radiation by distributing the sun's solar energy. Operable windows would allow the school to take advantage of the area's mild climate and natural ventilation.

WATER CONSERVATION

As explained in the *Landscaping* section above, bioswales, pervious paving and green buffers throughout the site would decrease runoff and support surface percolation. Landscaping would primarily be native, low maintenance and low-water plants. The Project would also rely on rainwater collection tanks that would reduce rainwater runoff, and provide water for on-site planting beds and landscape maintenance.

3.12.2 GEOLOGY-ADAPTIVE ENGINEERING

The Project site is in an area of widespread artificial fill resulting from the infilling of tidal marsh, a process necessary for the planned development of Foster City. As is the case in areas throughout the City, the artificial fill is underlain by natural deposits of clay known as Bay Mud. The upper "crust" of Bay Mud is stiff, and only moderately compressible. However, this stiff layer is underlain by 33 to 37 feet of very soft, highly compressible clay that could experience varying levels settlement across the Project site⁵ (see Chapter 4.8, Hydrology and Water Quality).

The Project would respond to these settlement conditions with a stabilizing foundation design. The weight of proposed structures would be differentially distributed to account for varying rates of settlement. This would be accomplished through varying depths and quantities of fill, as well the strategic use of lightweight fill material in areas where needed. These features would ensure even, safe soil settlement over the life of the proposed school.

3.12.3 STORMWATER AND UTILITIES

The proposed Project would use existing connections to water and sanitary sewer infrastructure. It would include energy and water conservation features such as low flow fixtures, and high-efficiency heating, ventilation, and air conditioning (HVAC) units. A preliminary Stormwater Control Plan has been developed

⁵ Cornerstone Earth Group, July, 2016. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School. Page 13.

PROJECT DESCRIPTION

that divides the site into 13 drainage management areas (DMA) that drain to seven bioretention areas prior to discharge into the City's storm drain system. In addition, bioswales and permeable pavers would be installed at strategic locations throughout the Project site for storm drain management on-site. The preliminary Stormwater Control Plan is shown on Figure 3-14 and the preliminary Utilities Plan is shown on Figure 3-15.

3.5 CONSTRUCTION PHASING

The Division of the State Architect (DSA) and California Department of Education (CDE) will review the school site plans over a period 5-7 months, from November 2017 to April 2018. Concurrent with and following this review phase, Project construction would progress as follows for completion before the start of the 2019-2020 school year:

1. Site Demolition: 8 weeks, March 1st to April 31st, 2018
2. Final Construction Pricing: 4 weeks, May 1st to June 1st, 2018
3. School Construction: 13 months, June 1st 2018 to July 1st 2019
4. Beneficial Occupancy: June 1st 2019

3.6 INTENDED USES OF THIS EIR

This Project-level EIR is intended to review the potential, specific environmental impacts associated with the adoption and implementation of the proposed Project, determine corresponding mitigation measures, as necessary, and facilitate public disclosure and review of those impacts and potential mitigation measures.

3.7 REQUIRED PERMITS AND APPROVALS

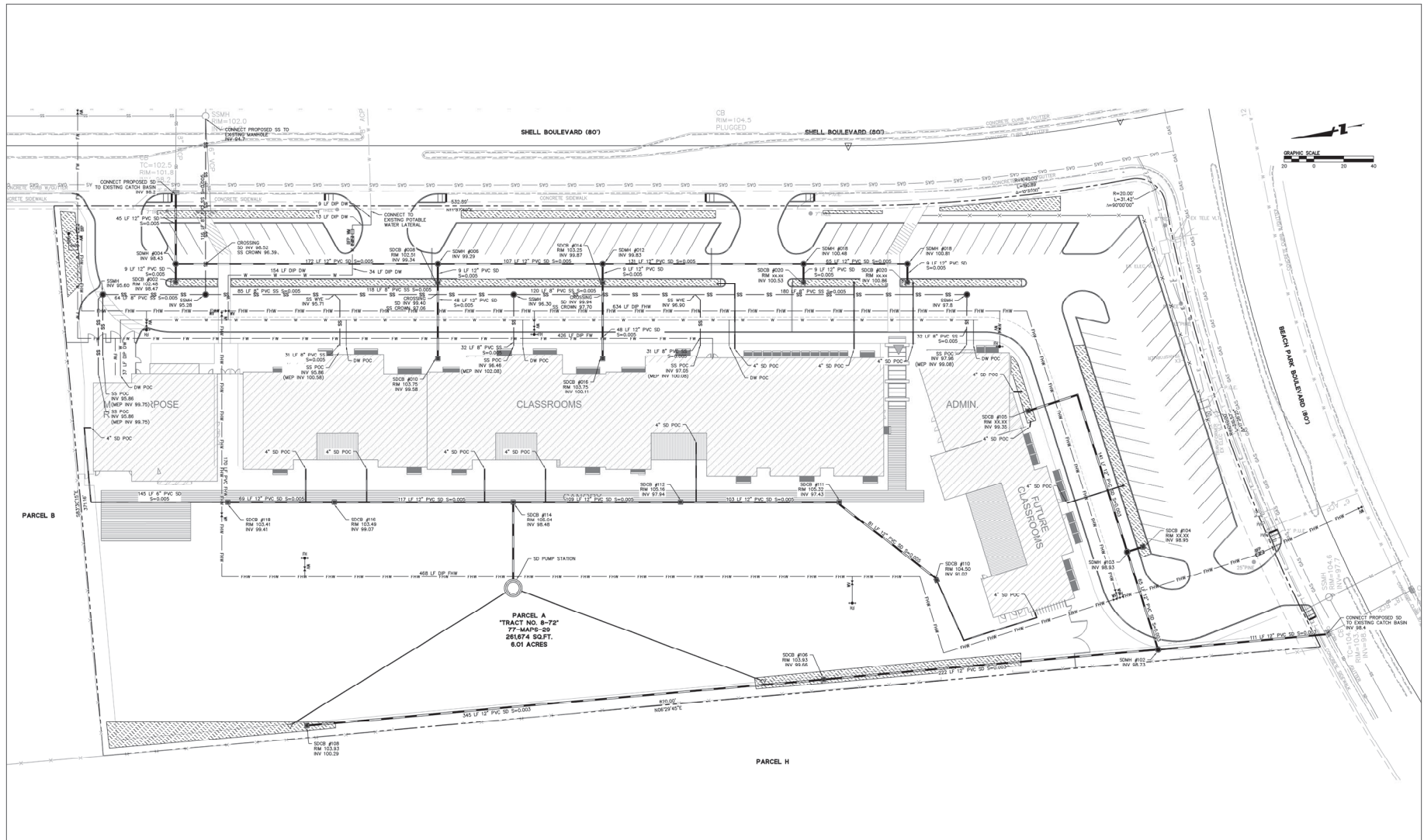
The proposed Project will require approval and EIR certification by the San Mateo-Foster City School District Board of Trustees. In order for the Project to proceed, it will also require the approval of the State of California Division of the State Architect (DSA), the entity which reviews plans for public school construction and other State-funded building Projects to ensure that specifications and construction comply with California's building codes (Title 24 of the California Code of Regulations). The State of California Division of Toxic Substances Control (DTSC), which provides site clearance related to potentially hazardous substances will also need to approve the Project.

The Project may also require an encroachment permit from Foster City for potential work within the public right-of-way, and approvals from the San Francisco Regional Water Quality Control Board for permits related to water quality.



Figure 3-14
Stormwater Control Plan

PROJECT DESCRIPTION



Source: HMC Architects, 2017.



Figure 3-15
Utilities Plan

4. *Environmental Analysis*

This chapter of the Draft EIR is made up of 15 sub-chapters. This introduction describes the organization of the Draft EIR and the assumptions and methodology of the cumulative impact analysis. The remaining 14 sub-chapters evaluate the direct, indirect, and cumulative environmental impacts of the proposed Project.

In accordance with Appendix F, Energy Conservation, and Appendix G, Environmental Checklist, of the CEQA Guidelines, as amended per Assembly Bill 52 (Tribal Cultural Resources) and the California Supreme Court in a December 2015 opinion [California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD), 62 Cal. 4th 369 (No. S 213478)], the potential environmental effects of the proposed Project are analyzed for potential significant impacts in the following 14 environmental issue areas, which are organized with the listed abbreviations:

- Aesthetics (AES)
- Air Quality (AQ)
- Biological Resources (BIO)
- Cultural and Tribal Cultural Resources (CULT)
- Geology and Soils (GEO)
- Greenhouse Gas Emissions (GHG)
- Hazards and Hazardous Materials (HAZ)
- Hydrology and Water Quality (HYDRO)
- Land Use and Planning (LU)
- Noise (NOISE)
- Population and Housing (POP)
- Public Services and Recreation (PS)
- Transportation and Traffic (TRANS)
- Utilities and Service Systems (UTIL)

Due to the past and current uses of the Project site, no environmental impacts associated with agricultural and forestry resources and mineral resources are expected to occur as a result of the proposed Project. These resource topics will not be addressed further in the Draft EIR.

Each subchapter is organized into the following sections:

- **Environmental Setting** offers a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed Project can be compared, and an overview of federal, State, regional, and local laws and regulations relevant to each environmental issue.
- **Thresholds of Significance** refer to the quantitative or qualitative standards, performance levels, or criteria used to evaluate the existing setting with and without the proposed Project to determine whether the impact is significant. These thresholds are based primarily on the CEQA Guidelines and

ENVIRONMENTAL ANALYSIS

also may reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.

- **Impact Discussion** gives an overview of the potential impacts of the proposed Project and explains why impacts are found to be significant or less than significant prior to mitigation. This subsection also includes a discussion of cumulative impacts related to the proposed Project. Impacts and mitigation measures are numbered consecutively within each topical analysis and begin with an acronym or abbreviated reference to the impact section.

THRESHOLDS OF SIGNIFICANCE

As noted above, significance criteria are identified before the impact discussion subsection, under the subsection, “Thresholds of Significance.” For each impact identified, a level of significance is determined using the following classifications:

- *Significant (S)* impacts include a description of the circumstances where an established or defined threshold would be exceeded.
- *Less-than-significant (LTS)* impacts include effects that are noticeable, but do not exceed established or defined thresholds, or can be mitigated below such thresholds.
- *No impact (NI)* describes circumstances where there is no adverse effect on the environment.

For each impact identified as being significant, the Draft EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If one or more mitigation measure(s) would reduce the impact to a less-than-significant level successfully, this is stated in the Draft EIR. *Significant and unavoidable (SU)* impacts are described where mitigation measures would not diminish these effects to less-than-significant levels. The identification of a Project-level significant and unavoidable impact does not preclude the finding of less-than-significant impacts for subsequent Projects that comply with the applicable regulations and meet applicable thresholds of significance.

ASSUMPTIONS AND METHODOLOGY REGARDING CUMULATIVE IMPACTS

A cumulative impact consists of an impact created as a result of the combination of the Project evaluated in the EIR, together with other reasonably foreseeable Projects causing related impacts. Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a Project when the Project’s incremental effect is “cumulatively considerable.”

Where the incremental effect of a Project is not “cumulatively considerable,” a Lead Agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. Where the cumulative impact caused by the Project’s incremental effect and the effects of the other Projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant.

ENVIRONMENTAL ANALYSIS

The cumulative discussions in Chapters 4.1 through 4.15 of this Draft EIR explain the geographic scope of the area affected by each cumulative effect (e.g., immediate Project vicinity, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing macro-scale air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions are the best tool for determining the cumulative impact. In assessing aesthetic impacts, on the other hand, only development within the localized area of change would contribute to a cumulative visual effect since the area of change is only visible within the vicinity of that area.

The CEQA Guidelines provide two approaches to analyzing cumulative impacts. The first is the “list approach,” which requires a listing of past, present, and reasonably anticipated future Projects producing related or cumulative impacts. The second is the projections-based approach wherein the relevant growth projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions are summarized. A reasonable combination of the two approaches may also be used.

The cumulative impact analysis in this Draft EIR relies on a combination of the two permissible approaches, with the applicable list of Projects shown in Table 4-1. The cumulative analysis discussions contained in Chapters 4.1 through 4.14 include a discussion of the growth projections and references to specific projects as relevant to the impact analysis as of July 2017.

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TABLE 4-1 CUMULATIVE PROJECT LIST

Project Address	Project Name	Description
Approved Residential Projects		
550 Foster City Blvd.	Triton Pointe	166 new housing units
1166 Triton Drive	Pilgrim Triton Phase B	240 new housing units
1166 Triton Drive	Pilgrim Triton Phase C	17 new housing units
790 Alma Lane	Foster Square/MidPen	66 new housing units
Foster Square Ln/Eppleton Ln.	Foster Square Project	397 new housing units
900 Edgewater Blvd	Harbor Cove	80 new housing units
Total Approved Housing Units		966 units
Pending Residential Projects		
605-1021 Catamaran	Beach Cove Apartments Renovation/Intensification	Potential 239 new housing units, per City of Foster City 2015-2023 Housing Element
888 Foster City Blvd	Franciscan Apartments Renovation/Intensification	Potential 104 new housing units, per City of Foster City 2015-2023 Housing Element
1019-1088 Foster City Blvd	Shadow Cove Apartments Renovation/Intensification	Potential 113 new housing units, per City of Foster City 2015-2023 Housing Element
Total Pending Housing Units		456 units
Approved Non-Residential		
309 Velocity Way	Gilead Sciences	314,524 SF office building
355 Lakeside Drive	Gilead Sciences	215,318 SF laboratory
357 Lakeside Drive	Gilead Sciences	New 231,000 SF laboratory building on Gilead Sciences Corporate Campus in Village Park
200,200,500 Lincoln Centre Drive	Lincoln Center Life Sciences Research Campus	595,000 square foot biomedical and life sciences research facility
324 Lakeside Drive	Gilead Sciences	357,000 SF laboratory building on Gilead Sciences Corporate Campus in Village Park
1159-1191, 1155-1157 Chess Drive	Chess-Hatch Phases 1a, 1b, 2	800,000 SF new office, total
551-565 Pilgrim Drive	Pilgrim Triton Phase C	172,000 square feet of office/ground floor commercial.
Pending Non-Residential		
Beach Park Blvd at Swordfish Street	Marina Center	20,500 SF commercial and 160 housing units on 62 acres of undeveloped land

Source: City of Foster City, 2017.

4.1 AESTHETICS

This Subchapter describes the regulatory framework and existing conditions in the City of Foster City, and related to the proposed Project, and evaluates the potential impacts to aesthetics and visual resources associated with the proposed Project. Visual resources are the natural and cultural features of the landscape that contribute to the public's enjoyment of the visual environment. The Project's consistency with Foster City General Plan policies relevant to aesthetics is also considered.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations and programs related to aesthetics at the Project site. There are no specific federal regulations applicable to aesthetics.

State Regulations

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission and is updated every three years. The most current version went into effect in January 2017. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction.

California Department of Transportation – California Scenic Highway Program

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality which contains striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view. The California Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, and the State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

The status of a proposed State scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway. According to the California Scenic Highway Mapping System, administered by Caltrans, there are no officially designated scenic highways or scenic corridors in Foster City.

AESTHETICS

Local Regulations

General Plan

Goals and Policies

The Land use and Circulation Element of The Foster City General Plan contains the following goals and policies related to visual and aesthetic resources.

- **Goal LUC-A: Preserve the Quality of the City's Residential Neighborhoods:** Preserve and strengthen the identity and qualities of Foster City's residential neighborhoods and assure that: all new development, renovation or remodeling are harmoniously designed and operated to integrate with the existing neighborhood; noise, traffic and other conflicts between residential and non-residential land uses are eliminated or minimized to the extent possible; each residential neighborhood has access to a developed park or parklike recreational area within walking distance to most residents, and that park facilities are well maintained, diverse and adequate to meet the needs of residents and; maintain availability of commercial and retail services.
 - **Policy LUC-A-2: Preservation of Views:** The City will use the design review process to balance the ability of the property owner to improve/expand their property with the desire of the owners of neighboring Bayfront or waterfront houses to continue to enjoy views of the San Francisco Bay or the Foster City Lagoon.
 - **Policy LUC-A-3: Code Enforcement and Property Maintenance:** Continue to implement a neighborhood preservation program consisting of a code enforcement strategy for all neighborhoods and a design review strategy for new developments or property improvements monitored and enforced through property maintenance requirements.
- **Goal LUC-B: Promote Proper Site Planning, Architectural Design and Property Maintenance:** Ensure high quality site planning and architectural design for all new development, renovation or remodeling and require property maintenance to maintain the long-term health, safety, appearance and welfare of the community.
 - **Policy LUC-B-1: City Approach to Design (Architectural) Review:** The City will establish a continuing program of civic beautification, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment in order that neighborhood areas appear attractive both within and without. The city will use a design review process (called Architectural Review) whereby the design of most public and private development proposals, including those for individual residences, are subject to review and approval by the City. The primary objective of this review is to preserve the character of the neighborhood and community regarding appropriate and acceptable design for property improvements. Design review shall address, among other things:
 - Preservation of the architectural character and scale of neighborhoods
 - That the development is well designed, in and of itself, and in relation to surrounding properties
 - Preservation of waterfront views
 - Minimizing impacts on the privacy and access to sunlight of adjacent properties
 - Minimizing impacts due to excessive noise or undue glare

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- Screening of unsightly uses including trash, loading, docks/areas, roof top equipment, and special ventilation systems
 - Use of setbacks, open space and landscaping
 - Exterior colors and materials
- **Goal LUC-C: Maintain a Variety of Land Uses:** Maintain land designated for a variety of residential, commercial, light industrial, recreational and public institutional purposes which provide a mix of housing types, densities, and tenure, ensure that a variety of commercial and industrial goods, services, and employment opportunities are available in Foster City, offer a range of recreational and public facilities to meet the needs of Foster City residents, and maintain availability of commercial and retail services.

Foster City Zoning Ordinance

Title 17, Zoning, of the City's Municipal Code establishes the City's zoning standards for future development. It establishes densities, height allowances, setbacks, and architectural design requirements for future development.

Chapter 17.58- Architectural Control and Supervision

It is the intent of the City Council to protect the health, safety, and general welfare of the city by maintaining the high standards of architectural design that have distinguished Foster City. This chapter establishes procedures and criteria for review of proposed structures, buildings, and improvements to real property and modifications to such which are necessary in order to meet the following objectives:

- Preserve architecture character and scale of the neighborhoods and community;
- To assure that development is well designed, in and of itself and in relation to surrounding properties, including that the height, facade length, roof form, colors, materials, and architectural details of a proposed building should be compatible with the height, facade length, roof form, colors, materials, and architectural details of buildings in the immediate vicinity;
- To prevent the erection of structures, additions or alterations or other property improvements which significantly impact the privacy of adjacent properties; cause a significant diminution of sunlight to the interior of an adjacent building or to the exterior of adjacent properties; cause undue glare or noise impacts to adjacent properties; and significantly block or limit existing views from the interior and exterior of adjacent properties, and that individual rights are weighed against the needs and requirements of the community;
- To assure that developments enhance their sites and are harmonious with the highest standards of improvements in the surrounding area;
- To promote and protect the health, safety and general welfare of the city;
- To preserve views of and from the lagoons and waterways which provide a visual connecting link for adjacent lots and developments;
- To enhance the residential and business property values within the city and in neighborhoods surrounding new or modified development;

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- To assure that each new development is designed to best comply with the intent and purpose of the zone in which the property is located and with the general plan of the city;
- To encourage the maintenance, repair, replacement or improvement of surrounding properties. (Ord. 371 Section 24 (part), 1989).

Chapter 17.68- General Performance Standards

Section 17.68.090, Glare, states that no direct or reflected glare, whether produced by floodlight, high-temperature processes such as combustion or welding, or other processes, so as to be visible from any boundary line of property on which the same is produced, shall be permitted. Sky reflected glare from buildings or portions thereof shall be so controlled by such reasonable means as are practical to the end that the sky-reflected glare will not inconvenience or annoy persons or interfere with the use and enjoyment of property in and about the area where it occurs.

4.1.1.2 EXISTING CONDITIONS

This section describes the existing visual character of the Project site and the area in the vicinity of the site, as well as the scenic resources present in the surrounding area.

Visual Character

The Project site is located in a built-out urbanized setting, at the intersection of Beach Park Boulevard and Shell Boulevard in the City of Foster City. Prominent visual features of the regional landscape are described below along with the visual and aesthetic character of the Project site. An aerial view of the Project site and surrounding land uses is shown on Figure 3-2 in Chapter 3, Project Description, of this Draft Environmental Impact Report (EIR).

Visual Features of the Project Site

The topography of the site is generally flat at approximately 3 to 6 feet above mean sea level (amsl). As described in Chapter 3, Project Description, of this Draft EIR, the Project's area is just over 6 acres. The Project site currently includes seven (five connected and two free standing) aging, wood construction, cement foundation single-story structures. There are also two small kiosk structures and a playground on the northwestern quadrant of the site. As noted in Chapter 3, existing buildings are consistent in height, design and aesthetics, each with vertical siding, shingled roof overhangs, and white slat rooftops. The existing Project site includes 250 parking spaces. In addition, the existing site consists of perimeter landscaping including ornamental trees, shrubs, and patches of grass. Courtyards between the grouped buildings contain ornamental trees, shrubs, and planters that also serve as benches. Medians within the parking lot support small trees and shrubs.

Visual Features of the Areas Surrounding the Project Site

Due to the flat topography of the Project site and surrounding area, long range or panoramic views, which are more readily available in areas with sloping topography, are limited from the Project site. As described in Chapter 3, Project Description, of this EIR, the visual setting surrounding the Project site to the north

includes a neighborhood church and associated parking lot, followed by the City-owned Catamaran Public Park, which includes a soccer field and tennis court. Multi-family housing located across Shell Boulevard parallels the majority of the eastern site boundary, as well as a second church property. Single-family housing comprises the area across Beach Park Boulevard to the south; and a large pocket of both single and multi-family residences is located to the west of the Project site. These single and multi-family units range from one to three stories in height, and urban landscaping features include a variety of shrubs and grass.

Scenic Corridors and Vistas

Scenic corridors are defined as an enclosed area of landscape, viewed as a single entity that includes the total field of vision visible from a specific point, or a series of points along a linear transportation route. Public view corridors are areas in which short-range, medium-range, and long-range views are available from publicly accessible viewpoints, such as from City streets. Scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space lands, mountain ridges, bay, or ocean views).

The Foster City General Plan recognizes the scenic qualities of the natural features that surround the city, including the San Francisco Bay to the west of the Project site, Belmont Slough to the south of the Project site, the Marina Lagoon to the northeast of the Project site, the Foster City Lagoon, and the Vintage Park Lake located to the northeast of the Project site. These are described below:

San Francisco Bay is the primary source of water for most of the waterways within Foster City and constitutes the north and northeastern boundaries of the city. Uses of Lower San Francisco Bay water include navigation, active water recreation, passive water recreation, ocean commercial and sport fishing, wildlife habitat, preservation of rare endangered species, fish migration, and shellfish harvesting and estuarine habitat. Beach Park Boulevard and East Third Avenue provide the primary public views of San Francisco Bay.¹ Beach Park Boulevard is located just south of the Project site and runs east-west until it hits Foster City Boulevard where it runs north-south along the way. East Third Avenue is located northeast of the Project site and runs east-west along the Bay.

Belmont Slough is located at the southeastern boundary of the city and continues to Redwood City. The Slough provides a flushing action to the Foster City Lagoon, controls water levels in the Marina Lagoon and it provides a natural wildlife refuge as a result of its tidal action, mudflats and vegetation.

The Marina Lagoon is an important visual and recreational amenity because it provides frontage along the water for the western boundary of the City along Port Royal Avenue,² which is located southeast of the Project site. East Hillsdale Boulevard, located north of the Project site, provides the best views of the Marina Lagoon in the city.

¹ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.12, (Visual and Aesthetic Resources), pages 3.12-3, September.

² City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.12, (Visual and Aesthetic Resources), pages 3.12-4, September.

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The **Foster City Lagoon** contributes to Foster City's open space network because it extends waterfront amenities to the interior of the City rather than just along its boundaries. Views of the Foster City Lagoon system are provided from Foster City Parks (Sea Cloud Park, Catamaran Park, Leo Ryan Park, Gull Park and Marlin Park).³

Vintage Park Lake is an artificial water system which has a public access easement over it and serves as drainage catch basin. The area provides opportunities for passive recreation.

Existing Viewsheds

Viewsheds refer to the visual qualities of a geographical area that are defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by development that has become a prominent visual component of the area. Public views are those which can be seen from vantage points that are publicly accessible, such as streets, freeways, parks, and vista points. These views are generally available to a greater number of persons than private views. Private views are those views that can be seen from vantage points located on private property. Private views are not necessarily considered to be impacted when interrupted by land uses on adjacent properties. Viewsheds from the Project site are discussed below.

View Location 1: From Southwest Corner of Project Site

This view location depicts views from the southwestern corner of the site, providing a sample of the character of the area. The townhomes can be seen from the view. The landscape from the adjacent townhomes is visible in the foreground; in the background, views consist of one to two story residential developments.

View Location 2: From Southeast Corner of Project Site

Views from this location include the three-story condominium residential as well as the surrounding landscaping, including street trees. Looking south past Beach Park Boulevard, foreground views include single family homes and landscaping. Background views from Snell Boulevard include distant mountains.

View Location 3: From Northeast Corner of Project Site

Views from this location include a neighborhood church, approximately three stories tall, a parking lot, and surrounding landscaping. The community church northeast of the site, across Shell Boulevard, is also visible.

View Location 4: From Northwest Corner of the Project Site

Views from this location include one- to two-story townhomes and surrounding landscaping.

³ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.12, (Visual and Aesthetic Resources), pages 3.12-4, September.

4.1.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant aesthetic impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Expose people on- or off-site to substantial light or glare, which would adversely affect day or nighttime views in the area.

4.1.3 IMPACT DISCUSSION

AES-1	The proposed Project would not have a substantial adverse effect on a scenic vista.
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The Project would have a significant environmental impact if it would result in a substantial adverse effect on a scenic vista. Views from the site are limited due to the site’s flat topography and, as a result, far-field views are generally obscured by existing vegetation and structures. The proposed single-story height of the Project further limits its potential to impact scenic vistas. While Foster City contains, or is near, a number of water bodies formally recognized as scenic (see above), the proposed Project would not be located on the streets or parks recognized as affording the best views of those resources. As described above, views from the four corners of the Project site are limited to elements of the surrounding built environment.

As shown on Figure 4.1-1, existing views across the Project site are limited, and without expansive vistas. There are no high-quality visual resources apparent from these positions. The location and flat topography of the site and surroundings restricts scenic vistas from all directions.

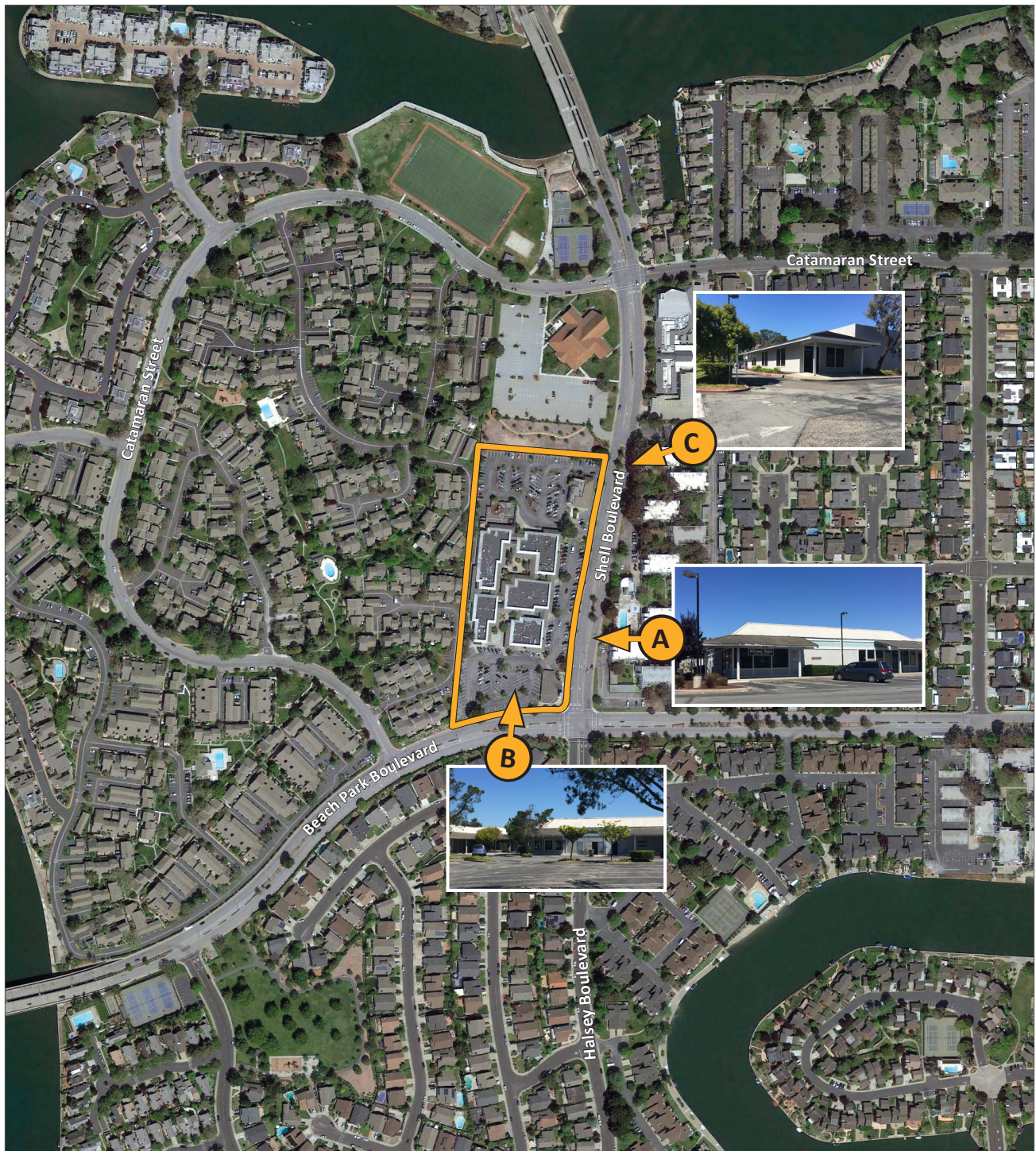
Although the proposed Project would change immediate views within the neighborhood and Project site, the major components of City-identified vistas, both near-field and mid-to-far-field, would remain. As a result, the Project would result in a *less-than-significant* impact to scenic vistas.

Significance Without Mitigation: Less than significant (LTS).

AES-2	The proposed Project would not substantially degrade the view from a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings.
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According to the California Scenic Highway Mapping System, administered by Caltrans, the closest officially designated scenic highway to Foster City is the segment of Interstate 280 from the Santa Clara

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Source: Google Earth Professional, 2016.; PlaceWorks, 2016.



Project Site



Project View Points

0 500
Scale (Feet)



Figure 4.1-1
Project Site Lines

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County line to San Bruno.⁴ This segment of highway is about five miles from the Project site. The proposed Project would not degrade views from that distance. As a result, the Project would result in *no impact* to a view from a scenic highway.

Significance Without Mitigation: No Impact (NI).

AES-3	The proposed Project would not degrade the existing visual character or quality of the site and its surroundings.
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The proposed Project would demolish an aging and architecturally-dated shopping center (see Figure 3-3 of Chapter 3, Project Description) and develop a contemporary educational facility composed of new structures and integrated landscaping. The primary changes to the visual character of the site would be the addition of architectural composition, increased visual interest resulting from stepped massing of the proposed design, a new palette of colors, and new soft and hardscapes to a site that is currently dominated by parking lots and homogenous buildings. While the aesthetic qualities of development Projects are subjective in nature, the addition of a newly-designed educational facility and planned greenery associated with the implementation of the Project, are likely to be seen by many observers as upgrades to the existing visual character of the site. As a result, the Project would result in a *less-than-significant* impact with respect to the visual character or quality of the site and its surroundings.

Significance Without Mitigation: Less than significant (LTS).

AES-4	The proposed Project would not expose people on- or off- site to substantial light or glare which would adversely affect day or nighttime views in the area.
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The Project site is currently developed and currently contains sources of light and glare, including pedestrian lighting and lighting associated with the existing 250 surface parking spaces. These spaces are on lots distributed across the northern, southern and eastern areas of the site. Development of the proposed Project would reduce the number of parking spaces from 250 to between 70 and 80 spaces, and thus the total surface and distribution of areas that requires lighting.

However, the proposed Project would result in a new school, and thus new lighting to fulfill access and safety requirements. As explained in Chapter 3, Project Description, all exterior areas of the school, including the exterior of buildings, pedestrian pathways and parking and drop-off areas would be lit with high-efficiency LED components. All would be compliant with California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations. Emergency lighting would be provided at all egress doors, in compliance with building and fire codes.

⁴ California Department of Transportation, California Highway Scenic Mapping System webpage, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed July 1, 2017.

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While this represents an increase in the number of lighting fixtures over the existing site, the integration of modern LED components would reduce light spillover. Title 24 establishes mandatory provisions for lighting control devices and low-level luminaires. The proposed Project's lighting sources would be required to be installed in accordance with the provisions of Section 110.9, Mandatory Requirements for Lighting Control Devices and Systems, Ballasts, and Luminaires, of the California Building Energy Efficiency Standards for Residential and Nonresidential Buildings.

Natural daylighting is a focus of the proposed Project's overall design. Natural light in each classroom is maximized by two sets of windows on two walls of each classroom: Vision windows on either east or west walls, and north facing clerestory, or above eye-level, windows. While these elements could increase glare, glare reduction is integrated into the proposed design in the form of light shelves and external shading. In addition, the proposed school would be required to conform to Policy LUC-B-1 of the Foster City General Plan, which highlights the prevention of "undue glare" as part of the design review process. Similarly, a stated intent of Foster City Municipal Code Chapter 17.58, Architectural Control and Supervision, is to prevent "undue glare or noise impacts to adjacent properties." Finally, as noted above, Foster City Municipal Code Section 17.68.080, Glare, specifically prohibits direct or reflected glare and enforces the reduction of sky-reflected glare.

The reduction in parking areas, integration of modern light fixtures, glare-resistant design, and compliance with State and local lighting provisions, would result in a *less-than-significant* impact with respect to substantial light or glare which would adversely affect day or nighttime views in the area.

Significance Without Mitigation: Less than significant (LTS).

4.1.4 CUMULATIVE IMPACTS

AES-5	The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to aesthetics.
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The methodology used for cumulative impact analysis is described in Chapter 4.0, Environmental Analysis, of this Draft EIR. The cumulative impact analysis for aesthetics includes past, present and reasonably foreseeable projects within the immediate vicinity of the Project site. A cumulative impact would be considered significant if, taken together with past, present and reasonably foreseeable projects in the identified area, it would result in a substantial adverse effect on a designated scenic vista or if it would result in a substantial degradation of the visual quality or character in the vicinity of the Project site.

Foster City Municipal Code Chapter 17.58 establishes Architectural Control and Supervision guidelines, including the architectural review and approval process in the Foster City. This section provides direction on what types of projects and improvements are subject to design review. Although the proposed Project is exempt from City architectural review, nearly all projects that require a building permit and would have a physical impact would also be subject to design review with a few exceptions outlined in this section, including residential repainting projects and interior modifications. Moreover, the City must make several findings related to visual character prior to approval of most projects, as set forth in Section 17.58.040. Projects not subject to design review are assumed to have little potential to significantly impact visual

AESTHETICS

character. Therefore, since potential future projects in the vicinity of the Project site, which the City has determined to have the potential to affect the character of the area, would be subject to a design review process that would require findings that would ensure that projects would be consistent with the visual character of the area prior to Project approval; adherence to the Municipal Code would ensure *less than significant* cumulative impacts to the visual character of the area surrounding the Project site.

Significance Without Mitigation: Less than significant (LTS).

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4.2 AIR QUALITY

This Subchapter describes the existing air quality setting and examines the air quality impacts associated with adopting and implementing the proposed Project. “Emissions” refers to the actual quantity of pollutants, measured in pounds per day or tons per year. “Concentrations” refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Air quality is influenced by the quantity of pollutants emitted into the air and by the concentration of pollutants in the air around us. Motor vehicles are the primary source of air pollution in Foster City and the Bay Area, with industrial activities such as electronics manufacturing, auto repair, dry cleaning, and other businesses that use chemicals or solvents also contributing to pollution levels. Additionally, particulate matter emitted into the air as a result of construction, grading activities, and the use of wood-burning stoves and fireplaces can compound air quality issues.

This chapter is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD) for project-level review for projects in the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations from development of the proposed Project. Air pollutant emissions modeling is included in Appendix B, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.2.1 REGULATORY FRAMEWORK

Federal, state, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the City is subject to the rules and regulations imposed by BAAQMD, CARB, and US EPA. The regulatory framework that is potentially applicable to the proposed Project is also summarized below.

4.2.1.1 FEDERAL AND STATE REGULATIONS

Ambient air quality standards have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and state governments regulate the release of toxic air contaminants (TACs). The City of Foster City is in the SFBAAB and is subject to the rules and regulations imposed by the BAAQMD, the national AAQS adopted by the US EPA, and the California AAQS adopted by CARB. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed Project are summarized below.

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollutants. The California Clean Air Act, signed into law in 1988,

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requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 4.2-1. These pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

Tanner Air Toxics Act and Air Toxics “Hot spot” Information and Assessment Act

Public exposure to toxic air contaminants (TAC) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit designated TACs. If there is a safe threshold for a substance (i.e. a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

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TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
Ozone (O ₃) ^c	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20.0 ppm	35.0 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Particulate Matter (PM ₁₀) ^d	Annual Arithmetic Mean	20.0 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50.0 µg/m ³	150.0 µg/m ³	
Respirable Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12.0 µg/m ³	12.0 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35.0 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarterly	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ^e	24 hours	25 µg/m ³	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo ^f = 0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

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TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

a. California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b. National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

c. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

d. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

e. On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual arithmetic mean standards were revoked.

Source: California Air Resources Board, 2015, Ambient Air Quality Standards, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, accessed on April 20, 2017.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10, Section 2485**, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **13 CCR Chapter 10, Section 2480**, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **13 CCR Section 2477 and Article 8**, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

4.2.1.2 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants. Each of the primary and secondary criteria air pollutants and its known health effects is described here.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little or no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Air Basin. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 miles per hour (mph) for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.¹ The Air Basin is designated under the California and National AAQS as being in attainment of CO criteria levels.²
- **Reactive Organic Gases (ROGs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O₃. There are no AAQS established for ROGs. However, because they contribute to the formation of O₃, BAAQMD has established a significance threshold for this pollutant.
- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of O₃, PM₁₀, and PM_{2.5}. The two major components of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO₂ is only

¹ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

² California Air Resources Board. December 2015. Area Designations Maps: State and National.

<http://www.arb.ca.gov/design/adm/adm.htm>.

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potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.⁵ The Air Basin is designated an attainment area for NO₂ under the National AAQS and California AAQS.⁶

- **Sulfur Dioxide (SO₂)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When SO₂ forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue.³ The Air Basin is designated an attainment area for SO₂ under the California and National AAQS.⁴
- **Suspended Particulate Matter (PM₁₀ and PM_{2.5})** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch).

Some particulate matter, such as pollen, occurs naturally. In the Air Basin most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM₁₀ bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The U.S. Environmental Protection Agency (EPA) scientific review concluded that PM_{2.5} penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM₁₀ standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the Air Basin. Wood burning in fireplaces and stoves is another large source of fine particulates.⁷

Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. These health effects include premature death; increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individual with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as

³ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

⁴ California Air Resources Board. December 2015. Area Designations Maps: State and National.

<http://www.arb.ca.gov/design/adm/adm.htm>.

ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs. However, the EPA or CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is also classified a carcinogen by CARB. The Air Basin is designated nonattainment under the California AAQS for PM₁₀ and nonattainment under both the California and National AAQS for PM_{2.5}.⁵

- **Ozone (O₃)** is commonly referred to as “smog” and is a gas that is formed when ROG_s and NO_x both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O₃ levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O₃ can also damage plants and trees and materials such as rubber and fabrics.⁶ The Air Basin is designated nonattainment of the 1-hour California AAQS and 8-hour California and National AAQS for O₃.⁷
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.¹⁰ The Air Basin is designated in attainment of the California and National AAQS for lead.¹¹ Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed Project.

Toxic Air Contaminants

At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.⁸ Additionally, CARB has implemented control measures for a number of compounds that pose high

⁵ On January 9, 2013, the EPA issued a final rule to determine that the SFBAAB had attained the 24-hour PM_{2.5} National AAQS. This action suspended federal State Implementation Plan planning requirements for the Bay Area. However, the SFBAAB will continue to be designated nonattainment for the National 24-hour PM_{2.5} standard until BAAQMD submits a redesignation request and a maintenance plan to the EPA and the EPA approves the proposed redesignation.

⁶ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

⁷ California Air Resources Board. December 2015. Area Designations Maps: State and National.
<http://www.arb.ca.gov/desig/adm/adm.htm>.

⁸ California Air Resources Board, 1999. Final Staff Report: Update to the Toxic Air Contaminant List.

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risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. According to BAAQMD, particulate matter emitted from diesel engines contributes more than 85 percent of the cancer risk within the Air Basin and cancer risk from TAC is highest near major diesel PM sources.⁹

Community Risk

To reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when siting sensitive receptors near existing pollution sources. CARB's recommendations were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity substantially increases exposure and the potential for adverse health effects. Three carcinogenic TACs constitute the majority of the known health risks from motor vehicle traffic—DPM from trucks and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

4.2.1.3 REGIONAL REGULATIONS

Bay Area Air Quality Management District

Bay Area Air Quality Management District (BAAQMD) is the agency responsible for assuring that the National and California AAQS are attained and maintained in the Air Basin. BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Air Quality Management Planning.

⁹ Bay Area Air Quality Management District, 2014, *Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013)*, April.

Air quality conditions in the Air Basin have improved significantly since the BAAQMD was created in 1955.¹⁰ The BAAQMD prepares air quality management plans (AQMPs) to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans for the National O₃ standard and clean air plans for the California O₃ standard. The BAAQMD prepares these AQMPs in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). BAAQMD adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate on April 19, 2017, making it the most recent adopted comprehensive plan. The plan incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

Bay Area Clean Air Plan

2017 Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area

BAAQMD adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate (2017 Clean Air Plan) on April 19, 2017. The 2017 Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues in providing the framework for SFBAAB to achieve attainment of the California and National AAQS. Similar to the Bay Area 2010 Clean Air Plan, the 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California CAA. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent by 2020. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a postcarbon year 2050 that encompasses the following¹¹:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

¹⁰ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

¹¹ Bay Area Air Quality Management District. 2017, April 19. Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/plans-under-development>.

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- Reduce emissions of criteria air pollutants and TACs from all key sources.
- Reduce emissions of “super-GHGs” such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Increase efficiency of the energy and transportation systems.
- Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
- Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

BAAQMD Community Air Risk Evaluation Program

The BAAQMD’s Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed four percent of the cancer risk-weighted emissions, and benzene contributed three percent. Collectively, five compounds—diesel PM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB’s diesel regulations. Overall, cancer risk from TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions.¹²

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo
- Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
- San Jose
- Eastern side of San Francisco
- Concord
- Vallejo
- Pittsburgh and Antioch

Foster City lies outside a CARE-impacted community.

¹² Bay Area Air Quality Management District. 2014. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program (CARE) Retrospective & Path Forward (2004 – 2013). April

The major contributor to acute and chronic non-cancer health effects in the Air Basin is acrolein (C₃H₄O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.¹³ Currently CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.¹⁴

BAAQMD Rules and Regulations

Regulation 7, Odorous Substances

Sources of objectionable odors may occur within the City. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property." Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other BAAQMD Regulations

In addition to the plans and programs described above, BAAQMD administers a number of specific regulations on various sources of pollutant emissions that would apply to the proposed Project, including:

- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

City/County Association of Governments of San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) is the congestion management agency for San Mateo County, tasked with preparing and adopting a Congestion Management Program (CMP) on a biennial basis. The purpose of the CMP is to outline strategies for adapting to future transportation needs, developing solutions to the challenges of traffic congestion, and promoting countywide management strategies. C/CAG's latest CMP is the *2015 San Mateo County Congestion management Program*. C/CAG's countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation

¹³ Bay Area Air Quality Management District. 2006. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area.

¹⁴ Bay Area Air Quality Management District. 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines.

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model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, the 2015 CMP includes Trip Reduction and Travel Demand Element, “to promote alternative transportation methods (carpools, vanpools, transit, bicycles, park-and-ride lots, etc.), improve the balance between jobs and housing, and promote other strategies to reduce traffic congestion.”¹⁵ The CMP also states that “The agency and air quality management district are to coordinate the development of trip reduction responsibilities and shall avoid duplication.”¹⁶

Plan Bay Area: Strategy for a Sustainable Region

Plan Bay Area is the Bay Area’s Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS). *The Plan Bay Area* was adopted jointly by the ABAG and MTC July 18, 2013. The SCS lays out a development scenario for the region, which when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area is discussed in greater detail in Chapter 4.6, Greenhouse Gases, of this Draft EIR.

4.2.1.4 LOCAL REGULATIONS

City of Foster City

The General Plan identifies policies and programs addressing the development and redevelopment of land, preservation of parks and open spaces, provision of housing for current and future residents, conservation of natural resources, improvement of the circulation and transportation system, control of noise and protection of life and property from hazards. The City of Foster City General Plan identifies policies and programs related to air quality within Chapter 8, Conservation Element (adopted in 2003) that are relevant to the proposed Project:

Conservation Policies

- C-3: Air Quality. Reduce the impact of development on local air quality.

Conservation Programs

- C-j: Air Quality Impacts. Review proposed Projects for their potential to affect air quality conditions.
- C-n: Coordination with Other Agencies in Air Quality Improvements. Coordinate review of large projects with local, regional and state agencies to improve air quality.

4.2.2 EXISTING CONDITIONS

4.2.2.1 SAN FRANCISCO AIR BASIN

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions

¹⁵ City/County Association of Governments of San Mateo County. 2015. 2015 Congestion Management Program. Page 5-1.

¹⁶ Ibid.

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throughout. The State is divided into 15 air basins. Foster City is in the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The discussion below identifies the natural factors in the Air Basin that affect air pollution. Air pollutants of concern are criteria air pollutants and TACs. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality. The regulatory framework that is potentially applicable to the proposed Project is also summarized below.

The BAAQMD is the regional air quality agency for the Air Basin, which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.¹⁷

Meteorology

The Air Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range¹⁸ splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast.

The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San

¹⁷ Bay Area Air Quality Management District (BAAQMD). 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

¹⁸ The Coast Ranges traverses California's west coast from Humboldt County to Santa Barbara County.

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Francisco International Airport in July is about 17 knots (from 3:00 p.m. to 4:00 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. An inversion is a change in the normal conditions that causes the temperature gradient to be reversed, or inverted. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

In the winter, the Air Basin frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing, which occurs when there is a lack of or little wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the Air Basin.

Temperature

Summertime temperatures in the Air Basin are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10 degrees Fahrenheit.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

Precipitation

The Air Basin is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the Air Basin to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

Inversions

As described above, an inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the Air Basin. Elevation inversions¹⁹ are more common in the summer and fall, and radiation inversions²⁰ are more common during the winter. The highest air pollutant concentrations in the Air Basin generally occur during inversions.

SFBAAB Area Designations

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal AAQS through the SIP. Areas that meet AAQS are classified attainment areas, and areas that do not meet these standards are classified nonattainment areas. Severity classifications for O₃ range from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

¹⁹ When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

²⁰ During the night, the ground cools off, radiating the heat to the sky.

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The attainment status for the Air Basin is shown in Table 4.2-2. The Air Basin is currently designated a nonattainment area for California and National O₃, California and National PM_{2.5}, and California PM₁₀ AAQS.

TABLE 4.2-2 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment (serious)	No Federal Standard
Ozone – 8-hour	Nonattainment	Nonattainment
PM ₁₀ – 24-hour	Nonattainment	Unclassified
PM _{2.5} – 24-hour	Nonattainment	Unclassified/Attainment ^a
CO – 8-hour and 1-hour	Attainment	Attainment
NO ₂ – 1-hour	Attainment	-- ^b
SO ₂ – 24-hour and 1-hour	Attainment	-- ^c
Lead	Attainment	Attainment
Sulfates	Attainment	No Federal Standard
All others	Unclassified/Attainment	Unclassified/Attainment

a. In December 2014, US EPA issued final area designations for the 2012 primary annual PM_{2.5} National AAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015

b. The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.

c. On June 2, 2010, the U.S. EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO₂ NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO₂ NAAQS. EPA expects to make designation for the Bay Area by the end of 2017.

Source: California Air Resources Board, 2014, Area Designations: Activities and Maps, <http://www.arb.ca.gov/desig/adm/adm.htm>, accessed on April 20, 2017; Bay Area Air Quality Management District. 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen>

Existing Ambient Air Quality

Generally, the air between San Francisco and San Jose has low air pollution potential due to frequent sea breezes. When winds are light, high levels of ozone precursors, ozone or particulates can occur due to the large number of sources in the area. Existing levels of ambient air quality and historical trends and projections in the vicinity of the Project site, are best documented by measurements made by the BAAQMD. The air quality monitoring station closest to the Project site is the Redwood City Monitoring Station, in Redwood City. According to BAAQMD’s 2016 Air Monitoring Network Plan, this site has

recorded one exceedance of the national 70 ppb 8-hour ozone standard since 2013. No exceedances of the national standards for PM_{2.5}, NO₂ or CO were measured since that year.²¹ Sensitive receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. The nearest off-site sensitive receptors proximate to the Project site include the abutting single-family residences to the west along Marquette Lane and Cartier Lane.

4.2.3 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. 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).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

4.2.3.1 BAAQMD THRESHOLDS

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These Thresholds are designed to

²¹ Bay Area Air Quality Management District, 2017. 2016 Air Monitoring Network Plan.
http://www.baaqmd.gov/~media/files/technical-services/2016_network_plan-pdf.pdf?la=en. Accessed June 11, 2017.

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establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA.

In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of the December 17, 2015, California Supreme Court decision (*California Building Industry Association v BAAQMD*), which clarified that CEQA does not require an evaluation of impacts of the environment on a project.²² The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. Furthermore, the Supreme Court held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA. To account for these updates, BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this EIR.

Criteria Air Pollutant Emissions and Precursors

Regional Significance Criteria

The BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4.2-3. Criteria for both the construction and operational phases of the Project are shown.

CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the Air Basin is in attainment of the California and National AAQS, and CO concentrations in the Air Basin have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

²² On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not rule on the merits of the thresholds of significance, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning contained in the BAAQMD 2017 CEQA Air Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA Guidelines. (*California Building Industry Association versus BAAQMD*, Case Nos. A135335 and A136212 (Court of Appeal, First District, August 13, 2013))

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TABLE 4.2-3 BAAQMD REGIONAL CRITERIA AIR POLLUTANTS SIGNIFICANCE THRESHOLDS

Pollutant	Construction Phase	Operational Phase	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
PM ₁₀ and PM _{2.5} Fugitive Dust	Best Management Practices	None	None

Source: Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines.

- The Project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The Project would generate a net *decrease* of 2,236 average daily trips over the existing use, and therefore would not exceed established BAAQMD thresholds.

Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and PM_{2.5} because emissions of these pollutants can have significant health impacts at the local level. The proposed Project would generate TACs and PM_{2.5} during construction activities that could elevate concentrations of air pollutants at the nearby residential sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for Project operations. The BAAQMD has adopted screening tables for air toxics evaluation during construction.²³ Construction-related TAC and PM_{2.5} impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.²⁴

The proposed Project involves construction of new elementary school facilities and would not be a source of operational TACs and PM_{2.5}.

Since neither the City of Foster City nor San Mateo County currently has a qualified risk reduction plan, a site-specific analysis of TACs and PM_{2.5} impacts on sensitive receptors was conducted. The thresholds identified below are applied to the Project's construction and operational phases.

²³ Bay Area Air Quality Management District. 2010. Screening Tables for Air Toxics Evaluations during Construction.

²⁴ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

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Community Risk and Hazards: Project

Project-level emissions of TACs or PM_{2.5} from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- Noncompliance with a qualified Community Risk Reduction Plan.
- An excess cancer risk level of more than 10 in one million, or a noncancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5} from a single source would be a significant cumulatively considerable contribution.²⁵

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the Project, exceeds any of the following:

- No-compliance with a qualified Community Risk Reduction Plan.
- An excess cancer risk levels of more than 100 in one million or a chronic noncancer hazard index (from all local sources) greater than 10.0.
- 0.8 µg/m³ annual average PM_{2.5}.²⁶

In February 2015, OEHHA adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rate.²⁷

4.2.4 IMPACT DISCUSSION

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if there will be significant air quality impacts of the proposed Project. Construction-related criteria air pollutants emissions associated with the proposed Project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.1. Construction emissions associated with the proposed Project are based on the construction schedule provided by the lead agency. An HRA was conducted for the proposed Project using Lakes Environmental AERMOD View (air dispersion model).

This section discusses the air quality impacts of the Project. This discussion is organized by and responds to each of the potential impacts identified in the thresholds of significance.

²⁵ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

²⁶ Bay Area Air Quality Management District. 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

²⁷ Office of Environmental Health Hazard Assessment. 2015, February. Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.

AQ-1 Implementation of the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

BAAQMD Air Quality Management Plan

BAAQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SFBAAB to achieve National and California AAQS. BAAQMD recently adopted its 2017 Clean Air Plan, which is a regional and multiagency effort to reduce air pollution in the Air Basin. A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the Project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the Clean Air Plan.

The regional emissions inventory for the SFBAAB is compiled by BAAQMD. Regional population, housing, and employment projections developed by the Association of Bay Area Governments (ABAG) are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the Clean Air Plan. These demographic trends are incorporated into Plan Bay Area, compiled by ABAG and the Metropolitan Transportation Commission (MTC) to determine priority transportation projects and vehicle miles traveled in the Bay Area. The Clean Air Plan strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional inventory compiled as part of the 2017 Clean Air Plan.

The proposed Project would demolish approximately 56,000 square feet of the existing retail center and develop the 6-acre site with a new approximately 42,500 square foot elementary school. The Project property is currently zoned C-1/PD (Neighborhood Business/Planned Development Combing District). The proposed Project, as a needed community asset, would constitute an appropriate planned development. Establishment of new Planned Development district for the proposed Project would be consistent with the flexible definition of the district. In addition, the proposed Project is consistent with the larger goals, policies and programs targeting quality design and development, residential land use, neighborhood identity and school development in the Foster City General Plan. Thus, the Project would not have the potential to substantially affect housing, employment, and population projections in the region that are the basis of the 2017 Clean Air Plan projections.

Additionally, the net change in regional operation-related emissions generated by the proposed Project would not exceed the BAAQMD's emissions thresholds (see AQ-2). These thresholds are established to identify projects that have the potential to generate a substantial amount of criteria air pollutants. Because the proposed Project would not exceed these thresholds, the proposed Project would not be considered by the BAAQMD to be a substantial emitter of criteria air pollutants.

Therefore, the Project would not conflict with or obstruct implementation of the 2017 Clean Air Plan, and impacts would be considered *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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AQ-2	With Incorporation of mitigation, the Project would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, and would result in a cumulatively considerable net increase of criteria pollutants for which the Project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
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BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including reactive organic gases (ROG), oxides of nitrogen (NO_x), coarse inhalable particulate matter (PM₁₀), and fine inhalable particulate matter (PM_{2.5}). Development projects below these significant thresholds (listed in Table 4.2-3) are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction Emissions

Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM₁₀ and PM_{2.5}) from demolition and soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change. Construction activities associated with the proposed Project would result in emissions of reactive organic gases (ROG), oxides of nitrogen (NO_x), CO, PM₁₀, and PM_{2.5}.

Fugitive Dust

Ground-disturbing activities would generate fugitive dust. Fugitive dust emissions (PM₁₀ and PM_{2.5}) are considered to be significant unless the Project implements the BAAQMD's Best Management Practices (BMPs) for fugitive dust control during construction. PM₁₀ is typically the most significant source of air pollution from the dust generated from construction. The amount of dust generated during construction would be highly variable and is dependent on the amount of material being demolished, the type of material, moisture content, and meteorological conditions. If uncontrolled, PM₁₀ and PM_{2.5} levels downwind of actively disturbed areas could possibly exceed State standards. Consequently, construction-related criteria pollutant emissions are *significant* in the absence of BAAQMD's BMPs for fugitive dust control.

Impact AQ-2: During construction of the Project, construction activities would generate fugitive dust during ground-disturbing activities and would generate substantial construction-related exhaust emissions from on-site construction equipment and on-road vehicle trips that exceed the BAAQMD significance thresholds identified in Table 4.2-3.

Mitigation Measure AQ-2: The Project developer shall require its construction contractor to comply with the following BAAQMD Best Management Practices for reducing construction emissions of PM₁₀ and PM_{2.5}:

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- Water all active construction areas at least twice daily or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- Pave, apply water twice daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Sweep daily (with water sweepers using reclaimed water if possible) or as often as needed all paved access roads, parking areas, and staging areas at the construction site to control dust.
- Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the Project site, or as often as needed, to keep streets free of visible soil material.
- Hydro-seed or apply non-toxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (e.g., dirt, sand).
- Limit vehicle traffic speeds on unpaved roads to 15 mph.
- Replant vegetation in disturbed areas as quickly as possible.
- Install sandbags or other erosion control measures to prevent silt runoff from public roadways.

The Project developer shall verify compliance during normal construction site inspections. that these measures have been implemented.

Significance With Mitigation: Less than significant (LTS). Mitigation Measure AQ-1 would require adherence to the current BAAQMD's basic control measures for reducing construction emissions of PM and would ensure impacts from fugitive dust generated during construction activities are *less than significant*.

Construction Exhaust Emissions

Construction emissions are based on the preliminary construction schedule developed for the proposed Project. The proposed Project site would be developed in two phases. Activities that would take place are demolition, hauling, grading, building construction, paving, and architectural coating. Construction activities were conservatively modeled to begin in March 2018 and continue through June 2019.

To determine potential construction-related air quality impacts, criteria air pollutants generated by project-related construction activities are compared to the BAAQMD significance thresholds. Average daily emissions are based on the annual construction emissions divided by the total number of active construction days. As shown in Table 4.2-4, criteria air pollutant emissions from construction equipment exhaust would not exceed the BAAQMD average daily thresholds. Therefore, construction-related criteria pollutant emissions from exhaust are *less than significant*.

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TABLE 4.2-4 PROJECT-RELATED REGIONAL CONSTRUCTION CRITERIA AIR POLLUTANT EMISSIONS

	Criteria Air Pollutants (tons/year) ^{a, b}					
	ROG	NOx	Fugitive	ROG	NOx	Fugitive
2018	<1	4	<1	<1	<1	<1
2019	<1	2	<1	<1	<1	<1
	Criteria Air Pollutants (average lbs/day) ^{a, b}					
	ROG	NOx	Fugitive	ROG	NOx	Fugitive
Average Daily Construction Emissions all Phases ^c	5	31	1	1	<1	1
BAAQMD Average Daily Project-Level Threshold	54	54	BMPs	82	BMPs	54
Exceeds Average Daily Threshold	No	No	NA	No	NA	No

Notes: BMP: Best Management Practices; NA: not applicable.

a. Construction phasing is based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast Air Quality Management District of construction equipment and phasing for comparable projects.

b. Includes implementation of best management practices for fugitive dust control required by BAAQMD as mitigation, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, and street sweeping.

c. Average daily emissions are based on the construction emissions divided by the total number of active construction days. The total number of construction days is estimated to be 348 days.

Source: CalEEMod 2016.3.1. Emissions may not total to 100 percent due to rounding.

Significance Without Mitigation: Less than significant (LTS).

Operational Emissions

Long-term air pollutant emissions generated by schools are typically associated with the burning of fossil fuels in on-road vehicles (mobile sources); energy use for cooling and heating; and landscape equipment and cleaning products (area sources). The primary source of long-term criteria air pollutant emissions generated by the proposed Project would be emissions from project-generated vehicle trips. The would generate approximately 1,355 Average Daily Trips (ADT), a decrease from the existing ADT of 3,591. Table 4.2-5 identifies the net change in criteria air pollutant emissions associated with the proposed Project compared to the baseline operation.

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TABLE 4.2-5 NET CHANGE IN REGIONAL OPERATION-PHASE CRITERIA AIR POLLUTANT EMISSIONS

	Criteria Air Pollutants (lbs/day) ^a			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Existing Project (2019)				
Area	1	<1	<1	<1
Energy	<1	<1	<1	<1
On-Road Mobile Sources	5	5	11	3
Total	6	6	11	3
Proposed Project (2019)				
Area	1	<1	<1	<1
Energy ^b	<1	<1	<1	<1
On-Road Mobile Sources	1	2	4	1
Total	3	2	4	1
Net Emissions				
Area	<1	<1	<1	<1
Energy	<1	<1	<1	<1
On-Road Mobile Sources	-3	-3	-6	-2
Total	-3	-3	-6	-2
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold?	No	No	No	No
Net Change from Existing to Proposed Project (Annual Emissions in tons per year)				
Category	Criteria Air Pollutants (tons/year)			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Net Change	-1	-1	-1	<1
BAAQMD Annual Project-Level Threshold	10 tpy	10 tpy	15 tpy	10 tpy
Exceeds Annual Threshold	No	No	No	No

a. Average daily emissions are based on the annual operational emissions divided by 365 days.

b. New buildings would be constructed to the 2016 Building Energy Efficiency Standards (effective January 1, 2017).

Source: CalEEMod 2016.3.1 Based on year 2022 emission rates. Emissions may not total to 100 percent due to rounding.

As shown in Table 4.2-5, the net operational emissions generated by the Project would not exceed the BAAQMD daily or annual thresholds and, according to the independent Traffic Consult, would be less than what is generated now based on the comparison of ADT. Consequently, the proposed Project would not cumulatively contribute to the nonattainment designations of the Air Basin, and regional operational phase air quality impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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AQ-3	The Project would 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).
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This section analyzes potential impacts related to air quality that could occur from a combination of the proposed Project with other past, present, and reasonably foreseeable projects within the Air Basin. The SFBAAB is currently designated a nonattainment area for California and National O₃, California and National PM_{2.5}, and California PM₁₀ AAQS.²⁸ Any project that produces a significant project-level regional air quality impact in an area that is in nonattainment adds to the cumulative impact. Due to the extent of the area potentially impacted from cumulative project emissions (the Air Basin), a project is cumulatively significant when project-related emissions exceed the BAAQMD emissions thresholds shown in Table 4.2-3.

As described in this report, the proposed Project would not have a significant long-term operational phase impact. However, as discussed in AQ-2, without incorporation of fugitive dust control measures, construction activities associated with the proposed Project could potentially result in significant regional short-term air quality impacts. Likewise, off-site community risks and hazards would have a significant impact without level 3 diesel particulate filters as mitigation. Therefore, the Project's contribution to cumulative air quality impacts would be *significant*.

Significance Without Mitigation: Significant (S).

Impact AQ-3: The actual construction of the proposed Project would cumulatively contribute to the non-attainment designations of the SFBAAB.

Mitigation Measure AQ-3: Implementation of Mitigation Measure AQ-2 would reduce cumulative air quality impacts.

Significance With Mitigation: Less than significant (LTS). Mitigation Measure AQ-1 would reduce impacts from fugitive dust generated during construction activities. Consequently, the Project would not cumulatively contribute to the nonattainment designations of the Air Basin and impacts would be *less than significant* with mitigation.

AQ-4	The Project could expose sensitive receptors to substantial concentrations of air pollution without the incorporation of mitigation.
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The proposed Project could expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. Unlike regional emissions,

²⁸ California Air Resources Board, 2014, Area Designations: Activities and Maps, <http://www.arb.ca.gov/desig/adm/adm.htm>, accessed on April 20, 2017; Bay Area Air Quality Management District. 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen>.

localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction – Off-Site Community Risk and Hazards

The proposed Project would elevate concentrations of TACs and PM_{2.5} in the vicinity of sensitive land uses during construction activities. The nearest off-site sensitive receptors proximate to the Project site include the abutting single-family residences to the west along Marquette Lane and Cartier Lane. Construction activities would occur near these sensitive receptor locations. Consequently, a full health risk assessment (HRA) of TACs and PM_{2.5} was prepared (see Appendix C).

Sources evaluated in the HRA include off-road construction equipment and heavy-duty diesel trucks along the truck route based on the 16-month construction duration. The USEPA AERMOD air dispersion modeling program and the latest HRA guidance from OEHHA were used to estimate excess lifetime cancer risks, chronic noncancer hazard indices, and the PM_{2.5} maximum annual concentrations at the nearest sensitive receptors. Results of the analysis are shown in Table 4.2-6.

TABLE 4.2-6 CONSTRUCTION HRA RESULTS-- UNMITIGATED

Receptor	Project Level Risk		
	Cancer Risk (per million)	Chronic Hazards	PM _{2.5} (µg/m ³) ^a
Maximum Exposed Off-Site Resident	50.1	0.126	0.35
Threshold	10	1.0	0.3 µg/m ³
Exceeds Threshold	Yes	No	Yes

Notes: Cancer risk calculated using 2015 OEHHA HRA guidance.

a. Year 2018 represents the highest maximum annual PM_{2.5} concentration.

The results of the HRA are based on the maximum receptor concentration over a 116-month construction exposure period for off-site receptors, assuming 24-hour outdoor exposure, 260 construction days per year and exposed to all of the daily construction emissions. Risk is based on the updated OEHHA Guidance:

- Cancer risk for the maximum exposed off-site resident, at a single family residence south of Beach Park Boulevard, from unmitigated construction activities related to the proposed Project were calculated to be 50.1 in a million and would exceed the 10 in a million significance threshold. Using the 2015 OEHHA guidance, the calculated total cancer risk for the off-site residents incorporates the individual risk for infant and childhood exposures into one risk value.
- For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for off-site sensitive receptors from the proposed Project. Therefore, chronic non-carcinogenic hazards are within acceptable limits.
- The highest PM_{2.5} annual concentration of 0.35 µg/m³ for off-site residences, which would be above the BAAQMD significance threshold of 0.3 µg/m³.

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Consequently, the proposed Project would expose sensitive receptors to substantial concentrations of air pollutant emissions during construction, and impacts would be *significant*.

Significance Without Mitigation: Significant (S).

Impact AQ-4: Construction activities of the Project could expose sensitive receptors to substantial concentrations of TAC and PM_{2.5}.

Mitigation Measure AQ-4: The construction contractor(s) shall use construction equipment with fitted with Level 3 Diesel Particulate Filters (DPF) and engines that meet the United States Environmental Protection Agency (USEPA)-Certified Tier 3 emissions standards for all equipment of 50 horsepower or more. Tier 3 or higher engine standards and DPFs are capable of reducing 50 to 90 percent of diesel exhaust and particulate emissions from off-road equipment. Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet Level 3 Verified Diesel Emissions Control Strategy emissions requirements. Therefore, Level 3 DPF would not be required for engines that meet Tier 4 Interim or Final standards.

Prior to construction, the construction contractor(s) shall ensure that all construction plans submitted to the Project developer/SMFCSD clearly show the requirement for Level 3 DPF and EPA Tier 3 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor(s) shall maintain a list of all operating equipment in use on the Project site for verification by the District's Chief Facilities Officer or designee. The construction equipment list shall state the makes, models, and number of construction equipment on-site. Equipment shall be properly serviced and maintained in accordance with manufacturer recommendations. The construction contractor shall ensure that all non-essential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Significance With Mitigation: Less than significant (LTS). Mitigation Measure AQ-4 would reduce the Project's localized construction emissions. The mitigated health risk values were calculated and are summarized in Table 4.2-7. The results indicate that, with mitigation, cancer risk and PM_{2.5} would be less than the BAAQMD's significance thresholds for residential receptors. Therefore, the Project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions.

Results of the HRA indicate that, with mitigation, the incremental cancer risk for off-site residents close to the site during the construction period is 6.5 per million which is below the cancer risk threshold. Likewise, PM_{2.5} annual concentrations would not exceed the BAAQMD significance thresholds for off-site residents. For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for off-site residents. Therefore, chronic non-carcinogenic hazards are within acceptable limits.

Operation – On-site Community Risk and Hazards

The proposed Project would not create new major sources of TACs or PM_{2.5}. The California Supreme Court in a December 2015 opinion (*California Building Industry Association v Bay Area Air Quality Management District*, 62 Cal. 4th 369, No. S213478 [2015]) confirmed that CEQA, with several specific exceptions, is

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TABLE 4.2-7 CONSTRUCTION HRA RESULTS-- MITIGATED

Receptor	Project Level Risk		
	Cancer Risk (per million)	Chronic Hazards	PM _{2.5} (µg/m ³) ^a
Maximum Exposed Off-Site Resident	6.5	0.02	0.04
Threshold	10	1.0	0.3 µg/m ³
Exceeds Threshold	No	No	No

Notes: Cancer risk calculated using 2015 OEHHA HRA guidance.

a. Year 2018 represents the highest maximum annual PM_{2.5} concentration.

concerned with the impacts of a project on the environment, and not the effects the existing environment may have on a project unless it would exacerbate an environmental hazard. However, there are exceptions to this general rule. Public Resources Code Section 21151.8 requires evaluation of potential health risks associated with placement of a school within a quarter mile of the edge of the closest traffic lane of a freeway or busy traffic corridor²⁹, large agricultural operations, railyards and other stationary sources anticipated to emit hazardous emissions.

BAAQMD has developed screening tools to identify stationary and mobile sources of TACs and PM_{2.5} in the vicinity of sensitive land uses, and developed screening thresholds for assessing potential health risks from these sources. According to BAAQMD's database of existing stationary and mobile sources, one stationary source (City of Foster City lift station) and no mobile sources were identified within a quarter-mile (1,320 feet) of the Project site. A screening level HRA (Appendix C) was prepared to evaluate the health risk impacts to future students and staff of the proposed Project from the identified emission sources. BAAQMD's screening health risk values were used to determine the risks for many of the sources. The results of the screening level HRA are shown in Table 4.2-8.

The results of the screening level HRA indicate the health risks from off-site emission sources do not exceed BAAQMD's significance thresholds. Therefore, health risk impacts to future occupants of the school are considered *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the State one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at

²⁹ Defined as roadways that, on an average day, have traffic in excess of 50,000 vehicles in a rural area, as defined in Section 50101 of the Health and Safety Code, and 100,000 vehicles in an urban area, as defined in Section 50104.7 of the Health and Safety Code.

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TABLE 4.2-8 SCREENING LEVEL OPERATIONAL HRA SUMMARY

Receptor	Project Level Risk			
	Cancer Risk (per million)	Chronic Hazards	Acute Hazards	PM _{2.5} (µg/m ³)
City of Foster City Lift Station	0.5	0.001	<0.001	0.001
Threshold	10	1.0	1.0	0.3 µg/m ³
Exceeds Threshold	No	No	No	No

Notes: Cancer risk calculated using BAAQMDs BETA Calculator (2012) based on emissions data provided by BAAQMD (2017).

intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

The proposed Project would generate a net decrease of 2,236 average daily trips over the existing use, which would not increase traffic volumes at affected intersections by more than established BAAQMD thresholds (44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited). Trips associated with the proposed Project would not exceed the screening criteria of the BAAQMD. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

AQ-5 Implementation of the proposed Project would not create or expose a substantial number of people to objectionable odors.

The proposed Project would accommodate future residential and commercial development. Construction and operation of residential developments, retail, and restaurants would not generate substantial odors or be subject to odors that would affect a substantial number of people. The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Educational uses are not associated with foul odors that constitute a public nuisance.

During operation, the elementary school could generate odors different from the current land use. Cooking on site is not expected, and any cooking that would occur would be limited. As such, odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Furthermore, nuisance odors are regulated under BAAQMD Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission

limitations on certain odorous compounds.³⁰ In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property.”

During Project construction, application of asphalt and architectural coatings and construction equipment exhaust would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.2.5 CUMULATIVE IMPACTS

AQ-6	The Project would cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.
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As described under AQ-3, regional air quality impacts were identified as significant; therefore, in combination with past, present, and reasonably foreseeable projects, the proposed Project would result in a significant cumulative impact with respect to air quality. Therefore, the impact would be *significant*.

Significance Without Mitigation: Significant (S).

Impact AQ-6: Implementation of the Project would cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.

Mitigation Measure AQ-6: Implementation of Mitigation Measures AQ-2 and AQ-4 would reduce cumulative air quality impacts.

Significance With Mitigation: Less than significant (LTS). Mitigation Measure AQ-2 would reduce impacts from fugitive dust generated during construction activities. Mitigation Measure AQ-4 would reduce exposures of sensitive receptors to substantial concentrations of TACs and PM_{2.5}. With these mitigation measures, regional and localized construction emissions would not exceed the BAAQMD significance thresholds. Consequently, the Project would not cumulatively contribute to the nonattainment designations of the Air Basin and impacts would be *less than significant*.

³⁰ It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.

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4.3 BIOLOGICAL RESOURCES

This Subchapter describes existing biological resources in the Project area and evaluates the potential impacts on biological resources associated with future development that could occur by adopting and implementing the proposed Project. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the proposed project-specific and cumulative impacts.

Biological resources associated with the Project site were identified through a review of available background information. Available documentation was reviewed to provide information on general resources in the Foster City area, presence of sensitive natural communities, and the distribution and habitat requirements of special-status species which have been recorded from or are suspected to occur in the Project vicinity.

4.3.1 ENVIRONMENTAL SETTING

4.3.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, and local regulations and policies pertaining to biological resources that are applicable to the proposed Project.

Federal Regulations

The federal laws that regulate the treatment of biological resources include the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and the Clean Water Act. However, only those related to the Migratory Bird Treaty Act and Endangered Species Act are applicable to the Project site given the absence of jurisdictional wetlands.

Federal Endangered Species Act

The US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) are responsible for implementation of the federal Endangered Species Act (ESA). The Act protects fish and wildlife species that are listed as threatened or endangered, as well as their habitats. Endangered species, subspecies, or distinct population segments are those that are in danger of extinction throughout all or a significant portion of their range; threatened species, subspecies, or distinct population segments are those that are likely to become endangered in the near future.

Section 9 of the ESA prohibits the “take” of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species’ recovery. Take is defined as an action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing. Under Section 9 of the ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and reduction to possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any State law

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or in the course of criminal trespass. Candidate species and species that are proposed, or under petition for listing, receive no protection under Section 9.

Migratory Bird Treaty Act

The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the Migratory Bird Treaty Act (MBTA). The MBTA implements a series of treaties between the United States, Mexico, and Canada that provide for the international protection of migratory birds. Wording in the MBTA makes it clear that most actions that result in “taking” or possession (permanent or temporary) can be a violation of the Act. The word “take” is defined as meaning “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.” The provisions of the MBTA are nearly absolute; “except as permitted by regulations” is the only exception. Examples of permitted actions that do not violate the law are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird-banding, and similar activities.

State Regulations

State laws regulating biological resources include the California Endangered Species Act, the California Fish and Game Code, and the California Native Plant Protection Act.

California Endangered Species Act

The California Endangered Species Act (CESA) establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that jeopardize the continued existence of threatened or endangered species, if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect species that are on the federal and State endangered species lists, compliance with the federal ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of species that are only State-listed, the Project proponent must apply for a take permit under Section 2081(b) of the California Fish and Game Code.

California Fish and Game Code

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the federal Migratory Bird Treaty Act, essentially serve to protect nesting native birds.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (CNPPA) prohibits importation of rare and endangered plants into California, “take” of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the CNPPA, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected

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under CESA; however, impacts to endangered, rare, or threatened species, including plants, are evaluated under CEQA.

Local Regulations

Foster City General Plan

The Foster City General Plan establishes a strategy for development of Foster City while preserving the natural character of the community. Although the General Plan has policies related to the protection of biological and wetland resources, these policies do not apply to the type of development proposed by the Project given its urban location and existing conditions.

4.3.1.1 EXISTING CONDITIONS

Vegetation and Wildlife Habitat

The site is located in a developed area comprised of a combination of single- and multi-family residents, public/semi-public land uses, together with associated roadway and landscaping. The site currently contains seven (five connected and two free standing) wood construction, cement foundation single-story structures, as well as two small kiosk structures and a playground on the northwestern quadrant of the site. The site also includes 250 surface parking spaces, and perimeter landscaping, including ornamental trees, shrubs, and patches of grass. Medians within the parking area support small trees and shrubs. No natural habitat, sensitive natural communities, or jurisdictional waters or wetlands occur on the site or in the vicinity.

The Final EIR for the Foster City General Plan Update and Climate Action Plan classifies the land cover of the Project site as urban.¹ Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs.² Existing wildlife habitat is typical of suburban areas. Species typical of urbanized and ruderal habitat occur in the vicinity, including birds and mammals common in the suburban habitats. Typical species suspected include: house finch, house sparrow, mourning dove, northern mocking bird, pocket gopher, house mouse, eastern fox squirrel, Norway rat, and western fence lizard. Raccoon, opossum, and other larger species may occasionally forage in yard areas at night, but foraging opportunities are limited.

Special-Status Species

The following discussion is based on a background search of special-status species that are documented on the California Natural Diversity Data Base (CNDDB), the California Native Plant Survey (CNPS) Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. As conducted in the Final Environmental Impact Report (FEIR) for the Foster City General Plan Update and Climate Action

¹ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), Figure 3.2-2 (Land Cover Map), page 3.2-31, September.

² City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), page 3.2-6, September.

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Plan EIR, the background search was regional in scope and focused on the documented occurrences within a 1-mile radius of the city limit.

The search revealed documented occurrences of the 23 Special-Status species within Foster City: six plants, two invertebrates, one reptile, four mammals, and ten birds. In addition, there is one sensitive natural community: Northern Coastal salt marsh; however, this natural community is not close to the Project site, as shown on Figure 4.3-1.

Figure 4.3-1 shows the distribution of special-status plant and animal species respectively in relationship to the site, based on the CNDDDB occurrence records.³ Most of the special-status species reported from the Foster City vicinity are associated with the open water and coastal salt marsh habitat of the Bay, such as the federally-threatened western snowy plover (*Charadrius alexandrinus nivosus*), the State and federally endangered California clapper rail (*Rallus longirostris obsoletus*), the State and federally-endangered salt-marsh harvest mouse (*Reithrodontomys raviventris*), and California least tern (*Sterna antillarum browni*). Other habitats in Foster City with special-status species include seasonal wetlands and freshwater marsh habitats along drainages, which include the State and federally endangered San Francisco garter snake (*Thamnophis sitalis*). In addition, other habitats with special-status species include coastal scrub, coastal dunes, riparian woodland, and dry or annual or perennial grasslands, which include a federal species of concern, Burrowing owl (*Athene cuniculari*), the CDFW Species of Speical Concern, Pallid Bat (*Antrozous pallidus*) and the federally endangered Myrtle's silverspot (*Speyeria zerene myrtleae*).

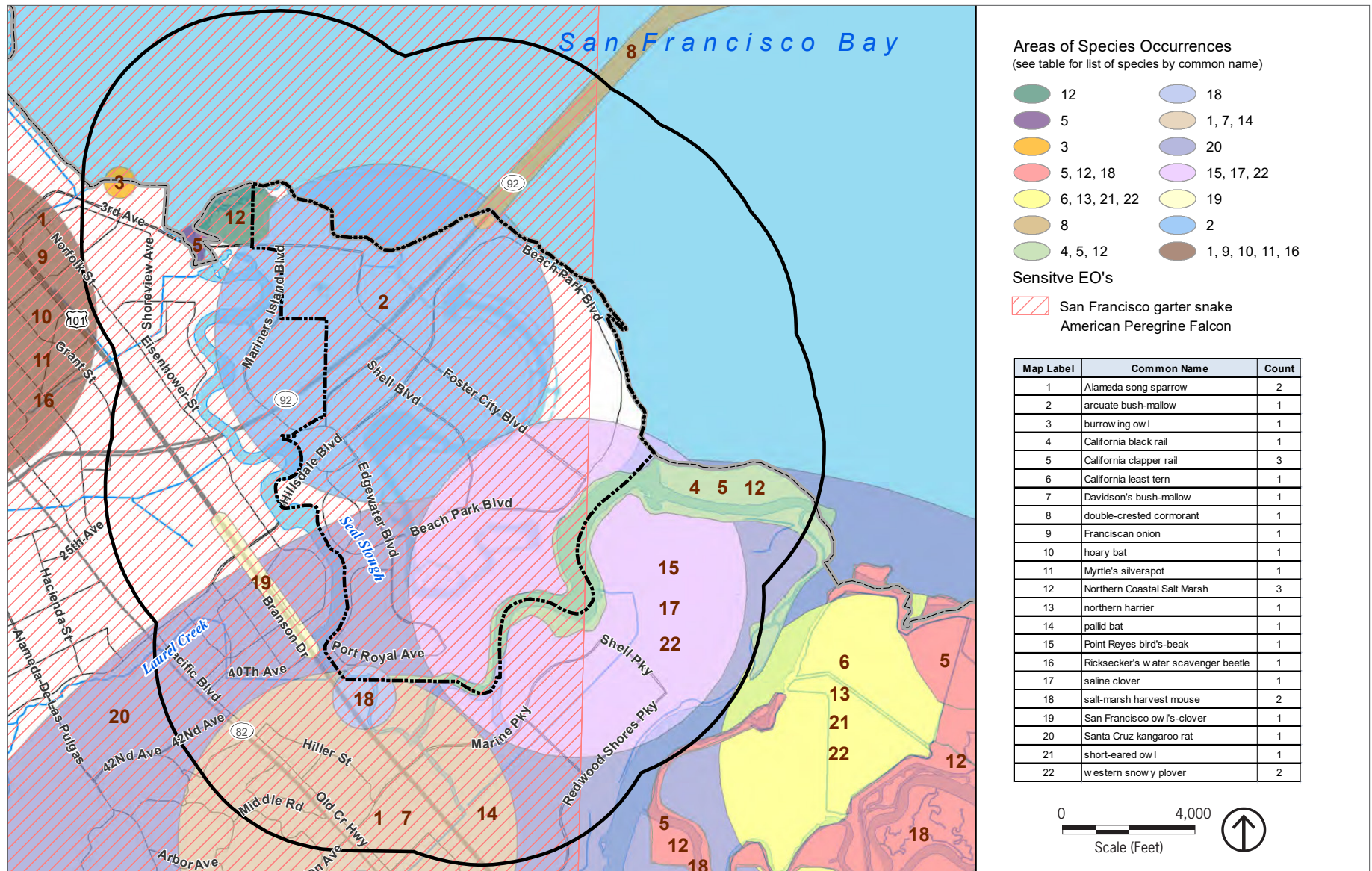
The Special-Status plant species that are present or potentially present in Foster City are found in chaparral, coastal scrub, riparian woodland, coastal salt marshes or coastal prairies. None of the Special-Status plants present or potentially present in Foster City are federally endangered, or threatened, rather all five plants, Arcuate bush-mallow (*Malacothammus arcuatus*), Davidson's bush-mallow (*Malacothamnus davidsonii*), Franciscan onion (*Allium peninsulare* var. *franciscanum*), Point Reyes bird's beak (*Chlorophyron maritimum*), Saline clover (*Trichocoronis hydrophilium*), and San Francisco owl's clover (*Triphysaria floribunda*), are listed as rare, threatened, or endangered in California, but more common elsewhere.⁴

As indicated on Figure 4.3-1, the Project site is located in the area of occurrence of one Special-Status plant, the Arcuate bush-mallow. In addition, the Project site is located in the areas of occurrence of the San Francisco garter snake and the American Peregrine Falcon, (*Falcon peregrinus anatum*). The American peregrine falcon has been removed from the list of federally special-status species.

³ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), pages 3.2-6-7, September.

⁴ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), pages 3.2-6-7, September.

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Source: De Nova Planning Group.

Figure 4.3-1
Special-Status Species in and Around Foster City

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4.3.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact to biological resources if it would:

1. Have a substantial adverse effect, 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 by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect 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 Wildlife, or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

4.3.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to biological resources.

BIO-1	The proposed Project would have a substantial adverse effect, either directly or through habitat modifications, on special-status species.
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Suitable habitat for special-status species known or suspected to occur in the Foster City vicinity is absent from the Project site as a result of past development activities and no impacts are anticipated for most special-status species. However, there is a remote possibility that mature trees and areas of dense landscaping could be used for nesting by raptors and more common bird species. These nests would be protected under the federal Migratory Bird Treaty Act and California Fish and Game Code when in active use. The Migratory Bird Treaty Act prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the USFWS; this prohibition includes whole birds, parts of birds, and bird nests and eggs. Tree and vegetation removal, building demolition, and other construction activities during the breeding season could result in the incidental loss of fertile eggs or nestlings or nest abandonment if any active nests are present. This would be considered a *significant* impact.

Impact BIO-1: The proposed Project would have the potential to result in the loss of raptor eggs and nests, and/or the eggs and nests of other protected birds.

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Mitigation Measure BIO-1: Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and California Department of Fish and Game Code when in active use. This shall be accomplished by taking the following steps:

- If tree removal and initial construction is proposed during the nesting season (March to August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of tree and vegetation removal or building demolition, in order to identify any active nests on the site and surrounding area within 100 feet of proposed construction. The site shall be resurveyed to confirm that no new nests have been established if vegetation removal and demolition has not been completed or if construction has been delayed or curtailed for more than 7 days during the nesting season.
- If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September to February), tree and vegetation removal and building construction may proceed with no restrictions.
- If bird nests are found, an adequate setback shall be established around the nest location and vegetation removal, building demolition, and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW, and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the site.
- A report of findings shall be prepared by the qualified biologist and submitted to the SMFCSD for review and approval prior to initiation of vegetation removal, building demolition and other construction during the nesting season (March to August). The report shall either confirm absence of any active nests or shall confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if vegetation removal, building demolition, and other construction is initiated during the non-nesting season (September to February) and continues uninterrupted according to the above criteria.

Significance With Mitigation: Less than significant (LTS).

BIO-2	The proposed Project would not have a substantial adverse effect on sensitive natural communities.
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The Project site is developed with parking lots, structures, and sparse decorative landscaping. Wildlife habitat values are limited based on the urban and suburban conditions of the Project site and vicinity, and important wildlife movement corridors are absent. The Project site contains no creeks or aquatic habitat that would support fish and proposed development would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nurseries. While some existing ornamental landscaping would be removed, new landscaping would serve to replace its habitat functions for birds and other wildlife common in the area. Therefore, potential impacts on wildlife movement opportunities would be considered *less than significant*.

BIOLOGICAL RESOURCES

Significance Without Mitigation: Less than significant (LTS).

BIO-3	The proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.
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Jurisdictional wetlands and other regulated waters are absent from the Project site, which is fully developed with a neighborhood shopping center, asphalt parking lots, and ornamental landscaping. Typical best management practices would be utilized to prevent any construction-generated sediment or pollutants from entering the storm drain system and entering down-gradient regulated waters (see Chapter 4.8, Hydrology and Water Quality). Therefore, impacts to jurisdictional wetlands and waters would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

BIO-4	The proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
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The Project site is located in an urbanized area, bordered by existing roadways and other urban uses that preclude the presence of any important wildlife movement corridors across the Project site. The Project site is developed with parking lots, structures and limited ornamental landscaping. Wildlife habitat values are limited based on the urban and suburban conditions of the Project site and vicinity, and important wildlife movement corridors are absent. The Project site contains no creeks or aquatic habitat that would support fish and proposed development would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nurseries. Wildlife species common in urban habitat would continue to move through the area, both during and after construction. Therefore, this impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

BIO-5	The proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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In general, the proposed Project would not conflict with any goals and policies of the Foster City General Plan, or conflict with any local ordinances. Sensitive biological resources are generally absent from the site. Measures called for in Mitigation Measure BIO-1 would ensure avoidance of any special-status species in the remote instance that they disperse onto or establish new nests on the site. Removal of heritage or regulated trees would be required to comply with the City's tree-removal permitting process, although implementation of the proposed Project would not result in the removal of any officially

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designated heritage trees such trees. Overall, the proposed Project would not conflict with any local policies or ordinances protecting biological resources and a *less-than-significant* impact would occur.

Significance Without Mitigation: Less than significant (LTS).

4.3.2 CUMULATIVE IMPACTS

BIO-6	The proposed Project contribution to cumulative impacts on biological resources would be less than significant.
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The potential impacts of a proposed Project on biological resources tend to be site-specific and the overall cumulative effect is dependent on the degree to which significant vegetation and wildlife resources are protected on a particular site. This includes preservation of well-developed native vegetation (e.g., marshlands, native grasslands, oak woodlands, riparian scrub and woodland, etc.), populations of special-status plant or animal species, and wetland features (including seasonal wetlands and drainages). Environmental review of specific development proposals in the vicinity of a development site should serve to ensure that important biological resources are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts, including development for the remaining undeveloped lands in the surrounding area.

Because the footprint of the proposed Project lacks any sensitive biological resources, with the exception of possible future migratory birds, and because the identified mitigation measures would reduce any potential biological impacts to a less than significant level, the Project would not contribute to any cumulative impacts on special-status species, sensitive natural communities, or regulated wetlands. Further, impacts associated with the proposed development would not contribute to a cumulative reduction of important wildlife habitat. Accordingly, the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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4.4 CULTURAL AND TRIBAL CULTURAL RESOURCES

This Subchapter includes an evaluation of the potential environmental impacts on cultural resources from construction and operation of the proposed Project. Cultural resources include historically and architecturally significant resources, as well as archaeological, paleontological resources and Tribal Cultural Resources as defined under Assembly Bill (AB) 52. Additionally, this chapter describes the environmental setting, including regulatory framework and existing cultural resources, on the project site, and identifies mitigation measures, if required, that would avoid or reduce potentially significant impacts.

Information used to prepare this section was gathered from the Combined Final Environmental Impact Report and Draft Environmental Impact Report for the Foster City General Plan and Climate Action Plan which used information and data provided by Melinda Peak, Senior Historian/Archaeologist with Peak and Associates.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 REGULATORY FRAMEWORK

This section summarizes existing federal, State, and local policies and regulations that apply to cultural resources in Foster City.

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act of 1966 established the National Register of Historic Places (National Register) as the official designation of historical resources, including districts, sites, buildings, structures and objects. For a property to be eligible for listing in the National Register, it must be significant in American history, architecture, archaeology, engineering or culture, and must retain integrity in terms of location, design, setting, materials, workmanship, feeling and association. Resources less than 50 years in age, unless of exceptional importance, are not eligible for the National Register. Though a listing in the National Register does not prohibit demolition or alteration of a property, CEQA requires the evaluation of project effects on properties that are listed in the National Register.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

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Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate State or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

State Regulations

California Environmental Quality Act

Public Resources Code Section 21083.2 provides for protection of unique archaeological resources. Preservation of unique archaeological sites is the preferred treatment (21083.2[b]) however, if sites are not be preserved in place, mitigation measures shall be required as provided in 21083.2(c).

Section 21084.1 addresses the issue of historical resources, which includes prehistoric Native American resources, historical-era archaeological deposits, buildings, structures, objects, and districts. Historical resources are defined as resources that are listed in or determined to be eligible for listing in the California Register of Historical Resources. It also includes resources included in a local register of historical resources or otherwise determined to be historically significant under section 5024.1.

Section 15064.5 of the CEQA Guidelines states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines define four ways that a property can qualify as a historical resource for purposes of CEQA compliance:

- The resource is listed in or determined eligible for listing in the California Register of Historical Resources, as determined by the State Historical Resources Commission.
- The resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- The lead agency determines the resource to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, as supported by substantial evidence in light of the whole record.
- The lead agency determines that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1 (CEQA Guidelines Section 15064.5) which means, in part, that it may be eligible for the California Register.

In addition, Public Resources Code Section 21083.2 and Sections 15064.5(c), 15064(f), and 15126.4(b) of the CEQA Guidelines specify lead agency responsibilities to determine whether a Project may have a significant effect on unique archaeological resources. If it can be demonstrated that a Project would damage a unique archaeological resource, the lead agency may require reasonable efforts for the resources to be preserved in place or left in an undisturbed state. Preservation in place is the preferred

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approach to mitigation. The Public Resources Code also details required mitigation if unique archaeological resources are not preserved in place.

Section 15064.5(d) and (e) of the CEQA Guidelines specifies procedures to be used in the event of a discovery of Native American human remains on non-federal land. Section 15064.5(d) addresses procedures when an initial study identifies the existence or probable likelihood of Native American human remains within a project area. Section 15064.5(e) provides guidance for accidental discovery of any human remains after a project is already under way. These provisions protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a Project, and establish the Native American Heritage Commission (NAHC) as the authority to identify the Most Likely Descendant (MLD) and mediate any disputes regarding disposition of such remains.

California Register of Historic Resources

The California Register of Historic Places (California Register) establishes a list of properties to be protected from substantial adverse change (Public Resources Code Section 5024.1). The office of Historic Preservation (OHP) advocates that all historical resources over 45 years old be recorded for inclusion in the OHP filing system, although the use of professional judgment is urged in determining whether a resource warrants documentation.¹ A historical resource may be listed in the California Register if it meets any of the following criteria.

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic value.
- It has yielded, or may be likely to yield, information important in the pre-history or history of the local area, California, or the nation.

In addition to meeting one or more of the four criteria listed above, a property must possess “integrity,” defined as the ability to convey its significance. Seven elements are considered key in considering a property’s integrity: location, design, setting, materials, workmanship, feeling, and association.

The California Register includes properties that are listed or have been formally determined eligible for listing in the National Register, State Historical Landmarks, and eligible Points of Historical Interest. Other resources that may be eligible for the California Register, and which require nomination and approval for listing by the State Historic Resources Commission, include:

- Resources contributing to the significance of a local historic district;
- Individual historical resources;
- Historical resources identified in historic surveys conducted in accordance with OHP procedures;

¹ Office of Historic Preservation, 1995. Instructions for Recording Historical Resources, page 2, March.

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- Historic resources or districts designated under a local ordinance consistent with the procedures of the State Historic Resources Commission; and
- Local landmarks or historic properties designated under local ordinance.

Additionally, for a resource to be eligible for the California Register of Historic Resources, it must retain sufficient integrity to be recognizable as a historical resource and to convey its significance.

Health and Safety Code Sections 7052 and 7050.5

Section 7052 of the Health and Safety Code states that the disinterment of remains known to be human, without authority of law, is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC.

Assembly Bill 52

AB 52, which took effect on July 1, 2015, amends CEQA and adds standards of significance that relate to Native American consultation and certain types of cultural resources, Tribal Cultural Resources (TCR), protected under CEQA.

Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. As of July 1, 2016, the Governor's Office of Planning and Research (OPR) developed guidelines and the Native American Heritage Commission (NAHC) informed tribes which agencies are in their traditional area. In response to these guidelines, a discussion of impacts to TCRs has been added to Section 4.4.2, Thresholds of Significance, further in this chapter. A TCR is defined under AB 52 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included a local register of historical resources, or if the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.

AB 52 requires the CEQA lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic area of the proposed Project if the Tribe requests in writing, to be informed by the lead agency through formal notification of the proposed Projects in the area. The consultation is required before the determination of whether a negative declaration, mitigated negative declaration, or EIR is required. In addition, AB 52 includes time limits for certain responses regarding consultation. CEQA Section 21084.3 has been added, which states that "public agencies shall, when feasible, avoid damaging effects to any tribal cultural resources." Information shared by tribes as a result of AB 52 consultation shall be documented in a confidential file, as necessary, and made part of a lead agencies administrative record.² In response to AB 52, the SMFCSD has received requests from tribes in the geographic area, has responded to requests for information throughout the process, and will notify the tribes of the availability of the Draft EIR.

² California Public Resources Code, Section 21074.

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Public Resources Code Section 5097

Public Resources Code Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on non-federal public lands. The disposition of Native American burials falls within the jurisdiction of the NAHC, which prohibits willfully damaging any historical, archaeological, or vertebrate paleontological site or feature on public lands.

Local Regulations

The City's General Plan does not currently contain policies or programs that specifically address the protection of archaeological resources. However, standard conditions of approval applied to development projects in the city require protective measures if cultural or historic resources are encountered during construction. Specifically, SCOA 9.20 ensures that proper handling of prehistoric or historic archaeological materials if encountered during project activities, and requires all work within 25 feet of the discovery to be halted, the Community Development Director to be immediately notified, and a qualified archaeologist contacted to assess the find, consult with agencies as appropriate, and make recommendations for the treatment of the discovery.

4.4.1.1 Existing Conditions

Prehistory

In general, the Bay Area was lightly occupied prior to about 2000 B.C by hunter/gatherer populations that did not concentrate on estuarine or marine food resources. Shellfish were eaten, but they are not predominant in the diet and sites are located inland as commonly as near the ocean or bay. About 2000 B.C a radically different cultural focus, the Berkeley Pattern, takes over. This way of life does emphasize the resources available near shorelines and is commonly thought to represent the movement of Penutian speakers, into the area.

The next major shift in cultural pattern appears to develop in the area over time as a result of population expansion and technological development. The Augustine Pattern, from around A.D 500 to European American contact, shows an increased reliance on vegetable foods (necessary to support a denser population), more settlements, wide-ranging trading patterns with both neighboring and distant groups and several other trails reflecting a mature cultural development.³

Historic Period

Early Spanish exploration of the Peninsula was fueled by the desire to establish missions in the region. Mission Dolores in San Francisco was dedicated in 1776. Many of the lands in what is now San Mateo County were claimed as land grants by early settlers. The ranchos were agricultural, used primarily for grazing cattle and sheep.

³ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.3, (Cultural Resources), page 3.3-1, September.

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After the discovery of gold in California in 1848, thousands rushed to California seeking a new life. Although some mined, many others quickly realized the agricultural potential of the region. Unclaimed lands were taken up by the new settlers, and the large tracts of rancho lands provided a great deal of conflict. California acquired statehood in the 1850, putting more pressure on the owners of the ranchos.

San Mateo County was established in 1856 from the southern portion of San Francisco County with a later addition of a portion of Santa Cruz County in 1868. Most of the lands that now comprise Foster City were historically swamp and coastal marsh lands.

The oyster industry had its beginnings in San Francisco Bay in 1872 when Samuel Penngrove planted eastern seed oysters. In 1874, John Stillwell Morgan acquired most of the bay lands of San Mateo County, including Penngrove's property and developed the Morgan Oyster Company into a very successful business. The company became the sole source for oysters on the west coast. Changes had occurred to the lands of the study area by 1909. A large portion of the northern lands of the study area had been acquired by W.P.A Brewer, and were a portion of this estate. Tracts along the eastern line of the lands of what is now Foster City had been acquired by three owners.

Foster City was founded on the reclaimed lands of the marshes of Brewer's Island. Formal groundbreaking for the city occurred on August 21, 1961.⁴

The Project site is currently developed with an open air shopping center including seven wood-constructed, cement foundation, single-story structures. A record search was conducted through the Northwest Information Center of the California Historical Resources Information System. There are no recorded cultural resources within Foster City.⁵ There are no known significant cultural resources as defined by CEQA, including historical resources, archaeological resources and human remains, located within the study area.⁶

Paleontological Resources

The most general paleontological information can be obtained from geologic maps, but geologic cross sections must be viewed for each area in question. Once it can be determined which formations may present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment, when they died, perhaps a scattered layer of shells will be preserved over large areas. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, and old occurring species, the most complete

⁴ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.3, (Cultural Resources), page 3.3-2-3, September.

⁵ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.3, (Cultural Resources), page 3.3-3, September.

⁶ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), Figure 3.2-2 (Land Cover Map), page 3.2-31, September.

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specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. The exact locations are considered proprietary and therefore not presented in CEQA documents (to prevent the removal or destruction of these important, nonrenewable resources. There are no known paleontological resources located in the Foster City Planning Area.⁷

4.4.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant cultural resource impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.
2. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.
5. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.4.3 IMPACT DISCUSSION

This section analyzes potential Project-specific and cumulative impacts to cultural resources.

CULT-1	The proposed Project would not cause a substantial adverse change in the significance of a historical resource.
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A significant impact would occur if the proposed Project would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. As described above, the project site is not within the vicinity of a designated Historic District, and according to a record search conducted through the Northwest Information Center of the California Historical Resources

⁷ City of Foster City, 2015. Foster City General Plan Update and Climate Action Plan, Chapter 3 (Environmental Analysis), Section 3.2, (Biological Resources), Figure 3.2-2 (Land Cover Map), page 3.3-14, September.

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Information System, no known significant historical resources as defined by CEQA are located within the study area. Therefore, there would be *no impact* with respect to historical resources.

Significance Without Mitigation: No impact (NI).

CULT-2	Implementation of the proposed Project would cause a substantial adverse change in the significance of an archeological resource pursuant to CEQA Guidelines Section 15064.5.
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Since the site has been developed in the past, associated ground disturbing activities are likely to have already disturbed or resulted in the discovery of any archeological resources that may exist on the site. However, although no known archaeological resources or ethnographic sites have been recorded at the project site, historical and pre-contact archaeological deposits that meet the definition of historical resource under CEQA Section 21084.1 or CEQA Guidelines Section 15064.5 could be present at the project site and could be damaged or destroyed by ground-disturbing construction activities (e.g., site preparation, grading, excavation, and trenching for utilities) associated with the proposed Project. Should this occur, the ability of the deposits to convey their significance, either as containing information about prehistory or history, or as possessing traditional or cultural significance to Native American or other descendant communities, would be materially impaired. This is considered a *potentially significant* impact.

Impact CULT-2: Construction of the proposed Project would have the potential to cause a significant impact to an unknown archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Mitigation Measure CULT-2: If any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and a qualified archaeologist shall be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives from the District and the archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation. All significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the District shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be instituted. Work may proceed on other parts of the Project site while mitigation for historical resources or unique archaeological resources is being carried out.

Significance With Mitigation: Less than significant (LTS).

CULT-3	The proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
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As with archaeological resources, as described under Impact CULT-2, since the site has been developed in the past, ground disturbing activities are likely to have already disturbed or resulted in the discovery of

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any paleontological resources that may exist on the site. Nevertheless, while fossils are not expected to be discovered during Project construction, it is possible that significant fossils could be discovered during excavation activities, even in areas with a low likelihood of occurrence. Fossils encountered during excavation could be inadvertently damaged. If a unique paleontological resource is discovered, the impact to the resource could be substantial. This is considered a *potentially significant* impact.

Impact CULT-3: Excavation for the proposed Project would have the potential to damage an unknown paleontological resource or site.

Mitigation Measure CULT-3: In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery as needed, in accordance with Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 1995), evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the Project based on the qualities that make the resource important. The excavation plan shall be submitted to the District for review and approval prior to implementation.

Significance With Mitigation: Less than significant (LTS).

CULT-4	The proposed Project would not disturb any human remains, including those interred outside of dedicated cemeteries.
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Human remains associated with pre-contact archaeological deposits could exist on the project site and could be encountered at the time potential future development occurs. The associated ground-disturbing activities, such as site grading and trenching for utilities, have the potential to disturb human remains interred outside of formal cemeteries. Any human remains encountered during ground-disturbing activities are required to be treated in accordance with California Code of Regulations Section 15064.5(e) (CEQA), Public Resources Code Section 5097.98, California Health and Safety Code Section 7050.5, and General Plan 2035 Policy HP-A-5, which state the mandated procedures of conduct following the discovery of human remains. Descendant communities may ascribe religious or cultural significance to such remains, and may view their disturbance as an unmitigable impact.

Health and Safety Code Section 7050.5 and the CEQA Guidelines Section 15064.5(e) contain the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours, who would, in turn, notify the person the NAHC identifies as the Most Likely Descendants (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the

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discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

Therefore, with the mandatory regulatory procedures described above, potential impacts related to the potential discovery or disturbance of any human remains accidentally unearthed during construction activities associated with the proposed Project would be *less than significant* and no mitigation measures are required.

Significance Without Mitigation: Less than significant (LTS).

CULT-5	The proposed Project could cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code Section 21074, 5050.1 (k), or 5024.1.
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As discussed under Impacts CULT-2 and CULT-4, no known archeological resources, ethnographic sites, or Native American remains are located on the project site. However, as discussed under Impact CULT-2, the project site could contain undiscovered subsurface archaeological deposits, including unrecorded Native American prehistoric archaeological materials. In addition, as discussed under Impact CULT-4, ground-disturbing activities associated with the proposed Project have the potential to unearth unknown human remains. Therefore, although no known TCR have been identified on the Project site, the proposed Project has the potential to disturb subsurface deposits possessing traditional or cultural significance to Native American or other descendant communities. This is considered a *potentially significant* impact.

Impact CULT-5: Construction of the proposed Project would have the potential to cause a significant impact to an unknown TCR as defined in Public Resources Code 21074.

Mitigation Measure CULT-5: Implement Mitigation Measures CULT-2 and CULT-3.

Significance With Mitigation: Less than significant.

4.4.4 CUMULATIVE IMPACTS

CULT-6	The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to cultural resources.
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Development under the proposed Project, in conjunction with buildout of the City and the region, has the potential to adversely affect archaeological resources, paleontological resources, human remains, and TCR through their destruction or disturbance during ground-disturbing activities. Impacts to cultural resources tend to be site specific and are assessed on a site-by-site basis. The significance of the impacts would depend largely on what, if any, cultural resources occur on or near the sites of the related projects that are developed in the cumulative setting. Similar to the proposed Project, such determinations would be made on a case-by-case basis and, if necessary, the applicants of the related projects would be required to

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comply with applicable federal, State, and local regulations and implement appropriate mitigation measures. Development of the proposed Project would comply with federal and State laws protecting cultural resources. Implementation of Mitigation Measures CULT-2, CULT-3 and CULT-5 identified above would ensure that archaeological and paleontological resources, if discovered on the Project site, are protected, and that discovered human remains and TCR are handled appropriately. Thus, given that the proposed Project's cultural resources impacts are less than significant with mitigation, the proposed Project's impacts to cultural resources would not be considered cumulatively considerable. Therefore, cumulative impacts to cultural resources would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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GEOLOGY AND SOILS

4.5 GEOLOGY AND SOILS

This Subchapter describes the regulatory framework and existing conditions on the Project site related to geology, soils, and seismicity, and evaluates the potential impacts to from construction associated with the proposed Project.

The Geotechnical Investigation and Geologic Hazards Evaluation performed for this Project is included in Appendix C of this Draft EIR.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations and programs related to geology, soils, and/or seismicity at the Project site. There are no specific federal regulations applicable to the proposed Project.

State Regulations

California Building Code

The California Building Code (CBC), known as the California Building Standards Code, is found in Title 24 of the California Code of Regulations (CCR). The CBC incorporates the International Building Code, a model building code adopted across the United States. The CBC is updated every three years, and the current 2016 version took effect January 1, 2017. The Foster City has adopted the CBC by reference in section 15.04.010 of their Municipal Code.¹

Through the CBC, the State provides a minimum standard for building design and construction. Of particular relevance, Chapter 16 of the CBC contains specific requirements for structural (building) design, including seismic loads. Chapter 18 of the CBC includes requirements for soil testing, excavation and grading, and foundation design. The CBC, as adopted by local cities or counties, is often modified with more restrictive amendments that are based on local geographic, topographic, or climatic conditions.

Division of the State Architect

The Division of the State Architect (DSA) maintains requirements for the submission of a geohazard report to the California Geological Survey (CGS) per DSA requirements IR A-4.13. The report must conform to CGS content guidelines, approved by CGS and subsequently submitted to DSA. This requirement applies to all projects, such as schools, within the jurisdiction of DSA. The proposed Project, characterized by the development of new structures on an existing site, and in a location within both seismic and liquefaction hazard zones as mapped in the City's General Plan, is subject to this DSA permit process.

¹ Foster City Municipal Code, Foster City, California, <http://www.codepublishing.com/CA/FosterCity/?FosterCity17/FosterCity1754.html&?f>, accessed June 14, 2017.

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Alquist-Priolo Earthquake Fault Zoning Act

Surface rupture is the most easily avoided seismic hazard. The Alquist-Priolo Earthquake Fault Zoning Act was passed in December 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, which was passed by the California Legislature in 1990, addresses earthquake hazards related to liquefaction and seismically induced landslides.² Pursuant to the Act, seismic hazard zones are mapped by the State Geologist in order to assist local governments in land use planning. The Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety."³ Section 2697(a) of the Act states that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."⁴

Local Regulations

Foster City General Plan Local Hazard Mitigation Plan and Safety Element

The Foster City's Local Hazard Mitigation Master Plan (LHMP) also acts as the 2016 Safety Element of the City's General Plan. The purpose of the LHMP is to "is to reduce or eliminate risks to people, property and the environment from significant hazards in Foster City." The process to revise the LHMP continued throughout 2016, and a multi-departmental planning team delivered a draft LHMP to the California Governor's Office of Emergency Services (CalOES) on March 16, 2016. This plan was ultimately approved by FEMA and adopted by Foster City's City Council on November 21, 2016.

Per the General Plan, site-specific geotechnical analysis is required for all new construction to ensure that the most appropriate foundation design is utilized in order to minimize impacts from geologic hazards, including ground shaking, liquefaction and ground settlement. Buildings are constructed under stringent building codes to be more resilient and to maximize life safety.

The Safety Element of the existing General Plan establishes policies and programs that are designed to protect structures, improvements, and people, from geologic hazards, including the following relevant policies and programs.

- **Policy S-1** requires the use of the most current uniform codes to review permits for new and modified structures.

² California Geological Survey, Seismic Hazards Mapping Act, http://www.conservation.ca.gov/cgs/shzp/Documents/SHZ_FactSheet.pdf, accessed June 8, 2015.

³ California Public Resources Code, Division 2, Chapter 7.8, Section 2691(c).

⁴ California Public Resources Code, Division 2, Chapter 7.8, Section 2697(a).

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- **Policy S-3** requires the City to take measures to prevent damage to the City’s infrastructure and emergency facilities resulting from seismic and geologic hazards.
- **Program S-a** requires site specific geotechnical and engineering reports for new structures.
- **Program S-d** requires the City to include an assessment of non-structural seismic hazards as part of annual inspections of businesses as part of a public education program.

Additionally, the City’s adopted Standard Conditions of Approval are designed to protect structures, improvements, and people, from geologic hazards, including seismic related hazards. Specifically, SCOA 2.2 requires a site-specific, design level, fault zone geotechnical report with recommendations to minimize seismic damage prior to the issuance of a building permit.⁵

Municipal Code

Chapter 15.04 of the Foster City Municipal Code, titled “Building Code” enforces and amends the California Building Code to ensure seismically-sound grading procedures. It strengthens geotechnical reporting so that reports include data on “the nature, distribution and physical properties of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of sites to be developed.”

Chapter 15.32, titled “Seismic Hazards Identification Program” includes provisions “to promote public safety by identifying those buildings in the city which exhibit structural deficiencies and by accurately determining the severity and extent of those deficiencies in relation to their potential for causing loss of life or injury.”

Chapter 8.80, Outdoor Water Conservation in Landscaping, includes grading design standards to minimize soil erosion, runoff, and water waste, and requires a soil management report to be completed for certain projects.

4.5.1.2 EXISTING CONDITIONS

Geology

Foster City is located in the eastern portion of the United States Geological Survey’s (USGS) San Mateo Quadrangle, one of a series of topographic map areas developed by the USGS. The San Francisco Peninsula is a relatively narrow band of rock at the north end of the Santa Cruz Mountains separating the Pacific Ocean from San Francisco Bay. It represents one mountain range in a series of northwesterly-aligned mountains forming the Coast Ranges geomorphic province of California that stretches from the Oregon border on the north nearly to Point Conception on the south. In the Bay area, most of the Coast Ranges have developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (70- to 200-million years old) rocks of the Franciscan Complex, an assemblage of serpentinite, greenstone, greywacke, chert, shale, sandstone, and schist. These basement rocks are capped locally by younger sedimentary and volcanic rocks.

⁵ Foster City General Plan, Safety Element, adopted November 21, 2016.

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The geology in the vicinity of Foster City has been mapped by a variety of organizations, including the USGS. In San Mateo County, the lithologic associations are divided into several assemblages of fault-bounded blocks that contain unique stratigraphic sequences. The major fault in the region is the San Andreas Fault, located approximately 3.5 miles southwest of the Project area. Lateral and vertical movement on the many splays of the San Andreas Fault system and other secondary faults has produced the dominant northwest-oriented structural and topographic trend seen today throughout the Coast Ranges. Other major active faults in the area include the Hayward, Calaveras, and Mount Diablo Thrust faults.

Soils

The Project site is in an area of widespread artificial fill resulting from the infilling of tidal marsh, a process necessary for the planned development of Foster City (see Chapter 4.8, Hydrology and Water Quality). Artificial fill consists of natural and man-made materials such as gravel, sands and silt, at various levels of consolidation. Based on recent borings, this fill reaches depths of 2.5 to 5.5 feet below the surface of the site.⁶

Landslides

The Project site and surrounding areas are topographically flat and far from any slopes. There are no landslide or debris flow source areas anywhere near the site. The potential for landsliding is near zero.

Liquefaction

Liquefaction generally occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong, seismic-induced ground shaking. Under certain circumstances, seismic ground shaking can temporarily transform an otherwise solid, granular material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may suddenly subside and suffer major structural damage.

The Project site is mapped by the Association of Bay Area Governments (ABAG) as Very High Susceptibility to Liquefaction.⁷ On-site analysis completed as part of the independent geotechnical review indicates that some layers of soils beneath the Project site could experience liquefaction that results in soil-softening and settlement of up to 0.5 inches, with differential settlements of about .33 inches over a horizontal difference of 30 feet.⁸

Unstable Geologic Units

The artificial fill immediately beneath the Project site is underlain by estuarine deposits of very soft to very stiff clay, known as Bay Mud. The upper 1.5 to 3.5 feet of Bay Mud is primarily medium stiff to very

⁶ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School.

⁷ Association of bay Area Governments, Resilience Program Web Page, <http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility#nogo1>, accessed June 5, 2017.

⁸ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School.

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stiff, and moderately compressible. However, this “crust” of upper mud is underlain by approximately 33 to 37 feet of very soft, highly compressible clay that is prone to uneven settlement. Bay Mud moisture contents range from 39 to 54 percent for the crust, and 85 to 118 percent for the soft clay beneath.⁹

The volume of expansive soils can change dramatically depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moisture that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils.

Soil expansion was assessed as part of the independent geotechnical survey performed at the Project site. The artificial fill directly beneath the Project site, composed of silty sands, was deemed to have a low expansion potential. However, the upper Bay Mud beneath that fill was found to have a very high expansion/plasticity potential during wetting and drying cycles.¹⁰

4.5.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact if it would:

1. Result in substantial soil erosion or the loss of topsoil.
2. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
3. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
4. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.5.3 IMPACT DISCUSSION

GEO-1	The proposed Project would not result in substantial soil erosion or the loss of topsoil.
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Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed or dissolved, and removed from one place and transported to another. Precipitation, running water, waves, and wind are all agents of erosion. Ordinarily, erosion proceeds so slowly as to be imperceptible, but when the natural equilibrium of the environment is changed, the rate of erosion can be greatly accelerated. Accelerated erosion within an urban area can cause damage by undermining

⁹ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School.

¹⁰ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School.

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structures, blocking storm sewers, and depositing silt, sand, or mud in roads and tunnels. Eroded materials are eventually deposited into coastal and local waters where the carried silt remains suspended in the water for some time, constituting a pollutant and altering the normal balance of plant and animal life.

The proposed Project would include excavation for installation and connection of underground utilities, and other subsurface disturbances. These site preparation activities would result in the disruption of on-site soils and exposure of uncovered soils to potential erosion impacts. However, site preparation activities would be short-term, occurring for only a brief period during the preliminary stages of project development.

Although some erosion would result from grading and construction operations, the proposed Project would not result in significant soil erosion or loss of topsoil. Because the site encompasses an area of more than 1 acre, the proposed Project would be subject to the National Pollutant Discharge Elimination System (NPDES) permit requirements. As part of the permit requirements, a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program would be prepared. The SWPPP would serve to help identify the sources of pollution that may affect the quality of stormwater discharges and to describe and ensure implementation of practices to reduce the pollutants in construction stormwater discharges. The SWPPP would specify, along with permanent or post-construction measures, best management practices (BMPs) for temporary erosion control. The BMPs typically include the use of vegetation and mulch to stabilize disturbed areas, and sandbags and temporary catch basins to direct runoff away from disturbed areas and trap sediments on-site. NPDES permit requirements are further discussed in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR. Therefore, adherence to existing regulatory requirements would ensure that the impacts associated with substantial erosion or the loss of topsoil resulting from proposed Project would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

GEO-2	The proposed Project would result in a significant impact related to development on unstable geologic units and soils or result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse.
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The potential for landslides is judged low in light of the essentially flat topography. As described in Section 4.5.1.2 Existing Conditions above, the Project site is in an area where artificial fill is prevalent, and is considered to have Very High Susceptibility to liquefaction. In response to these conditions, the proposed Project site engineering incorporates features such as light weight fill material and varying foundation depths to distribute soil settlement safely (see Section 3.17.2, Project Description). Compliance with relevant requirements of the CBC, and completion of Geohazard Report in compliance with the DSA permitting guidelines, would further reduce potential impacts relating to unstable geologic units or soils.

Regardless, the presence of highly-compressible Bay Mud beneath the Project site, as verified by independent geological analysis, could be exacerbated by any development other than that which is fully-vetted by geotechnical and structural engineering experts. This is considered a *significant* impact.

Impact GEO-2: Construction of the proposed Project would have the potential to induce the uneven subsidence of highly-compressible Bay Mud.

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Mitigation Measure GEO-2: Prior to Project construction, the Project developer/SMFSCD Geotechnical Engineer shall prepare a Geohazard Report, consistent with DSA requirements IR A-4.13 and the Geohazard Report content requirements of the California Geological Survey (CGS). Construction cannot commence until the report is approved by the DSA and the associated permit issued.

Significance With Mitigation: Less than significant (LTS).

GEO-3	The proposed Project would create substantial risks to property as a result of its location on expansive soil, as defined by Section 1803.5.3 of the California Building Code.
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As discussed in Section 4.5.1.2, a layer of considerably expansive, compressible clay lies beneath the Project site. Expansion of this soil could result in dangerous impacts to proposed structural foundations, including cracks and breaks. The adverse effects of expansive soils can be avoided through proper subsoil preparation, drainage, and foundation design. As stressed in the discussion of Impact GEO-2, the presence of this unstable Bay Mud beneath the Project site could place people and structures at risk following new development. This is considered a *significant* impact.

Impact GEO-3: Development of the proposed Project could result in danger to future occupants associated with cracked or uneven foundations resulting from construction on expansive soils.

Mitigation Measure GEO-3: Implementation of Mitigation Measure GEO-2.

Significance With Mitigation: Less than significant (LTS).

GEO-4	The proposed Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
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The proposed Project would not require the use of septic tanks or alternative waste water disposal systems. Wastewater would be discharged into the existing public sanitary sewer system in Foster City, which is serviced by Estero Municipal Improvement District (EMID), a public utility that provides wastewater collection and conveyance services to the city's residents. Sanitary sewer lines bring this wastewater to the San Mateo Wastewater Treatment Plant (WWTP) located at 2050 Detroit Drive, approximately 4 miles from the Project site. As such, there would be *no impact* from implementation of the proposed Project at sites where soils might otherwise not be capable of supporting the use of septic tanks or alternative wastewater disposal systems.

Significance Without Mitigation: No impact (NI).

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4.5.4 CUMULATIVE IMPACTS

GEO-5	The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to geology, soils, and seismicity.
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Any potential future development in Foster City and the surrounding vicinity would be required to meet the latest standards set forth in the CBC. The CBC requirements, along with requirements in the FCMC, ensure that any development on unstable soil or expansive soil is regulated to minimize potential hazards. The FCMC includes requirements for the performance and review of geological investigations prior to the issuance of building permits for development to minimize impacts from geologic hazards, including ground shaking, liquefaction and ground settlement. Moreover, in combination with foreseeable development in the surrounding area, implementation of the proposed Project would not change the geology or soil characteristics of the Project area as a whole.

Implementation of the proposed Project would not result in a significant impact with respect to geology, and soils, and would not significantly contribute to cumulative impacts in this regard. Therefore, the cumulative impacts associated with potential future development allowed by the proposed Project, together with anticipated cumulative growth, would result in a *less-than-significant* cumulative impact with respect to geology, soils, and seismicity.

Significance Without Mitigation: Less than significant (LTS).

GREENHOUSE GAS EMISSIONS

4.6 GREENHOUSE GAS EMISSIONS

This Subchapter describes the regulatory framework and existing conditions related to greenhouse gas (GHG) emissions, and the potential for impacts from the adoption and implementation of the proposed Project. Because no single project is large enough individually to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis. GHG emissions are based on average daily trips (ADT) provided by Hexagon for the on-road transportation emissions section. The GHG emissions modeling is included in Appendix B, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

GHG emissions are various gases that are released into the atmosphere, largely as a by-product of burning fossil fuels, such as oil, natural gas, and coal, or as methane during the production and transport of fossil fuels. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping GHG to the atmosphere. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.^{1,2,3} The major GHG are briefly described below.

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

¹ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant or a primary cause of change, but part of the feedback loop.

² Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. According to the California Air Resources Board, California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities. However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

³ Intergovernmental Panel on Climate Change, Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

GREENHOUSE GAS EMISSIONS

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global warming potential (GWP) gases.
- **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
- **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.^{4,5}
- **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced, along with HFCs, as alternatives to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.
- **Sulfur Hexafluoride (SF₆)** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 4.6-1, *GHG Emissions and their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for CH₄, a project that generates 10 metric tons (MT) of CH₄ would be equivalent to 250 MT of CO₂.⁶

⁴ United States Environmental Protection Agency (EPA), 2017. Greenhouse Gas Emissions, <http://www.epa.gov/climatechange/ghgemissions/gases.html>.

⁵ Intergovernmental Panel on Climate Change, 2001. *Third Assessment Report: Climate Change 2001*, New York: Cambridge University Press.

⁶ CO₂-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

GREENHOUSE GAS EMISSIONS**TABLE 4.6-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO₂**

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO ₂ ^a	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ^a
Carbon Dioxide (CO ₂)	50 to 200	50 to 200	1	1
Methane ^b (CH ₄)	12 (±3)	12	21	25
Nitrous Oxide (N ₂ O)	120	114	310	298
Hydrofluorocarbons				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF ₄	50,000	50,000	6,500	7,390
Perfluoroethane: C ₂ F ₆	10,000	10,000	9,200	12,200
Perfluorobutane: C ₄ F ₁₀	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF ₆)	3,200	NA	23,900	22,800

Note: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report⁷ that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂ (radiative forcing is the difference of energy from sunlight received by the earth and radiated back into space).

a. Based on 100-year time horizon of the GWP of the air pollutant relative to CO₂.

b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Source: Intergovernmental Panel on Climate Change (IPCC). 1995. Second Assessment Report: Climate Change 1995. Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. Beginning in the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that are

⁷ Intergovernmental Panel on Climate Change, 2013. Fifth Assessment Report: Climate Change 2013, New York: Cambridge University Press.

GREENHOUSE GAS EMISSIONS

attributable to human activities. The amount of CO₂ in the Earth's atmosphere has increased by more than 35 percent since preindustrial times, and the concentration of CO₂ in the atmosphere has increased at an average rate of 1.4 parts per million (ppm) per year since 1960, mainly due to combustion of fossil fuels and deforestation.⁸ These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone.⁹ Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.¹⁰

Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions, as well as, observations on the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, climate trends include varying degrees of certainty on the magnitude of the direction of the trends for:

- warmer and fewer cold days and nights over most land areas;
- warmer and more frequent hot days and nights over most land areas;
- an increase in frequency of warm spells/heat waves over most land areas;
- an increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas; areas affected by drought increases;
- intense tropical cyclone activity increases; and increased.

IPCC's "2007 IPCC Fourth Assessment Report" projects that the global mean temperature increase from 1990 to 2100 under different climate-change scenarios will range from 1.4 to 5.8 degrees Celsius (°C) (2.5 to 10.4 degrees Fahrenheit (°F)). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime.¹¹

California's GHG Sources and Relative Contribution

If California was a country, it would be the tenth largest GHG emitter in the world. It is the second largest emitter of GHG in the United States, surpassed only by Texas; however, California also has over 12 million

⁸ Intergovernmental Panel on Climate Change, 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

⁹ At the end of the last ice age, the concentration of CO₂ increased by around 100 ppm (parts per million) over about 8,000 years, or approximately 1.25 ppm per century. Since the start of the industrial revolution, the rate of increase has accelerated markedly. The rate of CO₂ accumulation currently stands at around 150 ppm/century—more than 200 times faster than the background rate for the past 15,000 years.

¹⁰ California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature, March.

¹¹ Intergovernmental Panel on Climate Change, 2007. *Fourth Assessment Report: Climate Change 2007*, New York: Cambridge University Press.

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more people than the state of Texas.¹² Because of more stringent air emission regulations, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO₂ emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services).¹³

In 2015, the statewide GHG emissions inventory was updated for 2000 to 2013 emissions using the GWP in IPCC's Fourth Assessment Report. Based on these GWP, California produced 459 MMTCO₂e GHG emissions in 2013. California's transportation sector remains the single largest generator of GHG emissions, producing 36.8 percent of the state's total emissions. Electricity consumption made up 19.7 percent, and industrial activities produced 20.2 percent. Other major sectors of GHG emissions include commercial and residential, recycling and waste, high global warming potential GHG, and agriculture.¹⁴

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7 °F from 1895 to 2011, and warming has been greatest in the Sierra Nevada mountains. By 2050, California is projected to warm by approximately 2.7 °F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6 °F, depending on emissions levels.¹⁵

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation falling as snow, 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) an advanced snowmelt of 5 to 30 days earlier in the springs, and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms.¹⁶ According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes, and the inertia of the Earth's climate system could produce as much as 0.6 °C (1.1 °F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California include public health impacts, water resources impacts, agricultural impacts, coastal sea level impacts, forest and biological resources impacts, and energy impacts.

¹² California Energy Commission (CEC), 2005. Climate Change Emissions Estimates from Bemis, Gerry and Jennifer Allen, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2002 Update, California Energy Commission Staff Paper CEC-600-2005-025, Sacramento, California, June.

¹³ California Energy Commission (CEC), 2006. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004, Report CEC-600-2006-013-SF, December.

¹⁴ California Air Resources Board (CARB), 2015. California Greenhouse Gas Inventory for 2000–2013: By Category as Defined by the Scoping Plan, April 24.

¹⁵ California Climate Change Center, 2012. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

¹⁶ California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature, March.

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TABLE 4.6-2 SUMMARY OF GHG EMISSIONS RISKS TO CALIFORNIA

Impact Category	Potential Risk
Public Health Impacts	Poor air quality made worse More severe heat
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: California Energy Commission, 2006. Our Changing Climate: Assessing the Risks to California, 2006 Biennial Report, California Climate Change Center, CEC-500-2006-077. California Energy Commission, 2008. The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California, CEC-500-2008-0077. California Climate Change Center, 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

Specific climate change impacts that could affect the Project include:

- **Water Resources Impacts.** By late-century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the State can be expected to be drier from the warming effects alone as the spring snowpack will melt sooner, and the moisture contained in soils will evaporate during long dry summer months.¹⁷
- **Wildfire Risks.** Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide are estimated to increase

¹⁷ California Climate Change Center, 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

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from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.¹⁸

- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the State. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.¹⁹
- **Increased Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the State will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process from higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.²⁰

4.6.1.2 REGULATORY FRAMEWORK

This section summarizes key federal, State and City regulations and programs related to GHG emissions that are applicable to the Project.

Federal Regulations

The United States Environmental Protection Agency (US EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The US EPA's final findings respond to the 2007 US Supreme Court ruling that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United

¹⁸ California Climate Change Center, 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

¹⁹ California Climate Change Center, 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

²⁰ California Climate Change Center, 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California, July.

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States and around the world. The first three are applicable to the Project's GHG emissions inventory because they constitute the majority of GHG emissions and, per Bay Area Air Quality Management District (BAAQMD) guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

United States Mandatory Report Rule for GHG (2009)

In response to the endangerment finding, the US EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 MTCO₂e per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow auto makers who show compliance with the national program to be considered in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017 to 2025, which will require a fleet average of 54.5 mpg in 2025.

US EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

The Environmental Protection Agency (EPA) is the federal agency responsible for regulating the emissions of GHGs and implementing the Federal Clean Air Act (FCAA). Pursuant to its authority under the Clean Air Act, the US EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under President Trump's Energy Independence Executive Order.

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- Reduce statewide GHG emissions to 2000 levels by 2010.
- Reduce statewide GHG emissions to 1990 levels by 2020.
- Reduce statewide GHG emissions to 80 percent below 1990 levels by 2050.

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Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act, which set the goal of reducing GHG emissions to 1990 levels by 2020. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

2008 Scoping Plan

The 2008 Scoping Plan was adopted by CARB on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 MMTCO₂e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO₂e (471 million tons) for the state.²¹ In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCO₂e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

In 2014, CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The final Update to the Scoping Plan was released in May, and CARB adopted it at the May 22, 2014, board hearing. The Update to the Scoping Plan defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in Executive Orders S-03-05 and B-16-2012. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 4.6-1). IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 MMTCO₂e 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 MMTCO₂e.²²

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals. CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.²³

²¹ California Air Resources Board (CARB), 2008. Climate Change Proposed Scoping Plan: A Framework for Change, October.

²² California Air Resources Board (CARB), 2014. First Update to the Climate Change Scoping Plan: Building on the Framework, May 15, <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>.

²³ California Air Resources Board (CARB), 2014. First Update to the Climate Change Scoping Plan: Building on the Framework, <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>, accessed May 15, 2017.

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Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the State to 40 percent below 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the State and requires State agencies to implement measures to meet the interim 2030 goal of Executive Order B-30-15 as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, “Safeguarding California,” in order to ensure climate change is accounted for in State planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the State. On January 20, 2017, CARB released the *Draft 2017 Climate Change Scoping Plan Update* with adoption hearings planned for April of 2017. The *Draft 2017 Climate Change Scoping Plan Update* includes the potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The *Draft 2017 Scoping Plan* establishes a new emissions limit of 260 MMTCO₂e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.²⁴

California’s climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California’s local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030);

²⁴ California Air Resources Board (CARB). The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed , January 20, 2017.

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- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030;
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks;
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030;
- Post-2020 Cap-and-Trade Program that includes declining caps;
- 20 percent reduction in GHG emissions from refineries by 2030;²⁵
- Continued implementation of SB 375;
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

In addition to the Statewide strategies listed above, the *2017 Climate Change Scoping Plan* also identified local governments as essential partners in achieving the State’s long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 MTCO₂e or less per capita by 2030 and 2 MTCO₂e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State’s long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a climate action plan or other plan to reduce GHG emissions is appropriate.²⁶

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 4.6-3, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the “10 percent” LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 50 MMTCO₂e above the target in 2030. In order to make up the “gap”, a new Post-2020 Cap-and-Trade Program and refinery measure are key components of the 2017 Scoping Plan.

²⁵ The plan includes policies to require direct GHG reductions at some of the State’s largest stationary sources and mobile sources in accordance with AB 197. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources.

²⁶ California Air Resources Board (CARB). The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed January 20, 2017.

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TABLE 4.6-3 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP

Modeling Scenario	2030 GHG Emissions MMTCO ₂ e
Reference Scenario (Business-as-Usual)	392.4
With Known Commitments	310
2030 GHG Target	260

Source: California Air Resources Board. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed January 20, 2017.

Table 4.6-4, *2017 Climate Change Scoping Plan Emissions Change by Sector*, provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

TABLE 4.6-4 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS CHANGE BY SECTOR

Scoping Plan Sector	1990 MMTCO ₂ e	2030 Proposed Plan Ranges (MMTCO ₂ e)	% Change from 1990
Agricultural	26	24-25	-4% to -8%
Residential and Commercial	44	38-40	-9% to -14%
Electric Power	108	42-62	-43% to -61%
High GWP	3	8-11	167% to 267%
Industrial	98	77-87	-11% to -21%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-27% to -32%
Net Sink ^a	-7	TBD	TBD
Sub Total	431	300-345	-20% to -30%
Cap-and-Trade Program	NA	40-85	NA
Total	431	260	-40%

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.

a. Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

Source: California Air Resources Board. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed January 20, 2017.

SB 375, Regional Transportation Plan / Sustainable Communities Strategy

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the Scoping Plan's GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips.

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Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 regions in California managed by a metropolitan planning organization (MPO). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. MTC's targets are a 7 percent per capita reduction in GHG emissions from 2005 by 2020, and 15 percent per capita reduction from 2005 levels by 2035. SB 375 requires CARB to periodically update the targets, no later than every 8 years.

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMTCO₂e of reductions by 2020 and 15 MMTCO₂e of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met.²⁷

CARB is currently in the process of updating the next round of targets and methodology to comply with the requirement for updates every eight years. Considerations for the next round of targets include whether to change the nature or magnitude of the emissions reduction targets for each of the MPOs, and whether the target-setting methodology should account for advances in technologies that reduce emissions. Such changes in methodology would permit cities to account for emissions reductions from advances in cleaner fuels and vehicles and not only from land use and transportation planning strategies. In March 2017, CARB held a series of workshops regarding the SB 375 target update process, and updated targets adopted in 2017 are intended to become effective in 2018. Sustainable communities strategies (SCSs) adopted in 2018 would be subject to the updated targets.²⁸

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

²⁷ California Air Resources Board (CARB), 2010. Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375. Staff Report, August.

²⁸ California Air Resources Board (CARB), 2015. ARB Process and Schedule for SB 375 Target Update, September 15. <http://www.arb.ca.gov/cc/sb375/sb375.htm>.

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Executive Order S-01-07

On January 18, 2007, the State set a new LCFS for transportation fuels sold within the State. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the State identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies are to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles were at zero emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard established under SBs 1078 (Sher) and 107 (Simitian). Under the Renewables Portfolio Standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the Legislature in 2011 (SBX1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

SB 350 (de Leon), signed into law in September 2015, establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2016 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency

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technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017.

The 2016 Standards continue to improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards, respectively.²⁹ Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. While the 2016 standards do not achieve zero net energy, they do get very close to the State's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California.³⁰

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.³¹ The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2016. The 2016 Standards became effective on January 1, 2017.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the Act requires that each city and county prepare and submit a source reduction and recycling element.

²⁹ California Energy Commission (CEC), 2015. 2016 Building Energy Efficiency Standards, Adoption Hearing Presentation. <http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/>, accessed June 10, 2017.

³⁰ California Energy Commission (CEC), 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

³¹ The green building standards became mandatory in the 2010 edition of the code.

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AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the Statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The Act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11) also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the State implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to SB 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the Energy Commission, in consultation with the department, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

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Regional Regulations

Plan Bay Area: Strategy for a Sustainable Region

Plan Bay Area is the Bay Area's Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS). The Plan Bay Area was adopted jointly by ABAG and MTC on July 18, 2013.³² The SCS lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. According to Plan Bay Area, the Plan will meet a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.

As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated within PDAs. PDAs are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs in the region.³³ The proposed Project site is not within a PDA.³⁴

Draft Plan Bay Area 2040

The final draft of the Plan Bay Area 2040 was recently released and has an anticipated adoption in 2017. It would serve as a limited and focused update to Plan Bay Area 2013, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years.³⁵ Per the Plan Bay Area 2040, while the projected number of new housing units and new jobs within PDAs would increase to 629,000 units and 707,000 jobs compared to the adopted Plan Bay Area 2013, its overall share would be reduced to 77 percent and 55 percent.³⁶ However, the Plan Bay Area 2040 plan would remain on track in meeting the 16 percent per capita reduction of GHG emissions by 2035.³⁶

Local Regulations

Foster City Climate Action Plan

The City of Foster City adopted a Climate Action Plan (CAP) in February of 2016. The CAP was developed to meet AB 32 GHG emissions reduction goals. It contains goals, policies and measures to reduce local GHG emissions and increase civic sustainability. Many measures and actions in the CAP are based on policies in the Sustainability Action Plan, Sustainable Foster City Plan, and General Plan. The overarching

³² It should be noted that the Bay Area Citizens filed a lawsuit on MTC's and ABAG's adoption of *Plan Bay Area*.

³³ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. *Plan Bay Area: Strategy for a Sustainable Region*, July 18.

³⁴ Associated Bay Area Governments (ABAG), 2015. Priority Development Area Showcase, July. <http://gis.abag.ca.gov/website/PDAShowcase/>.

³⁵ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2017. *Plan Bay Area 2040 Draft Plan*, March.

³⁶ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2017. *Plan Bay Area 2040 Draft Plan*, March.

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goal of the CAP is to reduce GHG emissions 15 percent below 2005 levels by 2020, 20 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050. The CAP includes GHG emissions reduction measures broadly categorized into Energy, Transportation and Land Use, Waste, Energy and Water, and Education. The CAP contains the following school-specific implementation measure:

- **Measure TL5:** Coordinate with schools in Safe Routes to School Programs to support programs that would encourage walking and biking. *Potential annual GHG reduction: 238 MT CO₂e.*

4.6.1.3 EXISTING CONDITIONS

The existing Project site is developed with approximately 56,000 square feet of commercial space. These current land uses generate long-term air pollutant emissions from mobile sources, energy use, and area sources.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact to GHG emissions if it would:

1. Generate GHG emissions, either directly or indirectly, that may a significant effect on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

4.6.2.1 BAAQMD SIGNIFICANCE CRITERIA

BAAQMD has a tiered approach for assessing GHG emissions impacts of a project. If a project is within the jurisdiction of an agency that has a “qualified” GHG reduction strategy, the Project can assess consistency of its GHG emissions impacts with the reduction strategy.

BAAQMD has adopted screening criteria and significance criteria for development projects that would be applicable for the proposed Project. If a project exceeds the Guidelines’ GHG screening-level sizes, the Project would be required to conduct a full GHG analysis using the following BAAQMD significance criteria:

- 1,100 MT of CO₂e per year; or
- 4.6 MT of CO₂e per service population (SP) for year 2020

AB 32 requires the Statewide GHG emission be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020. Hence, BAAQMD’s per capita significance threshold is calculated based on the State’s land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53 MMTCO₂e and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 MTCO₂e/SP for year 2020. Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as

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natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO₂ emissions are not included in the quantification of a project's GHG emissions, because biogenic CO₂ is derived from living biomass (e.g. organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels. Although GHG emissions from waste generation are included in the GHG inventory for the proposed Project, the efficiency threshold of 4.6 MTCO₂e per service population for 2020 identified above does not include the waste sector, and it is therefore not considered in the evaluation.

BAAQMD does not have thresholds of significance for construction-related GHG emissions, but requires quantification and disclosure of construction-related GHG emissions.

4.6.3 IMPACT DISCUSSION

This section analyzes potential cumulative impacts to GHG emissions.

GHG-1	Implementation of the proposed Project would directly and indirectly generate greenhouse gas (GHG) emissions but would not result in an increase in community emissions from baseline conditions and, therefore, would not have a significant impact on the environment.
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Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this GHG chapter measures a project's contribution to the cumulative environmental impact. Development under the proposed Project would contribute to global climate change through direct and indirect emissions of GHG from transportation sources, energy (natural gas and purchased energy), water use and wastewater generation, waste generation, and other, off-road equipment (e.g., landscape equipment, construction activities).

Construction

BAAQMD does not have thresholds of significance for construction-related GHG emissions, which are one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the proposed Project. One-time, short-term emissions are converted to average annual emissions by amortizing them over the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation.³⁷ The net increase in emissions generated by the Project was evaluated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.1. Construction was conservatively

³⁷ International Energy Agency, 2008. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings, March.

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assumed to take place over 16 months beginning in March 2018. As shown in Table 4.6-6, when amortized over an average 30-year project lifetime, average annual construction emissions from the proposed Project would represent a nominal source of GHG emissions and would not exceed BAAQMD's *de minimis* bright-line threshold of 1,100 MTCO₂e/year. Construction emissions are *less than significant*.

TABLE 4.6-6 CHARTER SQUARE GHG EMISSIONS – CONSTRUCTION PHASE

Category	GHG Emissions (MTCO ₂ e/Year)
2018	507
2019	279
Total Construction Emissions (Years 2018–2020)	786
30-Year Amortized Construction	26

Note: Emissions may not total to 100 percent due to rounding.
Source: CalEEMod 2016.3.1.

Significance Without Mitigation: Less than significant (LTS).

Operation

The total and net increases in GHG emissions associated with the proposed Project are shown in Table 4.6-7. As shown in this table, development of the proposed Project would result in a net decrease of GHG emissions of 691 metric tons of carbon dioxide equivalent (MTCO₂e) per year. The decrease in GHG emissions would not exceed BAAQMD's bright-line screening threshold of 1,100 MTCO₂e. Therefore, project-related GHG emissions during the operational phase of the proposed Project would be *less than significant* and no mitigation measures are required.

Significance Without Mitigation: Less than significant (LTS).

GHG-2	The proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (GHGs).
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The following discusses project consistency to applicable plans adopted for the purpose of reducing GHG emissions, which include CARB's Scoping Plan and MTC's Plan Bay Area.

CARB's Scoping Plan

In accordance with AB 32, CARB developed the 2008 Scoping Plan to outline the State's strategy established by AB 32, which is to return the State's GHG emissions inventory to 1990 levels by year 2020. In September 2016, SB 32 was signed into law, requiring the state's GHG emissions to return to 40 percent below 1990 levels by 2030. Executive Order B-30-15 and SB 32 require CARB to prepare another update to the Scoping Plan to address the 2030 target for the State. On January 20, 2017,

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TABLE 4.6-7 PROJECT GHG EMISSIONS – OPERATIONAL PHASE

	GHG Emissions (MTCO ₂ e/Year)	
	MTCO ₂ e/Year	Percentage
Existing Project (2017)		
Area	<1	0%
Energy ^a	267	18%
On-Road Mobile Sources	1,214	80%
Waste	30	2%
Water/Wastewater	12	1%
Total	1,523	100%
Proposed Project (2019)		
Area	<1	0%
Energy ^a	111	13%
On-Road Mobile Sources	689	83%
Waste	28	3%
Water/Wastewater	5	1%
Total	832	100%
Net Change		
Area	<1	0%
Energy ^a	-156	23%
On-Road Mobile Sources	-526	76%
Waste	-2	0%
Water/Wastewater	-7	1%
Total	-691	100%
BAAQMD Bright-Line Threshold	1,100 MTCO ₂ e/SP/Year	
Exceeds Bright-Line Threshold?	No	

Note: Emissions may not total to 100 percent due to rounding. New buildings would be constructed to the 2016 Building Energy Efficiency Standards (effective January 1, 2017) at minimum.

a. Future new buildings are assumed to achieve the 2016 Building Energy Efficiency Standards which are 5 percent more energy efficient for nonresidential structures and 28 percent more energy efficient for residential buildings compared to the 2013 Building Energy Efficiency Standards. Under the Building Energy Efficiency Standards, multi-family buildings four stories and higher are regulated under the non-residential standards.

b. Based on the Land Use Sector Inventory 2008 Scoping Plan and extrapolated from year 2020 to the mid-term year 2030 GHG reduction target of SB 32. Project-level thresholds are based only on the State's land use emissions inventory sectors identified in the Scoping Plan to ensure consistency with the scope of emissions included in a development project's GHG emissions inventory; and are therefore, more stringent than the plan-level thresholds, which include all GHG sectors.

c. Based on the Land Use Sector Inventory 2008 Scoping Plan and adjusted to the 2030 GHG reduction target of SB 32.

Source: CalEEMod 2016.3.1.

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CARB released the Draft 2017 Climate Change Scoping Plan Update to address the new interim GHG emissions target under SB 32. The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

The 2017 Scoping Plan has adoption hearings planned for 2017, and provides the strategies for the State to meet the 2030 GHG reduction target as established under SB 32. As previously described in Section 4.6.1.2, some of the Statewide strategies to reduce GHG emissions in the 2017 Scoping Plan include expanding the RPS to 50 percent by 2030 under SB 350, expanding the LCFS to 18 percent by 2030, and creating a post-2020 Cap-and-Trade Program.³⁸

The Project GHG emissions shown in Table 4.6-7 include reductions associated with Statewide strategies that have been adopted since AB 32 and SB 32. Statewide strategies to reduce GHG emissions include the LCFS, California Appliance Energy Efficiency regulations, California RPS, changes in the CAFE standards, and other early action measures as necessary to ensure the State is on target to achieve the GHG emissions reduction goals of AB 32. In addition, new buildings are required to comply with the 2016 Building Energy Efficiency Standards (or future cycle update) and CALGreen. The proposed Project would comply with these GHG emissions reduction measures since they are Statewide strategies. Therefore, the Project's GHG emissions would be reduced from compliance with Statewide measures that have been adopted since AB 32 was enacted. Therefore, impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

MTC's Plan Bay Area

The proposed Project site is not within a PDA identified in Plan Bay Area.³⁹ However, the proposed Project would be consistent with the overall goals of Plan Bay Area in concentrating new development in locations where there is existing infrastructure. As the proposed Project would construct an elementary school on a currently developed commercial site, the proposed Project would not conflict with the land use concept plan in Plan Bay Area.

Significance Without Mitigation: Less than significant (LTS).

Foster City Climate Action Plan

The Foster City Climate Action Plan is designed to be a blueprint of the community's response to the challenges posed by climate change. The Plan offers ways to make homes and buildings more energy efficient, increase the usage of renewable energy, encourage development patterns that maintain a mix of uses, provide for diversified circulation needs, reduce waste, lower residential and commercial water usage, and outlines measures that the municipal government could take to reduce GHG emissions. The

³⁸ California Air Resources Board (CARB). The 2017 Climate Change Scoping Plan Update, https://www.carb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed January 20, 2017.

³⁹ Plan Bay Area, 2016. Priority Development Areas (Current), July. http://gis.abag.ca.gov/datacat/meta/Priority_Development_Areas_current.html, accessed June 2, 2017.

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emissions reduction strategies developed by the City follow the BAAQMD's CEQA Guidelines and the corresponding criteria for a Qualified Greenhouse Gas Emissions Reduction Program as defined by the BAAQMD, which in turn were developed to comply with the requirements of AB 32 and achieve the goals of the CARB's AB 32 Scoping Plan. The proposed Project also incorporates several design elements that would reduce GHG emissions such as conformance to the 2016 Building Energy Efficiency Standards and CALGreen building regulations. The proposed Project would be consistent with the applicable measures in the CAP, as identified in Table 4.6-8.

Significance without Mitigation: Less than significant (LTS).

4.6.4 CUMULATIVE IMPACTS

As described above, GHG emissions related to the proposed Project are not confined to a particular air basin but are dispersed worldwide. Therefore, the analysis of impacts in Section 4.7.3, Impact Discussion, above, also addresses cumulative impacts.

Significance Without Mitigation: Less than significant (LTS).

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TABLE 4.6-8 FOSTER CITY CLIMATE ACTION PLAN MEASURES

Applicable Goals	Consistency Analysis
Energy (Community)	
Measure EC 7: Encourage Solar Panel Installation. Encourage residential homeowners and landlords, as well as commercial property owners, to install solar panels by removing the building permit fee for solar panels and encouraging participation in the City's Collective Solar Bulk Purchase program.	Consistent. The proposed buildings would comply with Title 24 solar requirements and would meet solar ready requirements associated with Title 24. While the requirements under Title 24 don't require installation of solar-energy systems, the buildings are built to accept the installation of such a system.
Energy (Municipal)	
Measure EM 2: Implement an Environmentally Preferred Purchasing Policy. The City should make sustainable purchasing decisions on a case-by-case basis, and where costs associated with purchasing a more sustainable option represent 10 percent increase or less when compared to the cost of purchasing a less sustainable option, preference should be given to the more sustainable option.	Consistent. Purchasing associated with the proposed Project would emphasize recycled materials, energy star equipment, and consideration of energy-saving alternatives, as appropriate, in purchasing decisions.
Measure EM 3: Adopt Green Building Standards for Municipal Buildings. Adopt green building standards for municipal buildings as part of the Commercial Green Building Ordinance, to mandate higher building performance in municipal buildings. Mandate achievement of LEED Silver in any new municipal building construction and significant remodels, as several other municipalities in the Bay Area have done.	Consistent. The Project would be consistent with the California Building Code, 2016 Building Energy Efficiency Standards. This would improve energy efficiency 33.5 percent over the 2008 standard and would be consistent with the Foster City Climate Action Plan.
Transportation and Land Use (Community)	
Measure TL 2. Plan for a balanced, multimodal transportation network and encourage bicycling and walking instead of driving by prioritizing pedestrian and bicycle-friendly improvements. Implement bike lanes on main streets, an urban bike-trail system, bike parking, and pedestrian crossings.	Consistent. The proposed Project would allow future construction of protected bike paths and pedestrian pathways separated from vehicle traffic. Features such as onsite bike facilities and the addition of a crosswalk will be included to promote pedestrian and bicycle travel.
Measure TL 4: Encourage a Preferred Parking/Electric Plug-in Policy for Alternative Fuel Vehicles. Encourage and consider making it mandatory for businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.	Consistent. Future projects under the proposed Project would be required to adhere to any requirements regarding installation of EV charging stations and preferred parking for alternative fueled vehicles.
Measure TL 5: Support Safe Routes to School. Coordinate Safe Routes to School programs in local schools to encourage walking and biking	Consistent. The proposed Project would comply with the Safe Routes to School Program and improve currently limited pedestrian and bicycle access to the site.
Transportation-Related Municipal Operations	
Measure TM 4: Establish a Public Employee Commuting Program. Continue to implement and expand the commute alternatives program to promote and incentivize public transportation, carpooling, biking, etc. among City employees. Request feedback from City employees to improve the current program offerings.	Consistent. The SMFCSD will research implementation of commuter incentive programs and non-auto commute options.
Waste	
Measure WC 1: Achieve a Higher Waste Diversion Rate of 75 Percent. Achieve a higher waste diversion rate of 75 percent by 2020.	Consistent. The proposed Project would divert at least 75% of waste through compliance with the City's CAP, which includes participation in programs for recycling, food waste collection, and yard waste.

GREENHOUSE GAS EMISSIONS

TABLE 4.6-8 FOSTER CITY CLIMATE ACTION PLAN MEASURES

Applicable Goals	Consistency Analysis
Measure WC 2: Adopt an Ordinance to Prohibit Disposable Polystyrene Food Ware. This measure effects a ban on single-use polystyrene food containers used by restaurants and food vendors. This ban is enforced by San Mateo County Environmental Health Division personnel.	Consistent. The proposed Project would not use disposable polystyrene food ware on the premises.
WC 5: Adopt a Construction and Demolition Ordinance. Adopt a Construction and Demolition Ordinance to include incentives for deconstruction, and require mandatory recycling and reuse rates for contractors.	Consistent. The proposed Project would divert 50% of its construction waste from landfill.
Energy and Water	
Measure EW 3: Adopt an Ordinance and Implement Incentives for Indoor Water Savings. Implement an Indoor Water Use Efficiency Ordinance to require various types of water-using appliances for new construction and applicable remodels. Continue the water appliance rebate program and explore expanding it to include dishwashers.	Consistent. The proposed Project would comply with all Tier 1 CALGreen Standards and incorporate appropriate water efficient mechanisms.

Source: City of Foster City, 2016. Foster City Climate Action Plan.

GREENHOUSE GAS EMISSIONS

HAZARDS AND HAZARDOUS MATERIALS

4.7 HAZARDS AND HAZARDOUS MATERIALS

This Subchapter describes the regulatory framework and existing conditions related to hazards and hazardous materials on and around the Project site. It also evaluates the potential environmental consequences of developing the proposed Project with regard to hazardous materials and airport hazards.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 REGULATORY FRAMEWORK

Hazardous materials refer generally to hazardous substances, hazardous waste, and other materials that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in products (e.g., household cleaners, industrial solvents, paint, pesticides) and in the manufacturing of products (e.g., electronics, newspapers, and plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses including businesses, hospitals, and households. Accidental releases of hazardous materials have a variety of causes including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

The term “hazardous materials” as used in this section includes all materials defined in the California Health and Safety Code (H&SC Section 25501(m)):

A material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. “Hazardous materials” include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

The term includes chemicals regulated by the United States Department of Transportation (USDOT), the United States Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), the California Governor’s Office of Emergency Services (CalOES), and other agencies as hazardous materials, wastes, or substances. “Hazardous waste” is any hazardous material that has been discarded, except those materials specifically excluded by regulation.

Hazardous materials and wastes can pose an actual or potential hazard to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Many federal, State, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste are in place to prevent these unwanted consequences.

HAZARDS AND HAZARDOUS MATERIALS

Federal Agencies and Regulations

United States Environmental Protection Agency

The EPA laws and regulations ensure the safe production, handling, disposal, and transportation of hazardous materials. Laws and regulations established by the EPA are enforced in San Mateo County by the California Environmental Protection Agency (CalEPA).

United States Department of Transportation (USDOT)

The USDOT has the regulatory responsibility for the safe transportation of hazardous materials between states and to foreign countries. The USDOT regulations govern all means of transportation, except for those packages shipped by mail, which are covered by United States Postal Service (USPS) regulations. The federal Resource Conservation and Recovery Act (RCRA) of 1976 imposes additional standards for the transport of hazardous wastes.

Occupational Safety and Health Administration (OSHA)

The OSHA oversees the administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets (MSDS) from materials manufacturers. The MSDS describe the risks, as well as proper handling and procedures, related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

State Agencies and Regulations

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and California Code of Regulations, Title 19, Section 2729 set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory.

California Environmental Protection Agency (CalEPA)

One of the primary agencies that regulate hazardous materials is the CalEPA. The State, through CalEPA, is authorized by the EPA to enforce and implement certain federal hazardous materials laws and regulations. The California DTSC, a department of the CalEPA, protects California and its residents from exposure to hazardous waste, primarily under the authority of the RCRA and the California Health and Safety Code. The DTSC requirements include the need for written programs and response plans, such as Hazardous Materials Business Plans (HMBPs).

HAZARDS AND HAZARDOUS MATERIALS

California Division of Occupational Safety and Health

Like OSHA at the federal level, the California Division of Occupational Safety and Health (CalOSHA) is the responsible State-level agency for ensuring workplace safety. The CalOSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices.

California Building Code

The State of California provided a minimum standard for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations (CCR). The 2016 CBC is based on the 2012 International Building Code (IBC), but has been modified for California conditions. The CBC is updated every three years and the current CBC went into effect in January 2017. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Typical fire safety requirements of the CBC include the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

California Emergency Management Agency

The California Emergency Management Agency (CalEMA) was established as part of the Governor's Office on January 1, 2009 – created by Assembly Bill 38 (Nava), which merged the duties, powers, purposes, and responsibilities of the former Governor's Office of Emergency Services with those of the Governor's Office of Homeland Security. The CalEMA is responsible for the coordination of overall State agency response to major disasters in support of local government.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California. The CAL FIRE ranks fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat. Additionally, the CAL FIRE produced the 2010 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate for the effects of fire on California's natural and built environments.

California Fire Code

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code (CFC), included as Part 9 of that Title. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

HAZARDS AND HAZARDOUS MATERIALS

California Department of Transportation and California Highway Patrol

Two State agencies have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies: the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides intercity rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and intercity rail services.

The CHP enforces hazardous materials and hazardous waste labeling and packing regulations designed to prevent leakage and spills of materials in transit. The CHP also provides detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the State.

Hazardous Materials-Specific Programs and Regulations

Asbestos-Containing Materials Regulations

Asbestos-containing materials (ACM) contain asbestos, a naturally occurring fibrous mineral that has been mined for its useful thermal properties and tensile strength. ACM is generally defined as either friable or non-friable. Friable ACM is defined as any material containing more than one percent asbestos. Friable ACM is more likely to produce airborne fibers than non-friable ACM, and can be crumpled, pulverized, or reduced to powder by hand pressure. Non-friable ACM is defined as any material containing one percent or less asbestos. Non-friable ACM cannot be crumpled, pulverized, or reduced to powder by hand pressure. When left intact and undisturbed, ACM does not pose a health risk to building occupants. Potential for human exposure occurs when ACM becomes damaged to the extent that asbestos fibers become airborne and are inhaled. Inhalation of asbestos airborne fibers can lead to various health problems, the most serious of which includes lung disease.

State-level agencies, in conjunction with the EPA and OSHA, regulate removal, abatement, and transport procedures for ACMs. Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, federal, State, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos. Specifically, BAAQMD Regulation 11, Rule 2, requires a written plan or notification of intent to demolish or renovate be provided to the District at least ten working days prior to commencement of demolition or renovation.

Lead-Based Paint

Lead-based paint (LBP), which can result in lead poisoning when consumed or inhaled, was widely used in the past to coat and decorate buildings. Lead poisoning can cause anemia and damage to the brain and nervous system, particularly in children. Like ACM, LBP generally does not pose a health risk to building

HAZARDS AND HAZARDOUS MATERIALS

occupants when left undisturbed; however, deterioration, damage, or disturbance will result in hazardous exposure. In 1978, the use of LBP was federally banned by the Consumer Product Safety Commission. Therefore, only buildings built before 1978 are presumed to contain LBP, as well as buildings built shortly thereafter, as the phase-out of LBP was gradual.

Polychlorinated Biphenyls

The EPA prohibited the use of polychlorinated biphenyls (PCBs) in the majority of new electrical equipment starting in 1979, and initiated a phase-out for much of the existing PCB-containing equipment. The inclusion of PCBs in electrical equipment and the handling of those PCBs are regulated by the provisions of the Toxic Substances Control Act (TSCA), Title 15 United States Code Section 2601 et seq. Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment and outline highly specific safety procedures for their disposal. The State of California likewise regulates PCB-laden electrical equipment and materials contaminated above a certain threshold as hazardous waste; these regulations require that such materials be treated, transported, and disposed accordingly. At lower concentrations for non-liquids, regional water quality control boards may exercise discretion over the classification of such wastes.

Regional Agencies and Regulations

San Francisco Bay Regional Water Quality Control Board

The Porter-Cologne Water Quality Act¹ established the State Water Resources Control Board (SWRCB) and divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB). The San Francisco Bay Region (Region 2) is the Regional Water Quality Control Board (San Francisco Bay RWQCB) which regulates water quality in the vicinity of the Project and Project site itself. The San Francisco Bay RWQCB has the authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened, and to require remediation actions, if necessary.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of CalEPA and California Air Resources Board [CARB]). The BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and the issuance of permits for activities including demolition and renovation activities affecting asbestos containing materials (District Regulation 11, Rule 2) and lead (District Regulation 11, Rule 1).

Association of Bay Area Governments Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area

The Federal Disaster Mitigation Act of 2000 (DMA) requires all cities, counties, and special districts to adopt a Local Hazard Mitigation Plan (LHMP) to receive disaster mitigation funding from the Federal

¹ California Water Code Sections 13000 et seq.

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Emergency Management Agency (FEMA). The DMA provides that a local agency may adopt a Local Hazard Mitigation Plan or participate in the preparation of and adopt a Multi-Jurisdictional Hazard Mitigation Plan. ABAG received funds from FEMA to serve as the lead agency in the creation of a multi-Jurisdictional Hazard Mitigation Plan for the nine-county Bay Area. With participation from Foster City and other local agencies, ABAG created an umbrella Hazard Mitigation Plan entitled “Taming Natural Disasters.”

Local Regulations

San Mateo County Environmental Health Department

The State of California transferred administration and enforcement of major environmental programs to local agencies in 1996 in accordance with Senate Bill 1082 (Health and Safety Code 25404). The local agencies under this legislation are known as Certified Unified Program Agencies (CUPAs). The purpose of this legislation was to simplify environmental reporting by streamlining the number of regulatory agency contacts a facility must maintain, and by requiring the use of more standardized forms and reports.

San Mateo County Environmental Health Department (SMCEH) was designated by the State Secretary for Environmental Protection as the CUPA for San Mateo County including Foster City and the Project site in 1996. As such, SMCEH regulates the storage, use, treatment, and disposal of hazardous materials and wastes within Foster City. State CUPA programs for which the Environmental Services Division is responsible include the:

- Hazardous Materials Business Plan (HMBP) program;
- Hazardous waste generator (HW) program;
- California Accidental Release Program (CalARP);
- Aboveground petroleum storage tank (APSA) program;
- Underground storage tank (UST) program; and
- Tiered Permitting for on-site hazardous waste treatment.

In addition, the SMCEH is responsible for:

- Managing the Pretreatment Program for regulated non-domestic discharges to the sewer;
- Enforcement of the hazardous materials requirements of the Fire Code;
- Response to citizen’s complaints; and
- Technical, investigative, and site mitigation oversight for hazardous materials incidents.

Foster City Local Hazard Mitigation Master Plan/General Plan Safety Element

The Foster City’s Local Hazard Mitigation Master Plan (LHMP) also acts as the 2016 Safety Element of the City’s General Plan. The purpose of the LHMP is to “is to reduce or eliminate risks to people, property and the environment from significant hazards in Foster City.” The process to revise the LHMP continued throughout 2016, and a multi-departmental planning team delivered a draft LHMP to the California Governor’s Office of Emergency Services (CalOES) on March 16, 2016. This plan was ultimately approved by FEMA and adopted by Foster City’s City Council on November 21, 2016.

The LHMP is intended to prepare the community for potential life threatening emergencies. As stressed in the document, the LHMP emphasizes hazard mitigation prior to such dangerous events, which include wildfires and the release of hazardous materials, as well as many others. According to the document, the

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there is no formal way to estimate the probability wildfires in the LHMP, due to variables such as cause, location and weather. Similarly, estimating hazardous material release events is difficult due to the wide variations among the type and of magnitude of such accidents.

Foster City Municipal Code

Foster City Municipal Code contains language establishing pre-construction discharge and hazardous waste control. The following are specific to hazardous materials:

- Section 8.37.280 Notification of Hazardous Waste Discharge, prohibits disposal of any material classified as hazardous waste under 40 CFC Part 261.
- Section 8.07.010, Definitions of Solid Waste, separates hazardous waste from the definition of basic solid waste, to be regulated differently and with different enforcement guidelines.
- Section 8.80.080 of Chapter 8.80, describes a required soil management report that is a required element of the landscape plan for construction projects with an aggregate landscape area greater than 500 feet.

Foster City Fire Department

The Foster City Fire Department (FCFD) provides services, including fire suppression, urban search and rescue, emergency medical care and non-emergency services, to Foster City and the Project site. The FCFD is dispatched through Public Safety Communications along with other fire agencies in San Mateo County, in which the closest unit responds to emergency calls, regardless of jurisdiction. In addition, the FCFD participates in the Master Mutual Aid System for the State of California, which provides fire resources throughout the State. The FCFD provides Advanced Life Support (ALS) with a paramedic assigned to every fire engine. The FCFD includes one fire station, Station 28 at 1040 E. Hillsdale Boulevard in Foster City.

The FCFD has 33 full-time employee positions, including fire captains and firefighters, a management coordinator, and an administrative secretary. The FCFD participates in a shared services model with the City of San Mateo, which provides for the Fire Chief, Deputy Fire Chief, Battalion Chiefs and an Emergency Preparedness Coordinator. Foster City and San Mateo also have a contract for service with the Belmont Fire Protection District for a Fire Chief, Administrative Battalion Chief and Operational Battalion Chief services.

4.7.1.2 EXISTING CONDITIONS

This section describes existing conditions related to hazardous materials, airport hazards, and wildlife fires within the Project site.

Hazardous Materials Sites

California Government Code Section 65962.5 requires the CalEPA to compile, maintain, and update specified lists of hazardous material release sites. CEQA (California Public Resources Code Section 21092.6) requires the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether the Project and any alternatives are identified on any of the following lists:

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- **EPA NPL:** The EPA’s National Priorities List includes all sites under the EPA’s Superfund program, which was established to fund cleanup of contaminated sites that pose risk to human health and the environment.
- **EPA CERCLIS and Archived Sites:** The EPA’s Comprehensive Environmental Response, Compensation, and Liability Information System includes a list of 15,000 sites nationally identified as hazardous sites. This would also involve a review for archived sites that have been removed from CERCLIS due to No Further Remedial Action Planned (NFRAP) status.
- **EPA RCRIS (RCRA Info):** The Resource Conservation and Recovery Act Information System (RCRIS or RCRA Info) is a national inventory system about hazardous waste handlers. Generators, transporters, handlers, and disposers of hazardous waste are required to provide information for this database.
- **DTSC Cortese List:** The DTSC maintains the Hazardous Waste and Substances Sites (Cortese) list as a planning document for use by the State and local agencies to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. This list includes the Site Mitigation and Brownfields Reuse Program Database (CalSites).
- **DTSC HazNet:** The DTSC uses this database to track hazardous waste shipments.
- **SWRCB LUSTIS:** This stands for the Leaking Underground Storage Tank Information System and the SWRCB maintains an inventory of USTs and leaking USTs, which tracks unauthorized releases.

The DTSC’s online EnviroStor database and the SWRCB’s online GeoTracker database include formal listings of hazardous material release sites, along with other categories of sites or facilities specific to each agency’s jurisdiction.

A search of the Envirostor database on June 2, 2017² revealed no hazardous release or cleanup sites, of any type, in Foster City.

A similar search of the GeoTracker database, on June 3, 2017, found two “open” facilities located in Foster City. The names, locations, and facility types are identified in Table 4.7-1. Neither is on or within 1,000 feet of the Project site.

TABLE 4.7-1 RWQCB “OPEN” CLEANUP SITES IN FOSTER CITY

Site No.	Site/Facility Name	Program Type	Address Description	Status	Distance from Project site (Feet)
41	Arco #6139	LUST Cleanup Site	880 East Hillsdale Blvd	Open – Site Assessment	3,760
29	Foster City Lift Station	Permitted Underground Storage Tank	909 East Hillsdale Blvd	Open – Site Assessment	4,474

Source: SQRCB GeoTracker.

² DTSC Envirostor, <http://www.envirostor.dtsc.ca.gov>, accessed June 2, 2017.

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Site Specific Hazards

Recent environmental assessments of the Project site identified no Controlled Recognized Environmental Conditions (CREC) or Recognized Environmental Conditions (REC) on the site. These conditions are defined as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.”³

A detailed demolition survey of hazardous materials performed on the Project site in April 2016 identified Asbestos-Containing Materials (ACM) and lead-containing paint (LCP), mostly in tiles and tile grout that would be encountered during demolition of existing structures on the Project site.⁴ Additionally, during the operational phase of the project, common cleaning substances, building maintenance products, paints and solvents, and similar items would be stored, and used, in the buildings on-site. These potentially hazardous materials, however, would not be of a type or occur in sufficient quantities to pose a significant hazard to public health and safety or the environment.

School Locations

There are currently three elementary schools and one middle school in Foster City, all part of the SMFCSD. The school closest to the Project site is Foster City Elementary School, at 461 Beach Park Boulevard. It is approximately 0.54 miles from the Project site. The next closest is Brewer Island Elementary School at 1151 Polynesia Drive, about 0.85 miles from the Project site.

Airport Hazards

The Project site is located approximately 2.6 miles north of the San Carlos Airport and approximately 3.5 miles southeast of San Francisco International Airport (SFO). The Project site is not located near any private use airstrips. The site is located within Area A of the Airport Influence Area (AIA) for the San Carlos Airport, the larger and less regulated of the two-tier AIA. In Area A, requirements for real estate disclosure are mandatory due to potential noise issues.

The AIA for SFO is also two-tier and defines areas where height, noise, overflight and safety standards, policies, and criteria are applied to certain proposed land use policy actions. The Project site is located within Area A of the AIA for SFO, also the larger area. It includes all of San Mateo County. Similar to the San Carlos AIA, Area A is the “Real Estate Disclosure Area” in which Section 11010 of the Business and Professions Code requires people offering subdivided property for sale or lease to disclose the presence of all existing and planned airports within 2 miles of the property.⁵

³ Arcadis, U.S., Inc., 2016, Phase I Environmental Site Assessment Report, 1050-1098 Shell Boulevard, Foster City, California, December 12.

⁴ Professional Services Industries, Inc., 2016. Report of Hazardous Materials Demolition Survey for Charter Square Shopping Center, May 6.

⁵ City/County Association of Governments of San Mateo County, 2012. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport, page IV-2.

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4.7.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant hazard or hazardous materials impact if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.
4. 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, create a significant hazard to the public or the environment.
5. Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the project area.
6. Be within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area.

4.7.3 IMPACT DISCUSSION

HAZ-1	The proposed Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
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The proposed Project would not involve the routine transport, use, or disposal of hazardous materials. As noted in Section 4.7.1.2, a recent demolition survey of hazardous materials identified small quantities of Asbestos-Containing Materials (ACM) and lead-containing paint (LCP) on existing site buildings. Additionally, during the operational phase of the project, common cleaning substances, building maintenance products, paints and solvents, and similar items would be stored, and used, in the buildings on-site. These potentially hazardous materials, however, would not be of a type or occur in sufficient quantities to pose a significant hazard to public health and safety or the environment.

The transportation of chemicals and hazardous materials is governed by the US Department of Transportation (US DOT), which stipulates the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. In addition, the Occupational Safety and Health Administration (OSHA) oversees the administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets (MSDS) from materials manufacturers. Material safety data sheets describe the risk, as well as proper handling and procedures, related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

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Removal of on-site hazardous materials by contractors licensed to remove and handle these materials in accordance with existing regulations as, described in Section 4.7.1.1 and outlined below, would ensure that potential impacts associated with transport or use of hazardous materials into the environment are minimized.

- Written notification to the BAAQMD at least 10 days prior to beginning any demolition work on asbestos-containing materials.
- Written notification to the EPA at least 10 days prior to beginning any demolition work on asbestos-containing materials.
- Written notification to Cal-OSHA, per Cal-OSHA Asbestos Regulations (Title 8, Section 341.9) at least 24 hours prior to beginning any work on asbestos-containing materials.
- Completion of Site remediation pursuant to the Department of Toxic Substances Control (DTSC) voluntary cleanup agreement.

However, the documented presence of hazardous materials on structures that would be demolished as part of the proposed Project requires specific regulatory oversight. The impact of the proposed Project with respect to hazardous materials upset would be *significant*.

Impact HAZ-1: The verified presence of small quantities of Asbestos-Containing Materials (ACM) and lead-containing paint (LCP) in existing site buildings may be upset during project demolition, and potentially result in adverse effects to surrounding residential neighborhoods.

Mitigation Measure HAZ-1: A systematic plan for identifying, handling, and removing hazardous building materials for structures proposed for demolition at the Project site shall be prepared by a licensed professional and submitted to the project developer/SMFCSD for approval prior to demolition. The plan shall follow all applicable site assessment, risk assessment, and remediation guidance documents prepared in accordance with the requirements of the Department of Toxic Substances and Control (DTSC) for the proposed Project. Under DTSC oversight, a No Further Action or letter of certification shall be obtained stating that the site does not pose a significant risk and is suitable for elementary school use.

Significance With Mitigation: Less than significant (LTS).

HAZ-2	The proposed Project would not 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.
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Operation of the proposed Project would involve the storage and use of common cleaning substances, building maintenance products, paints, and solvents. These potentially hazardous substances would not, however, be of a type or occur in sufficient quantities on the Project site to pose a significant hazard to public health and safety or the environment. The storage and use of these materials would be subject to existing federal, State, and local regulations, such as the following:

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- EPA laws and regulations ensure the safe production, handling, disposal, and transportation of hazardous materials. Laws and regulations established by the EPA are enforced locally by California Environmental Protection Agency (Cal-EPA).
- As described above, OSHA oversees training for hazardous materials handlers and the provision of information to employees who may be exposed to hazardous materials.
- California Health and Safety Code Chapter 6.95 and 19 California Code of Regulations Section 2729 set out the minimum requirements for business emergency plans. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.
- The California Division of Occupational Safety and Health Administration (Cal OSHA) is the responsible State-level agency for ensuring workplace safety. Cal OSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices.
- The California Emergency Management Agency (CalEMA) is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for assuring the State's readiness to respond to and recover from all hazards and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.
- The San Mateo County Environmental Health Department (SMEHD) is the Department of Toxic Substances Control (DTSC) Certified Unified Program Agency (CUPA) charged with implementing and enforcing State and local policies relating to hazardous materials in San Mateo County. This includes administration of the Hazardous Materials Business Plan Program and California Accidental Release Program.

Compliance with these regulations would ensure that the risk of accidents and spills are minimized to the maximum extent practicable. Consequently, overall, associated impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

HAZ-3	The proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.
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The proposed Project involves the demolition and removal of buildings at an existing shopping center and the construction of a new elementary school. As noted in Section 4.7.1.2, there are currently three elementary schools and one middle school in Foster City. None are within 0.25 miles of the Project site. The closest school facility is Foster City Elementary School, at 461 Beach Park Boulevard. It is approximately 0.54 miles from the Project site. Therefore, the proposed Project would not emit or handle hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school, and there would be *no impact* in this respect.

Significance Without Mitigation: No impact (NI).

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HAZ-4	The proposed Project would not 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, create a significant hazard to the public or the environment.
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As described in Section 4.7.1.2, Existing Conditions, recent searches of DTSC and SWRCB databases revealed one Leaking Underground Storage Tank Cleanup Site and one Permitted Underground Storage Tank site in Foster City. As shown in Table 4.7-1, neither is on or within 1,000 feet of the Project site. Therefore, there would be *no impact*.

Significance Without Mitigation: No impact (NI).

HAZ-5	The proposed Project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the project area.
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As described in Section 4.7.1.2, the Project site is not within 2 miles of a public airport. However, the Project site is located within Area A of the Airport Influence Area (AIA) for the both the San Carlos Airport and San Francisco International Airport. Tier A of both AIA's is the larger and less regulated area of both, limited to real estate disclosure requirements. Area A of the SFO AIA includes all of San Mateo County. The location of the Project site within these areas would not result in a safety hazard for people at the Project site, and would therefore result in a *less than significant* impact.

Significance Without Mitigation: Less than significant (LTS).

HAZ-6	The proposed Project would not be within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area.
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As discussed in Section 4.7.1.2, Existing Conditions, there are no private airstrips within 2 miles of the Project site. Therefore, there would be *no impact* in this respect.

Significance Without Mitigation: No impact (NI).

4.7.4 CUMULATIVE IMPACTS

HAZ-7	The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to hazards and hazardous materials.
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With respect to hazardous materials in the environment, effects are generally limited to site-specific conditions due to the fact that exposure typically is dependent on proximity to the source of the hazardous material. An exception to this precept would be contaminant groundwater plumes resulting

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from multiple sources and underlying larger areas. However, based on research in preparing the Hazardous Materials Sites section, there are no known groundwater contaminant plumes beneath or in proximity to the Project site. The geographic scope for cumulative impacts associated with hazards and hazardous materials, therefore, encompasses the Project site and immediate vicinity.

The cumulative impact analysis in this Draft EIR relies on a projections-based approach supplemented by an understanding of past, present, and reasonably foreseeable future projects in the vicinity of the Project site that, when considered with the effects of the project, may result in cumulative effects. Specific projects referenced are shown in Table 4-1 in Chapter 4.0, Environmental Analysis. Assuming these projects comply with General Plan policies and other applicable local land use regulations, it is unlikely the project would contribute to a significant cumulative impact.

As discussed previously, development of the project would not result in significant impacts from the increased use of hazardous household materials. The Project would not interfere with implementation of emergency response plans. In addition, potential project-level impacts associated with hazards and hazardous materials would be further reduced through compliance with General Plan policies and strategies, other local, regional, State, and federal regulations, as well as a mitigation measure in the form of a systematic demolition plan. Consequently, construction of the project in combination with past, present, and reasonably foreseeable projects in the near vicinity would result in a *less than significant* impact.

Significance Without Mitigation: Less than significant (LTS).

HYDROLOGY AND WATER QUALITY

4.8 HYDROLOGY AND WATER QUALITY

This Subchapter describes the regulatory framework and existing conditions in and around the Project site related to hydrology and water quality. It also evaluates the potential impacts to hydrology and water quality associated with the proposed Project.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional and local regulations and programs related to hydrology and water quality that are applicable to the proposed Project.

Federal Regulations

Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) (codified at 33 U.S.C. Sections 1251-1376) of 1972 is the primary federal law that governs and authorizes water quality control activities by the EPA, as well as the states. Various elements of the CWA address water quality, and they are discussed below.

Under federal law, the EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the EPA has designated the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) with authority to identify beneficial uses and adopt applicable water quality objectives.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as “impaired”. Once a water body has been designated as impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body. In the vicinity of the Project site, Lower San Francisco Bay is listed as a Section 303(d) impaired water body.¹

¹ State Water Resources Control Board (SWRCB), 2010. *Final Integrated Report (CWA Section 303(d) List/305(b) Report*, http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml accessed June 2, 2017.

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National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4s). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring and other activities.

Under the NPDES Program, all facilities which discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for storm water discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. Foster City and the Project site lie within the jurisdiction of San Francisco RWQCB (Region 2) and are subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (Order No. R2-2009-0074) and NPDES Permit No. CAS612008, as amended by Order No. R2-2015-0049. The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) includes 22 co-permittees including Foster City. The current Municipal Regional Stormwater Permit (MRP) will expire on December 31, 2020.

Under Provision C.3 of the MRP, the co-permittees use their planning authorities to require appropriate low impact development (LID) measures, including infiltration, evapotranspiration, rainwater harvesting and use, and biotreatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. Under Provision C.6, co-permittees require applicants to implement appropriate stormwater best management practices (BMP) during Project construction.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events and the results of this evaluation are documented in the FEMA Levee Inventory System (FLIS). Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage. Currently, Foster City and the Project site are located in an area designated Flood Hazard Zone X (shaded) with Reduced Flood Risk due to Levee. Zone X refers to areas between the limits of the 100-year flood event (base flood) and the 500-year flood event

HYDROLOGY AND WATER QUALITY

(0.2-percent-annual-chance). However, as discussed under Existing Conditions, below, FEMA recently re-evaluated the city's levee system, and determined that, without improvement, it would not provide adequate protection to maintain the City's Zone X designation, and the City and Project site would be redesignated a Special Flood Hazard Area (SFHA), a label applied to those areas which would be inundated in a 100-year flood event.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code sections 13000 et seq.) is the basic water quality control law for California. The Act established the SWRCB and divided the State into nine regional basins, each under the jurisdiction of a RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. As described above, Foster City is within the jurisdiction of the San Francisco Bay RWQCB (Region 2).

Pursuant to the Porter-Cologne Act, municipal stormwater discharges in Foster City (the City is part of the San Mateo Countywide Stormwater Pollution Prevention Program) are regulated under the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R2-2015-0074, NPDES Permit No. CAS612008, Municipal Regional Permit (MRP). Provision C.3 of the MRP addresses post-construction stormwater management requirements for new development and redevelopment projects that add and/or replace 10,000 square feet or more of impervious area. Provision C.3 requires the City to require incorporation of site design, source control, and stormwater treatment measures into development projects, to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges, and to prevent increases in runoff flows. The MRP requires that Low Impact Development (LID) methods are to be the primary mechanism for implementing such controls.

Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) for drinking water regulations, the California Department of Fish and Wildlife (CDFW) and the Office of Environmental Health and Hazard Assessment (OEHHA).

State Water Resources Control Board (SWRCB) Construction General Permit

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing Statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA.

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (2009-0009-DWQ) as amended by 2010-0014-DWQ. Under the terms of the Permit, applicants must file Permit Registration Documents (PRDs) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed

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certification statement. The PRDs are now submitted electronically to the SWRCB via the Storm Water Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a Storm Water Pollution Prevention Plan (SWPPP), containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, and discharge points, general topography both before and after construction, and drainage patterns across the Project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants if there is a failure of the BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Some sites also require implementation of a Rain Event Action Plan (REAP). The updated Construction General Permit (2012-0006-DWQ), which went into effect on July 17, 2012, also requires applicants to comply with post-construction runoff reduction requirements.²

California Coastal Act of 1976

The California Coastal Act of 1976 established three designated coastal management agencies to plan and regulate the use of land and water in the coastal zone: the California Coastal Commission, the San Francisco Bay Conservation and Development Commission, and the California Coastal Conservancy. Under California's federally approved Coastal Management Program, the California Coastal Commission manages development along the California coast except for San Francisco Bay, while the San Francisco Bay Conservation and Development Commission oversees development. The mission of the California Coastal Conservancy is to purchase, protect, restore, and enhance coastal resources and provide shoreline access. Additional information on the San Francisco Bay Conservation and Development Commission, which has jurisdiction for projects in and around San Francisco Bay, is discussed in the Local Regulations section.

State Updated Model Water Efficient Landscape Ordinance (Assembly Bill 1881)

The updated Model Water Efficient Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Water Efficient Landscape Ordinance (WELO). Foster City adopted a locally modified WELO on January 19, 2016.

Executive Order B-29-15 required the State to revise the Model WELO to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, onsite stormwater capture, and by limiting the portion of landscapes that can be covered in turf. It also requires reporting on the implementation and enforcement of local ordinances, with required reports due by December 31, 2015.³

² State Water Resources Control Board, 2016, *NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, http://www.swrcb.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0006_dwq.pdf, accessed on June 2, 2017.

³ California Department of Water Resources, 2015. Updated Model Water Efficient Landscape Ordinance, <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>, accessed June 2, 2017.

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Regional Regulations

San Francisco Bay Regional Water Quality Control Board

Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Quality Control Boards (RWQCBs). The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. Foster City is within the jurisdiction of the San Francisco Bay RWQCB (Region 2).

The San Francisco Bay RWQCB addresses region-wide water quality issues through the creation of the Water Quality Control Plan for San Francisco Bay Basin (Basin Plan). The Basin Plan was updated most recently in June 2013. This Basin Plan designates beneficial uses of the State waters within Region 2, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan.⁴

Bay Protection and Toxic Cleanup Program

In 1989, the California Legislature established the Bay Protection and Toxic Cleanup Program with the goal of protecting present and future beneficial uses of the Bay and estuarine waters of California. In addition, the program was tasked with identifying toxic hot spots (i.e., localized areas with elevated concentrations of pollutants) and developing prevention and control strategies to remediate the toxic hot spots. As part of this program in 1993, the San Francisco Bay RWQCB initiated the Regional Monitoring Program (RMP), which includes water quality monitoring near the Project site.

San Francisco Bay Conservation and Development Commission

The California Coastal Commission carries out its mandate locally through the San Francisco Bay Area Conservation and Development Commission (BCDC). BCDC's jurisdiction for San Francisco Bay includes all sloughs, marshlands between mean high tide and 5 feet above mean sea level (MSL), tidelands, submerged lands, and land within 100 feet of the Bay shoreline. The precise boundaries are determined by BCDC upon request. For planning purposes, BCDC assumes that projects have a lifespan of at least 50 to 90 years.⁵

Local Regulations

Foster City General Plan

Foster City 2025 General Plan, with elements adopted in 2009 and 2016, contains goals, policies and programs that pertain to and regulate hydrology and water quality. The relevant goals, policies and programs are listed in Table 4.8-1.

⁴ San Francisco Bay RWQCB, 2013. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*. Latest revision June 29, 2013.

⁵ Bay Area Conservation and Development Commission (BCDC), 2011. *San Francisco Bay Plan*, http://www.bcdc.ca.gov/plans/sfbay_plan#2, accessed August 1, 2014.

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TABLE 4-8.1 FOSTER CITY GENERAL PLAN GOALS AND POLICIES

Goal/Policy/Program Number	Goal/Policy/Program Text
Policy PC-11	Lagoons and Waterways. Recreational Opportunities. Continue to promote a wide variety of recreational opportunities on the Foster City Lagoon system.
Policy PC-12	Lagoons and Waterways. Open Space. Preserve and maintain the existing lagoon and waterways.
Policy PC-13	Wetlands Protection. Protect the health and safety of the community by excluding development in environmentally sensitive areas which would result in a net loss of significant wetlands.
Program PC-g	Levee Pedway Maintenance. Maintain the levee pedway, repairing and resurfacing when necessary.
Program PC-l	Wetlands Enhancement. Improve wetland areas in accordance with state and federal regulations to enhance the natural characteristics of the wetlands.
Goal S-A	Strong infrastructure. Preserve the quality of life by ensuring the City's infrastructure and municipal services are capable of withstanding reasonably foreseeable risks and hazards.
Policy S-A-1	Protect Infrastructure. Protect the City's Infrastructure and Emergency Facilities from Seismic and Geologic Hazards.
Program S-A-1-e	Monitoring of Water, Sewer and Lagoon Systems. The City will provide and maintain a consolidated remote monitoring capability for the water distribution system, the wastewater collection system and the lagoon system that can be monitored 24 hours a day by Public Works staff or Police Department staff.
Policy S-A-2	Flood Protection. The City will maintain the City's levees and lagoon system for flood protection.
Program S-A-2-a	Levee Protection Planning and Improvements. Develop a plan to raise the City's levees in order to retain FEMA accreditation and protect the City against sea level rise. (High Priority)
Program S-A-2-b	Maintain Levees and Lagoon for Flood Protection. The City will maintain the City's levees and lagoon for flood protection pursuant to the "Operation and Maintenance Manual, Foster City Levees and Pump Station" and the "Lagoon Management Plan."
Program S-A-2-c	Lagoon Pump Station Building Seismic Evaluation. Implement recommendations for seismic upgrades to this 60- year old building. (High Priority)
Goal S-C	Long-term community resilience. Ensure the long-term community resilience of the community by improving the resiliency to hazards, protecting the environment and planning for post-disaster recovery
Policy S-C-3	Flood Plain Regulations. The City will control development to minimize risks to persons and property within any special flood hazard area through flood plain regulations.
Program S-C-3-a	Flood Plain Regulations. The City will evaluate any proposed development within special flood hazard areas for conformance with the City's flood plain regulations as contained in Chapter 15.36 of the Foster City Municipal Code.
Program S-C-3-b	FEMA's National Flood Insurance Program. Participate in FEMA's National Flood Insurance Program for affected properties.
Program S-C-3-c	Protect Flood Protection Qualities of Natural Areas. The City will protect and preserve natural features such as wetlands that serve as natural mitigation against the impacts of flooding.

Source: Foster City, 2009, 2016. 2025 Foster City General Plan.

Foster City Municipal Code

Foster City Municipal Code contains a series of chapters pertaining to hydrology and water quality:

- Chapter 8.37, Sanitary Sewer Use and Regulations, establishes discharge guidelines and prohibitions, including the discharge of groundwater and the administration of sanitary sewer regulation through discharge permits and permitting procedures.

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- Chapter 8.04, Waste Material Control, establishes prohibitions related to depositing or dumping into, or near, watercourses and storm drains.
- Chapter 15.36, Floodplain Management Regulations, enforces and administers development within flood-prone areas, including provisions for special flood hazard areas. The chapter includes standards of construction, and utilities, as well as filling, grading and dredging.
- Chapter 8.80, Outdoor Water Conservation in Landscaping, includes Grading design standards to minimize soil erosion, runoff, and water waste, and requires a soil management report to be completed for certain projects.

4.8.1.2 EXISTING CONDITIONS

Climate

The climate of Foster City is characterized as Mediterranean, with cool wet winters and warm dry summers. The average annual high temperature is approximately 71°F, and the average annual low temperature is approximately 47°F.⁶ The mean annual rainfall in the Project vicinity for the period of 1906-2012 was approximately 19 inches and primarily occurred from November through April.

Local Hydrology

Foster City is located in the San Francisco Bay Hydrologic Region, which covers approximately 4,500 square miles and encompasses 10 counties including San Mateo County.⁷ It corresponds with the boundaries of the San Francisco Regional Water Quality Control Board (RWQCB) Region 2 and the San Francisco Bay Area Integrated Regional Water Management (IRWM) Plan. The San Francisco Bay Hydrologic Region is a complex network of watersheds, marshes, rivers, creeks, reservoirs, and bays mostly draining into the San Francisco Bay and the Pacific Ocean. The site itself is located in the Seal Slough, or Seal Creek Watershed (see Figure 4.8-1).

Foster City is a planned community characterized by unique hydrology. It was created on an area of salt marsh tidelands on Brewer's Island, in west San Francisco Bay. The area was originally situated at mean sea level, but was diked off with levees in the early 20th century and left to dry into silty clay mud. Rather than elevate the area the estimated 8 to 12 feet needed to prevent flooding and facilitate development, it was raised 4 to 5 feet with a central drainage channel created in the center of the community. The result is the City's current system of levees and lagoons, discussed below.

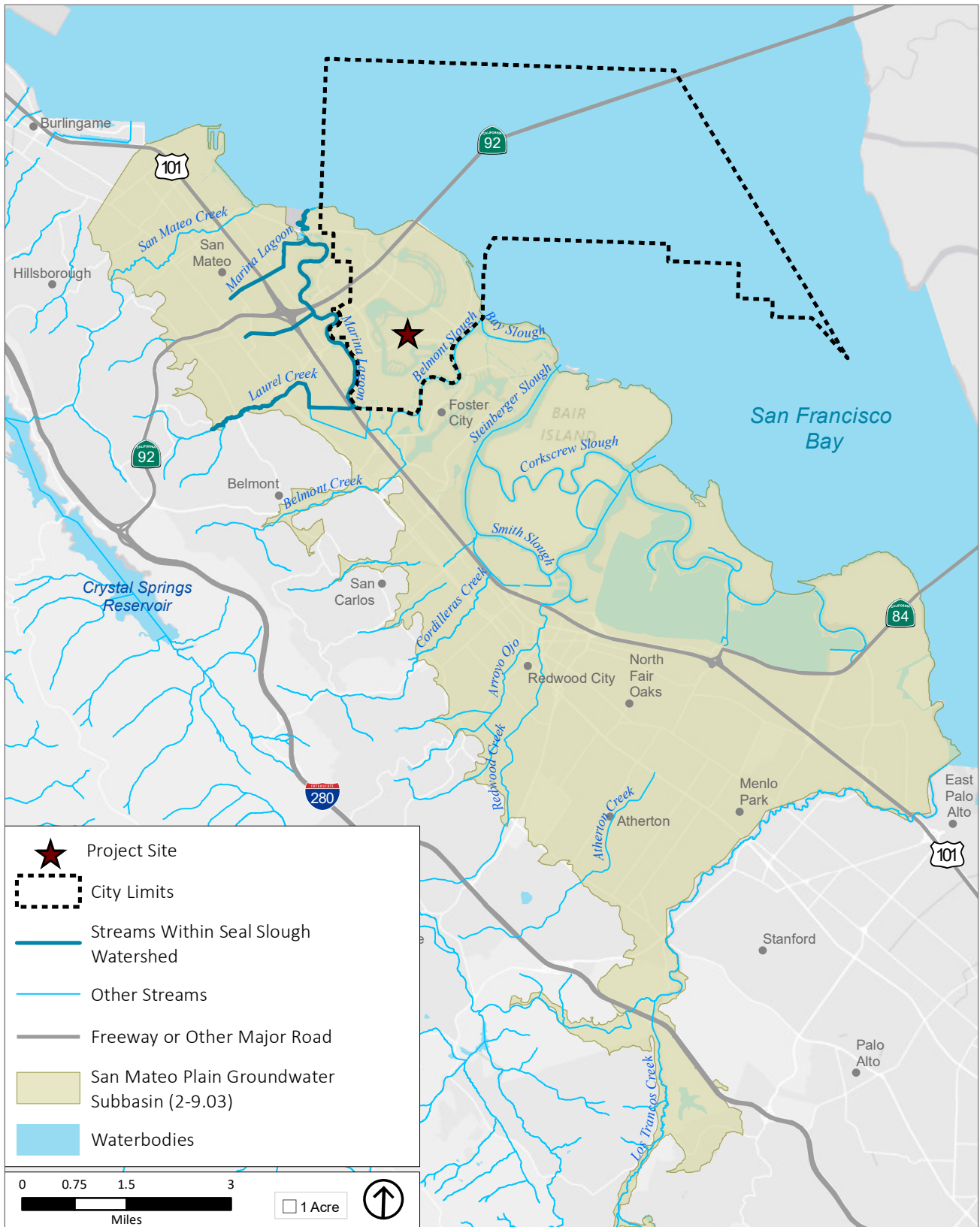
Foster City Levee System

The levees described above have been developed into the current Foster City levee system. The City is separated from San Francisco Bay by approximately 8 miles of raised berms surrounding the outer perimeter of the City. Although designed primarily for flood protection, the levee system is also used for local recreation. The system was certified by FEMA in 2007 as providing protection from the 1 percent

⁶ Western Regional Climate Center, <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7339>, accessed June 2, 2017.

⁷ California Department of Water Resources, 2009. *California Water Plan, Update 2009, San Francisco Bay, Integrated Water Management. Bulletin 160-09, Volume 3, Regional Reports.*

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Source: ESRI, 2017; City of Santa Rosa, 2017; California Department of Water Resources, 2017; San Mateo County, 2017; PlaceWorks, 2017.

Figure 4.8-1
Watershed and Streams

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annual flood event for approximately 9,000 properties in Foster City including the Project site. As noted above, this certification allows Foster City to be classified as Flood Zone X rather than a SFHA by FEMA.

In 2014, FEMA determined that, if the existing levee system was not improved, it would not continue to meet accreditation standards for Flood Zone X. According to FEMA, 85 percent of the levee system needs to be elevated in the range of 12 to 16 feet, or FEMA will declare all of Foster City an SFHA. If that occurs, the NFIP's floodplain management regulations would be enforced, including the mandatory purchase of flood insurance by all affected property owners. Additionally, all substantial property improvements would be prohibited without elevating the surface of properties above base flood elevation, as much as 5 feet in some locations.⁸

In response to FEMA's 2014 assessment, the City is currently undertaking the Levee Protection Planning and Improvement Project. Multiple improvement alternatives are being researched, including new concrete flood walls, raised sections of the existing earthen levee, and hybrid strategies of the two. Expected completion date of the Project is mid-2020.⁹

Until the levee system is improved, FEMA's 2016 flood maps will show Foster City inside a Levee Secluded Area, which will delay full SFHA designation. Pending successful upgrades to the levee system, Flood hazard determinations, flood insurance purchase requirements and building requirements will not change in Foster City.

Foster City Lagoon System

As noted, early Foster City planners created a central, artificial basin to drain flood waters out of the community. That basin remains as a system of lagoons in Foster City that have a total surface area of about 200 acres. The system continues to act as a citywide flood mitigation strategy. All stormwater runoff enters the lagoon through curb inlets and a series of over 1,000 catch basins. Stormwater is then pumped from the lagoons into San Francisco Bay. The levels of the lagoons are adjusted season by season to maximize stormwater control and runoff, minimize nutrient concentrations and bacteria growth, and comply with requirements of the permit issued by the RWQCB.

The curving lagoon wraps around the area of the Project site. The segment of the lagoon nearest the Project site is about 0.3 miles to the west.

⁸ Foster City Public Works Department, Foster City Levee Protection Planning and Improvement Project, <http://www.fostercity.org/publicworks/lagoonandlevee/upload/PowerPoint-Presentation-Levee-Community.pdf>, accessed June 2, 2017.

⁹ Foster City Public Works Department, Foster City Levee Protection Planning and Improvement Project, <http://www.fostercity.org/publicworks/lagoonandlevee/upload/PowerPoint-Presentation-Levee-Community.pdf>, accessed June 2, 2017.

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Site Drainage

The Project site is located about 1 mile inland from the San Francisco Bay shoreline at approximately 3 to 6 feet above MSL. The Project site and adjacent areas are topographically flat and located far from any slopes.¹⁰

Groundwater

The Project site is located in the San Mateo Subbasin of the Santa Clara Valley Hydrologic Groundwater Basin, as shown in Figure 4.8-2. This subbasin occupies a trough at the southwest end of San Francisco Bay with the Bay forming its eastern boundary and the Santa Cruz Mountains its western margin.

The subbasin is composed of alluvial fan deposits formed by tributaries to the San Francisco Bay and these tributaries drain the subbasin.¹¹

There are two water-bearing rock formations in the San Mateo Subbasin. The most productive are Quaternary age alluvium deposits which yield water for all the major wells in the subbasin. There are no wells, either functional or abandoned, on the Project site. Groundwater at the site is considered to be at or near the top of the Bay Mud, at depths of 3.5 to 6 feet below ground surface (bgs).¹² Although the flat topography of the site results in varying groundwater flow direction, topographic interpretation and site observation reveal that general flow is easterly, toward the San Francisco Bay.¹³

Surface Water

The nearest surface water in the vicinity of the Project site is the lagoon, approximately 0.3 miles west of the site. There are no settling ponds, lagoons, surface impoundments, wetlands or natural catch basins on the Project site itself. According to the EPA online map of California soil source aquifers, the Project site is not underlain by a sole source aquifer.¹⁴

4.8.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact if it would:

1. Violate any water quality standards or discharge requirements.
2. 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).

¹⁰ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School, page 14.

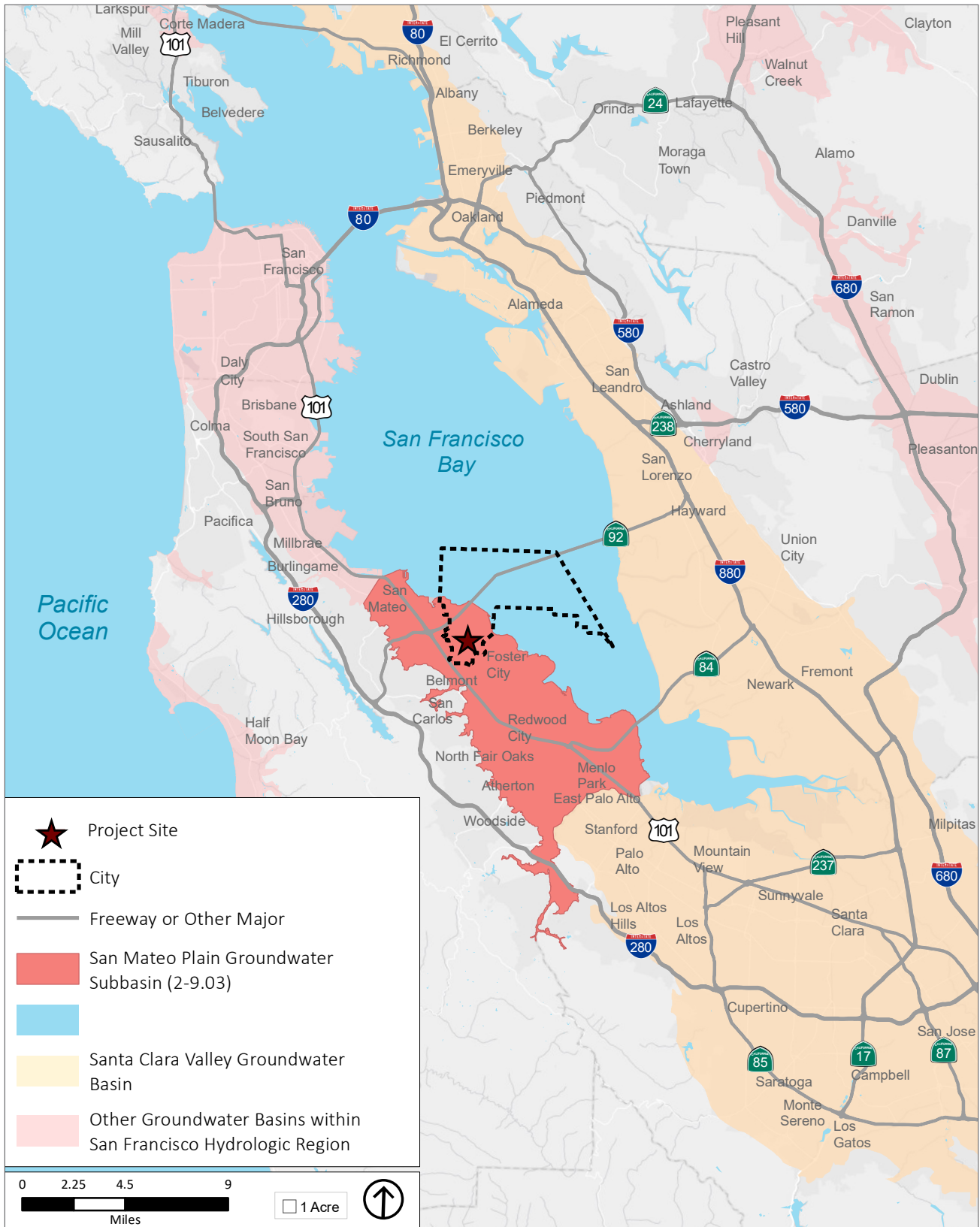
¹¹ Arcadis, 2016. Phase I Environmental Site Assessment Report, Charter Square Shopping Center, page 14, December.

¹² Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School, page 14.

¹³ Arcadis 2016. Phase I Environmental Site Assessment Report, Charter Square Shopping Center, page 14, December.

¹⁴ LandAmerica Assessment Corporation, 2006. Phase I Environmental Site Assessment Report, Charter Square Shopping Center, page 17, July 5.

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Source: ESRI, 2017; City of Santa Rosa, 2017; California Department of Water Resources, 2017; San Mateo County, 2017; PlaceWorks, 2017.

Figure 4.8-2
Groundwater Basin

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3. 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 on- or off-site.
4. Substantially alter the existing drainage pattern of the site or area, including through 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.
5. 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.
6. Otherwise substantially degrade water quality.

4.8.3 IMPACT DISCUSSION

HYD-1	The proposed Project would not violate any water quality standards or discharge requirements.
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As explained in Chapter 3, Project Description, the Project site is currently developed. The proposed Project would not significantly increase the amount of impervious surface at the site. The proposed Project is less likely to create changes to stormwater flows, decreasing potential to introduce pollutants to receiving waters.

Regardless, urban runoff can carry a variety of pollutants, such as oil and grease, metals, sediment and pesticide residues from roadways, parking lots, rooftops, landscaped areas and deposit them into adjacent waterways via the storm drain system. Construction and operational impacts associated with the demolition of existing structures and construction of new structures could result in impacts to water quality and waste discharge attributed to water pollution from soil erosion and increased stormwater runoff. Construction activities also have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff, and the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Finally, the refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

Construction Impacts

Since the proposed Project would disturb more than one acre of land during construction, it would be subject to compliance with the NPDES Construction General Permit (CGP). As such, it would require preparation of an SWPPP that includes erosion and sediment control Best Management Practices (BMPs). These BMPs must meet or exceed measures required by the CGP as well as control hydrocarbons, trash, debris, and other potential construction-related pollutants. Examples of construction BMPs include inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Implementation of BMPs would prevent or minimize environmental impacts and ensure that discharges during the demolition and construction phase of the Project would not cause or contribute to the degradation of water quality in receiving waters.

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The CGP also requires the Project Applicant to file Permit Registration Documents with the State Water Resources Control Board (SWRCB) prior to the start of construction activities. These include a Notice of Intent (NOI), risk assessment, site map, annual fee, signed certification statement, SWPPP, and post-construction water balance calculations.

Compliance with applicable regulatory requirements and implementation of construction BMPs would minimize discharges during the construction phase of the proposed Project and would not result in the degradation of water quality in receiving waters. Therefore, construction-related water quality impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

Project Impacts

As explained in State Regulations above, discharges to stormwater drains or channels from post-construction activities are regulated by the Municipal Separate Storm Sewer System (MS4) Permit, issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB), pursuant to NPDES regulations. Accordingly, a Water Quality Management Plan (WQMP) would be prepared and implemented at the Project site specifying BMPs to be used in project design and in project operations and maintenance to minimize pollution of stormwater. The BMPs specified in the WQMP would follow the guidelines of the San Mateo Countywide Water Pollution Prevention Program and any locally adopted Standard Urban Stormwater Mitigation Plan (SUSMP).

The proposed Project involves demolition on and improvements to a developed, nearly fully-impervious commercial site that is well-connected to the City's stormwater system. Stormwater is currently removed by sheet flow action across paved surfaces towards on-site stormwater drains and catchment basins located throughout the property. The proposed Project would introduce new pervious hard and softscapes, a green buffer around the Project site, and a new natural turf play area that would significantly increase the pervious area of the site. However, because the proposed Project would disturb in excess of 10,000 square feet of the impervious surface of the Project site, it must comply with the C.3 provisions set by the San Francisco Bay Regional Water Quality Control Board (RWQCB). A Stormwater Control Plan (SCP) that details the site control, source control, and stormwater measures that would be implemented at the site must be submitted to the City.

In compliance with C.3 provisions, a preliminary Stormwater Control Plan was submitted to the City as part of the July 2017 site plans (see Figure 3-14). The Stormwater Control Plan includes 13 strategic Drainage Management Areas (DMA) that approach runoff control from both ground-level impervious surfaces and rooftops. The Plan includes bioretention areas associated with rooftop runoff areas, parking lot medians, and the proposed landscaped buffer surrounding the sit, as well as conventional pervious landscaping. Locations of the DMAs would decrease site runoff in low flow situations and delay runoff in large storm events, and would increase the quality of runoff. The City will either find that the Final Stormwater Control Plan is in compliance with C.3 Stormwater Technical Guidelines or will require changes to ensure compliance.

Collectively, the BMPs and low-impact development (LID) design features of the Project would address the anticipated and expected pollutants of concern from the operational phase of the proposed Project. The

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existing Project site currently has no such features. Additionally, the development review process would ensure that the proposed Project complies with various statutory requirements necessary to achieve regional water quality objectives and protect groundwater and surface waters from pollution by contaminated stormwater runoff. With implementation of these measures, the potential operational impact to water quality would be *less than significant*.

In summary, compliance with State regulations requiring preparation of a SWPPP for the proposed Project as well as compliance with the City's landscape plan application requirements, would reduce the potential for water quality issues during construction. The requirement to prepare a SCP and implement site design, source control, and treatment control measures prior to the issuance of grading permits would address the potential for pollutants in stormwater during the operational phase of the Project. Therefore, issues related to water quality from development of the proposed Project would be *less than significant* and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

HYD-2	The proposed Project would not 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).
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Groundwater recharge may be reduced if areas currently capable of infiltration of rainfall runoff are reduced and/or permeable areas are replaced with impervious surfaces. As noted in the previous section, the development of the proposed Project would not result in a significant increase in impervious surfaces. In addition, the installation of landscaped and bioretention areas would increase overall site permeability as compared to existing conditions. This would allow for further infiltration of stormwater runoff. Therefore, the proposed Project would not interfere substantially with groundwater recharge or result in a lowering of the groundwater table.

Construction Impacts

During testing at the site as part of the recent geotechnical investigation, groundwater was encountered at depths of three and 11 feet below the surface.¹⁵ As such, dewatering associated with construction of the proposed Project excavation is expected to occur. However, this short-term dewatering would not contribute to the depletion of regional groundwater supplies or reduction in public supply. Dewatering activities would require obtaining a Waste Discharge Requirements (WDR) permit from San Francisco Bay RWQCB. The WDR permit would require testing to prevent discharged water from posing a risk to water quality in San Francisco Bay. Should the results of the testing indicate that pollutant levels are too high, treatment of the collected groundwater would be required prior to discharge to San Francisco Bay or the City's storm drain system. In addition, the proposed Project would be subject to SWPPP requirements,

¹⁵ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School, page 9.

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which include measures for spill prevention, control, and containment that would prevent potential construction pollutants from leaching into the shallow groundwater. These existing regulatory requirements would ensure that the discharge of construction dewatering would not significantly impact groundwater quality.

Project Impacts

Operation of the proposed Project would not use or deplete groundwater resources. The groundwater aquifer beneath Foster City is not currently used for water storage or supply; as it is underlain by 33 to 37 feet of Bay Mud.¹⁶ Similarly, the proposed Project would not involve the construction of new groundwater wells or the use of existing wells.

The implementation of Low Impact Development (LID) measures and on-site infiltration, as required under the C.3 provisions of the Clean Water Program will increase the potential for groundwater recharge. Also, the use of site design features as per the C.3 provisions and implementation of water use efficiency measures mandated by the Water Conservation Act of 2009 will ensure that groundwater supplies are not depleted. The proposed Project will not use groundwater supplies or interfere with groundwater recharge; therefore, the impact would be considered less than significant and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

HYD-3	The proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site.
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The proposed Project does not involve the alteration of any watercourse, stream, or river. The Project site is currently developed, and is virtually flat. Construction activities associated with the Project would involve demolition of existing structures, grading, excavation, and the construction of school buildings, access lanes, outdoor areas and parking lots, which could increase the potential for erosion and/or siltation. As previously discussed in Section HYD-1, standard erosion and sediment control measures are required and would be implemented as part of the SWPPP for the proposed Project to minimize the risk during construction. The SWPPP must include an erosion control plan that prescribes measures such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provisions for re-vegetation or mulching. The erosion control plan would also include treatment measures to trap sediment once it has been mobilized, including inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds.

¹⁶ Cornerstone Earth Group, August 1, 2017. Geotechnical Investigation and Geological hazards Evaluation, Charter Square K-5 School, page 9.

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The topography of the Project site and distance from any watercourses, combined with compliance with the above regulations, ensure that it would not result in a substantial increase in surface runoff resulting in significant erosion or siltation. The impact would be *less than significant* and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

HYD-4	The proposed Project would not substantially alter the existing drainage pattern of the site or area, including through 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.
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The Project site is a fully developed shopping center in an urban and suburban area, with no streams, rivers or watercourses on or near the site. As has been noted, development of the proposed Project within the Project site would not result in an increase in impervious surface area that could increase stormwater runoff. Development associated with this Project does not involve the alteration of any watercourse, stream, or river. The Project site has an existing storm drain system, and the proposed Project would include an SCP that establishes Drainage Management Areas and strategic bioretention that is consistent with C.3 guidelines and would decrease surface runoff, peak discharges to drainage channels and overall flood potential.

During construction, the Project would be subject to NPDES construction permit requirements, including preparation of a SWPPP, which includes BMPs to limit the discharge of sediment and non-stormwater discharges from the site. With implementation of these control measures and regulatory provisions to limit runoff from new development sites, the proposed Project would not result in significant increases in runoff that could contribute to on-site or off-site flooding. Therefore, implementation of the proposed Project would have a *less-than-significant* impact with respect to alterations in drainage patterns that could result in flooding and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

HYD-5	The proposed Project would not 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.
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The Project site, in use as the existing commercial shopping center since 1977, currently contains a typical storm drainage system, including pipes, junctions and catch basins. As has been discussed, development of the proposed Project would not result in a significant increase in impervious surfaces, and includes a proposed landscape plan that introduces new pervious areas to the site. These features, combined with implementation of an SCP consistent with the C.3 flow and discharge criteria and including DMA and bioretention strategies, would prevent runoff that exceeds existing drainage capacities. Commitment to Foster City General Plan goals and policies related to strong, well-protected and capable infrastructure would further reduce the likelihood that the proposed Project would exceed drainage capacity or provide substantial additional sources of polluted runoff.

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With implementation of these regulatory requirements listed above, impacts to storm drain system capacities would be *less than significant* and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

HYD-6	The proposed Project would not otherwise substantially degrade water quality.
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Pollutants commonly associated with construction sites that can impact water quality are sediments, trace metals, oil, grease, fuels, and miscellaneous construction wastes. Pollutants generated during the operational phase of the Project may include sediment, nutrients, organic compounds, and trash and debris.

As required by the C.3 and C.6 provisions of the MRP, BMPs would be implemented across the Project site during both construction and operation of the proposed Project. These BMPs would control and prevent the release of sediment, debris, and other pollutants into the storm drain system. Implementation of BMPs during construction would be in accordance with the provisions of the SWPPP, which would minimize the release of sediment, soil, and other pollutants. Operational BMPs would be required to meet the C.3 provisions of the MRP. These requirements include the incorporation of site design, source control, and treatment control measures to treat and control runoff before it enters the storm drain system. Bioretention areas would be installed throughout the Project site, which would further reduce the volume and improve the quality of stormwater runoff from the site. With implementation of these BMPs in accordance with County requirements, the potential impact on water quality would be *less than significant* and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

4.8.4 CUMULATIVE IMPACTS

HYD-7	The proposed Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hydrology and water quality.
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The analysis of cumulative hydrology and water quality impacts considers the larger context of future development within Foster City. Cumulative impacts can occur when impacts that are significant or less than significant from a proposed Project combine with similar impacts from other past, present, or reasonably foreseeable future projects in a similar geographic area. Cumulative impacts could result from incremental changes that degrade water quality or contribute to drainage and flooding problems within the watershed.

As discussed previously, development of the proposed Project and other cumulative projects in the City would require conformance with extensive State and local policies that would reduce hydrology and water quality impacts to less than significant levels. Any cumulative development project identified in this Draft EIR or in Foster City would be subject to City policies and ordinances, design guidelines, zoning codes and other applicable City requirements that address impacts related to hydrology and water quality. More

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specifically, potential changes related to stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding would be minimized or avoided by the implementation of stormwater control measures, retention, infiltration, and LID measures, and review by City staff to integrate measures to reduce potential flooding impacts. With the implementation of these measures, the impacts to water quality and hydrology would be less than significant for individual projects within the Project area and cumulative projects within Foster City.

The water quality regulations implemented by the San Francisco Bay RWQCB take a basin-wide approach and consider water quality impairment in a regional context. For example, the NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the MS4 Permit works with all municipalities to manage storm water systems to be collectively protective of water quality. For these reasons, impacts from future development within the watershed on hydrology and water quality are not cumulatively considerable and would result in a *less-than- significant* cumulative impact with respect to hydrology and water quality.

Significance Without Mitigation: Less than significant (LTS).

4.9 LAND USE AND PLANNING

This Subchapter describes the regulatory framework and existing conditions related to land use in Foster City and the potential land use and planning impacts that could result from implementation of the proposed Project.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

This section describes land use plans and policies relevant to the proposed Project.

Foster City Policies and Regulations

Foster City 2025 General Plan

The Foster City 2025 General Plan, adopted in 2016, serves as an effective guide for orderly growth, development, preservation and conservation of natural resources as well the efficient delivery of services and expenditure of public funds. The Plan establishes specific land uses to express the desired development pattern in the City.

General Plan Land Uses

The General Plan guides development in Foster City over the course of its 20-year planning horizon. The Land Use and Circulation Element regulates land use within the city. The Project site is currently designated Neighborhood Commercial (NC) on the 2016 Foster City General Plan Land Use Map. Uses allowed in this designation generally include neighborhood convenience shopping centers, and, in specific cases, a mix of housing and commercial development. According to the General Plan, Charter Square and other neighborhood commercial centers are intended to “emphasize goods and services which are intended to meet the needs of the adjacent neighborhoods.”¹ As demonstrated by the passage of Measure X to fund additional classroom space in Foster City, a new elementary school would meet an established community need.

Goals and Policies

Table 4.9-1, below, contain goals and policies from the General Plan pertaining to land use and relevant to the proposed Project, as well the Project’s consistency with those policies. The Project’s consistency with applicable General Plan noise-related policies is discussed in Chapter 4.10, Noise, of this Draft EIR.

¹ Foster City, 2016 General Plan, Chapter 3: Land Use and Circulation Element, page 3-48.

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TABLE 4.9-1 POLICY CONSISTENCY – FOSTER CITY GENERAL PLAN GOALS AND POLICIES

Goal or Policy No.	Goals and Policies	Determination of Project Consistency
Land Use and Circulation Element		
Goal LUC-A	Preserve and strengthen the identity and qualities of Foster City's residential neighborhoods and assure that: (1) all new development, renovation or remodeling are harmoniously designed and operated to integrate with the existing neighborhood; (2) noise, traffic and other conflicts between residential and non-residential land uses are eliminated or minimized to the extent possible; (3) each residential neighborhood has access to a developed park or park-like recreational area within walking distance to most residents, and that park facilities are well maintained, diverse and adequate to meet the needs of residents; and (4) maintain availability of commercial and retail services.	Consistent. Development of the proposed Project would result in the addition a neighborhood elementary school to an at-capacity and over-capacity schools in Foster City; a school designed to internalize traffic flow, ingress and egress; a school with characteristics resulting from detailed noise and traffic impact reviews; and the addition of play and play structures for school-age children. The proposed Project would result in the demolition of a commercial shopping center suffering from over 50 percent vacancy.
Policy LUC-A-1	Preservation of Residential Neighborhoods. Preserve existing residential neighborhoods by maintaining their residential design and character and appropriate uses. The City will prohibit the conversion of single-family residences along major streets to any uses other than residential uses	Consistent. The Project would not result in residential conversions.
Goal LUC-B	Promote Proper Site Planning, Architectural Design and Property Maintenance. Ensure high quality site planning and architectural design for all new development, renovation or remodeling and require property maintenance to maintain the long- term health, safety, appearance and welfare of the community.	Consistent. The proposed school would result in demolition of an aging shopping center with a high vacancy rate and development of a contemporary, sustainable school designed to maximize site size and circulation, site design requirements and State environmental law.
Policy LUC-B-1	City Approach to Design (Architectural) Review. The City will establish a continuing program of civic beautification, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment in order that neighborhood areas appear attractive both within and without. The City will use a design review process (called Architectural Review) whereby the design of most public and private development proposals, including those for individual residences, are subject to review and approval by the City. The primary objective of this review is to preserve the character of the neighborhood and community regarding appropriate and acceptable design for property improvements. Design review shall address, among other things, the following issues:	Consistent. Although exempt from City codes and ordinances, the Project would be designed for consistency with, and beautification of, the overall built environment of surrounding neighborhoods.

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TABLE 4.9-1 POLICY CONSISTENCY – FOSTER CITY GENERAL PLAN GOALS AND POLICIES

Goal or Policy No.	Goals and Policies	Determination of Project Consistency
	<ul style="list-style-type: none"> a. Preservation of the architectural character and scale of neighborhoods. b. That the development is well designed, in and of itself, and in relation to surrounding properties. c. Preservation of waterfront views. d. Minimizing impacts on the privacy and access to sunlight of adjacent properties. e. Minimizing impacts due to excessive noise or undue glare. f. Screening of unsightly uses including trash, loading docks/areas, roof top equipment, and special ventilating systems. g. Use of setbacks, open space, and landscaping. h. Exterior colors and materials 	
Goal LUC-C	Maintain a Variety of Land Uses. Maintain land designated for a variety of residential, commercial, light industrial, recreational and public institutional purposes which: (1) provide a mix of housing types, densities and tenure; (2) ensure that a variety of commercial and industrial goods, services and employment opportunities are available in Foster City; (3) offer a range of recreational and public facilities to meet the needs Foster City's residents; and (4) maintain availability of commercial and retail services.	Consistent. The Project would result in the conversion of an underutilized commercial resource to a vital public resource.
Policy LUC-C-7	Specialized Land Use Needs. Special City needs for a particular type of land use, such as water-oriented recreation, commercial services presently lacking in the City, or the need for low and moderate income housing must be considered in the evaluation of appropriate land uses for vacant sites.	Consistent. The proposed Project would be developed on an underutilized commercial site, not a vacant site.
Policy LUC-C-13	Conformance with Chapter 17.68. Ensure that all existing and new businesses and land uses allowed meet the requirements of Chapter 17.68, General Performance Standards, of Title 17, Zoning, of the Foster City Municipal Code and the Estero Municipal Improvement District Code.	Consistent. As noted, the proposed Project would reflect the results of detailed noise and traffic impact reviews, as well as respect for City review and approvals.
Goal LUC-K	Encourage Redevelopment of Under-utilized Properties. Encourage the aggregation and redevelopment of under-utilized properties and/or outdated buildings under multiple ownerships in the older commercial/ industrial areas of the City, specifically the Chess Drive/Hatch Drive area.	Consistent. The proposed Project would develop a needed school on an underutilized commercial site.
Policy LUC-K-1	Redevelopment Opportunities. The City will continue to look for opportunities for potential redevelopment properties and proactively work with property owners on options for site reuse or redevelopment.	Consistent. The proposed Project would redevelop a needed school on an underutilized commercial site,

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TABLE 4.9-1 POLICY CONSISTENCY – FOSTER CITY GENERAL PLAN GOALS AND POLICIES

Goal or Policy No.	Goals and Policies	Determination of Project Consistency
Program LUC-K-1-a	Monitor Neighborhood Retail Centers. To determine the viability of existing neighborhood retail centers, the City will monitor vacancies and the physical condition of these centers. A General Plan amendment would be necessary at the time conversion to any other use is considered.	Consistent. The proposed Project would develop a school on an underutilized commercial site with a vacancy rate above 50 percent.
Policy LUC-K-2	Consistency with City's Infrastructure. Ensure that all new buildings, whether free-standing or multi-building developments and all expansions of existing buildings demonstrate consistency with the infrastructure of the Estero Municipal Improvement District and the City, including sewer, storm sewer, parks/recreation facilities, and street system capacity.	Consistent. The proposed Project would be built on a fully-developed site serviced by existing City sewer, storm sewer infrastructure.
Goal LUC-L	Provide Adequate Services and Facilities. Ensure that new and existing developments can be adequately served by municipal services and facilities.	Consistent. The proposed Project, a new elementary school, would provide a needed public facility for the community.
Policy-LUC-L-6	School Sites and Public Park and Recreation Facilities. Wherever possible, school sites shall be combined with public park and recreation facilities. Existing parks adjacent to school sites will be developed and maintained for public use.	Consistent. Development of the proposed school adjacent to, or in combination with, an existing public recreational facility was studied and deemed not possible and not needed given the proximity to Catamaran Park and the City's Recreation Center on Shell Blvd.
Policy-LUC-L-7	School Facilities. Continue to work with the affected school districts to coordinate the design of school facilities to integrate them into the neighborhood in a manner that is attractive, safe and available for joint school and neighborhood use.	Consistent. The proposed Project would develop a new elementary school in Foster City with a design that is integrated with the adjacent neighborhoods and is a result of ten Community Meetings held as of June 2017 to which over 1900 property owners were invited.

Source: Foster City 2025 General Plan.

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4.9.1.2 EXISTING CONDITIONS

Surrounding Land Uses and Context

The Project site is located centrally in Foster City and falls into the City's General Plan Neighborhood 5. Immediately north of the site lies a neighborhood church and associated parking lot, followed by Foster City's Catamaran Public Park which hosts a soccer field and tennis courts. Multi-family housing across Shell Boulevard parallels the majority of the eastern site boundary, with a neighborhood church immediately north of those homes. A neighborhood of single family housing lies to the south of the Project site. There is a larger pocket of both single- and multi-family residents located to the west of the Project site. These single- and multi-family units range from one to three stories in height. The Project site is located approximately 2.6 miles north of the San Carlos Airport and approximately 3.5 miles southeast of San Francisco International Airport (SFO).

Existing Uses on the Project Site

As described in Chapter 3, Project Description, the existing site contains a courtyard-style, neighborhood-serving open-air shopping center built in 1977, and currently suffering from a commercial vacancy rate of over 50 percent. It is generally flat and includes seven (five connected and two free standing) wood construction, cement foundation single-story structures totaling 56,000 square feet. There are also two small kiosk structures and a playground on the northwestern quadrant of the site. The existing Project site also includes 250 surface parking spaces.

4.9.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact if it would:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the proposed Project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.9.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to land use and planning.

LAND-1	The proposed Project would not physically divide an established community.
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As explained in Chapter 3, Project Description, the Project site is currently a Neighborhood Business/Planned Development-zoned parcel developed with a shopping center. The proposed Project would introduce an elementary school within the existing boundaries of the site. The proposed Project would retain existing external roadway patterns, and would not introduce new major roadways or other

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physical features through existing neighborhoods other communities that would create divisions or barriers. Accordingly, the Project would not physically divide an established community and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

LAND-2	The proposed Project would not 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 or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
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The Project property is currently zoned C-1/PD (Neighborhood Business/Planned Development Combing District). Permitted uses in the C-1/PD District include but are not limited to, retail stores and service establishments, goods and services, administrative, professional, and business offices, and parking lots.

According to Chapter 17.36 of the Municipal Code, the PD combining district is “to accommodate various types of development... or a combination of uses which can be made appropriately a part of a planned development. The district is established to allow flexibility of design which is in accordance with the objectives and spirit of the general plan.” The proposed Project, as a needed community asset, would constitute an appropriate planned development. Establishment of new PD district for the proposed Project would be consistent with the flexible, site-based application of the PD district. In addition, as demonstrated in Table 4.9-1 above, the proposed Project is consistent with the larger goals, policies and programs targeting quality design and development, residential land use, neighborhood identity and school development in the Foster City General Plan.

Finally, as explained Chapter 3, Project Description, the Board of Trustees of the San Mateo-Foster City School District exempted the proposed Project from the application of Foster City zoning ordinances and regulations, per Government Code Section 53094, on December 8, 2016. Therefore, the Project would not conflict with any applicable land use plan, policy or regulation and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

LAND-3	The proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.
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There are no habitat conservation plans or natural community conservation plans relevant to or that intersect the boundaries of, the Project site. Therefore there would be *no impact* with respect to conservation plan conflicts.

Significance Without Mitigation: No impact (NI).

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4.9.4 CUMULATIVE IMPACTS

LAND-4	Implementation of the proposed Project, in combination with past, present, and reasonable foreseeable projects, would result in less-than-significant cumulative impacts with respect to land use and planning.
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The cumulative impact for land use and planning includes potential future development under the proposed Project combined with effects of development of the future projects listed in Table 4.1-1, Cumulative Project List. A cumulative impact would be considered significant if, taken together with past, present and reasonably foreseeable projects in the identified area, would conflict with applicable land use plans, policies, or regulations.

As discussed above, the proposed Project would not conflict with any applicable land use plans, policies, or regulations. In addition, the proposed Project would not physically divide an existing community nor would the proposed Project conflict with an adopted conservation plan. Therefore, the proposed Project would not contribute to a cumulative land use and planning impact and the impact would be less than significant.

Significance Without Mitigation: Less than significant (LTS).

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4.10 NOISE

This Subchapter describes the regulatory framework and existing conditions in Foster City and around the Project site related to noise, as well as the potential impacts of the proposed Project on the noise environment.

The Environmental Noise Impact Report performed for this Project is included in Appendix D of this Draft EIR.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 BACKGROUND

Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.”

The following are brief definitions of terminology used in this section:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Intrusive.** Noise that intrudes over and above the existing ambient noise at a given location.
- **Decibel (dB).** A unit-less measure of sound expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20 μ Pa).
- **Vibration Decibel (VdB).** A unit-less measure of vibration expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the United States, the standard reference velocity is 1 micro-inch per second (1×10^{-6} in/sec).
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Ambient Noise Level.** The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
- **Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time-period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level (L_n).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is

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exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the “median sound level.” The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The L_{90} is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

NOTE: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive – that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.

Characteristics of Sounds

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), and duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate the human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The normal range of human hearing extends from approximately 0 dBA (the threshold of detection) to 140 dBA (the threshold of pain).

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale to better account for the large variations in pressure amplitude (the above range of human hearing, 0 to 140 dBA, represents a ratio in pressures of 100 trillion to 1). All noise levels in this study are relative to the industry-standard pressure reference value of 20 micropascals. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 4.10-1 presents the subjective effect of changes in sound pressure levels.

Sound is generated from a source; the decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as spreading loss or distance attenuation.

TABLE 4.10-1 CHANGE IN APPARENT LOUDNESS

± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Bies and Hansen, 2009.

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. For example, L_{50} is the noise level that is exceeded 50 percent of the time. Similarly, the L_{02} , L_{08} , and L_{25} values are exceeded 2, 8, and 25 percent of the time or 1, 5, and

15 minutes per hour, respectively. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. The energy-equivalent sound level (L_{eq}) is the most common parameter associated with community noise measurements. The L_{eq} metric is a single-number noise descriptor of the energy-average sound level over a given period of time. An hour is the most common period of time over which average sound is measured, but it can be measured over any duration. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values are the minimum and maximum root-mean-square (RMS) noise levels obtained over the stated measurement period.

Since sensitivity to noise increases during the evening and at night when excessive noise can interfere with relaxation and/or the ability to sleep, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. Because of this increased sensitivity to unwanted noise intrusion during the evening and nighttime hours, State law requires, for planning purposes, that this increased noise sensitivity be accounted for. The Day/Night Average Sound Level, L_{dn} , is a measure of the cumulative noise exposure in a community, with a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The Community Noise Equivalent Level (CNEL) is a similar 24-hour cumulative measure of noise; however it differs slightly from L_{dn} in that 5 dB is added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system; prolonged noise exposure in excess of 75 dBA increases body tensions thereby affecting blood pressure and functions of the heart and nervous system. Extended periods of exposure to noise levels above 90 dBA can result in permanent cell damage. This is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level (SPL) number means. To help relate noise level values to common experience, Table 4.10-2 shows typical noise levels from noise sources.

Causes for annoyance include interference with speech, radio, television, and sleep and rest, as well as induced structural vibrations. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. The threshold for annoyance from vehicle noise is about 55 dBA L_{dn} . At an L_{dn} of about 60 dBA, approximately 8 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the highly annoyed proportion of the population increases to about 20 to 25 percent. There is, therefore, an increase of about 2 percent per decibel of increased noise between an L_{dn} of 60 to 70 dBA. The thresholds for speech interference indoors are approximately 45 dBA for continuous noise and approximately 55 dBA for fluctuating noise. Outdoors the thresholds are roughly 15 dBA higher. Steady noise above 35 dBA and fluctuating noise levels above roughly 45 dBA have been shown to affect sleep.

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TABLE 4.10-2 TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	
Jet Flyover at 1,000 feet		Rock Band
	100	
Gas Lawn Mower at 3 feet		
	90	
Diesel Truck at 50 feet, at 50 miles per hour		Food Blender at 3 feet
	80	
Noisy Urban Area, Daytime		Garbage Disposal at 3 feet
	70	
Commercial Area		Normal speech at 3 feet, vacuum cleaner at 10 feet
	60	
Heavy Traffic at 300 feet		Large Business Office
	50	
Quiet Urban Daytime		Dishwasher Next Room
	40	
Quiet Suburban Nighttime		Theater, Large Conference Room (background)
	30	
Quiet Rural Nighttime		Bedroom at Night
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Bies and Hansen, 2009.

Fundamentals of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is the velocity and the rate of change of the speed is the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. These types of vibration are best measured and described in terms of velocity and acceleration.

The three main types of waves associated with groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation. Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.

Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the RMS velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage whereas RMS is typically more suitable for evaluating human response.

The units for PPV and RMS velocity are normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to 1 micro-inch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Man-made vibration problems are, therefore, usually confined to relatively short distances (500 to 600 feet or less) from the source.

Effects of Vibration

Table 4.10-3 displays human annoyance and the effects on buildings resulting from continuous vibration. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at

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much lower levels than those shown depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

TABLE 4.10-3 REACTION OF PEOPLE AND DAMAGE TO BUILDINGS FOR CONTINUOUS/FREQUENT INTERMITTENT VIBRATION LEVELS

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.02	Barely perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: California Department of Transportation (DOT, 2004. Transportation- and Construction-Induced Vibration Guidance Manual, June.

Human response to ground vibration has been correlated best with the velocity of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is 1×10^{-6} inch/second RMS, which equals 0 VdB, and 1 inch/second equals 120 VdB. The abbreviation “VdB” is used in this document for vibration decibels to reduce the potential for confusion with sound decibels. One of the problems with developing suitable criteria for groundborne vibration is the limited research into human response to vibration and, more importantly, human annoyance inside buildings. The U.S. Department of Transportation, Federal Transit Administration, has developed rational vibration limits that can be used to evaluate human annoyance to groundborne vibration. These criteria are primarily based on experience with rapid transit and commuter rail systems and are discussed in greater detail in the regulations section of this document.

Railroad and transit operations are potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of track. Trains generate substantial vibration due to their engines, steel wheels, heavy loads, and wheel-rail interactions.

Construction operations generally include a wide range of activities that can generate groundborne vibration which varies in intensity depending on several factors. In general, blasting and demolition of structures as well as pile driving and vibratory compaction equipment generate the highest vibrations. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet. Heavy trucks can also generate groundborne vibrations, which can vary, depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, etc., all increase the vibration levels from vehicles passing over a road surface.

Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement conditions.

“Architectural” damage can be classified as cosmetic only, such as minor cracking of building elements, while “structural” damage may threaten the integrity of a building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is in a high state of disrepair and the construction activity occurs immediately adjacent to the structure. Table 4.10-4 shows the criteria established by the Federal Transit Administration (FTA) for the likelihood of structural damage due to vibration.

TABLE 4.10-4 GROUND BORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

Building Category	PPV (in/sec)	L _v (VdB) ^a
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

a. RMS velocity calculated from vibration level (VdB) using the reference of one micro-inch/second.

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

Noise- and Vibration-Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration including residential, school, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. Sensitive receptors within Foster City include residences, senior housing, schools, places of worship, and recreational areas. These uses are regarded as sensitive because they are where citizens most frequently engage in activities which are likely to be disturbed by noise such as reading, studying, sleeping, resting, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not considered noise- and vibration-sensitive receptors for the purposes of this analysis since noise- and vibration-sensitive activities are less likely to be undertaken in these areas and because these uses often themselves generate noise in excess of what they receive from other uses.

4.10.1.2 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. This section describes the regulatory framework related to noise and vibration in Foster City and the Project site.

NOISE

Federal Regulations

U.S. Environmental Protection Agency

In addition to FHWA standards, the U.S. Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response. The USEPA Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, which set programs and guidelines to identify and address the effects of noise on public health and welfare, and the environment. Although the primary responsibility of regulating noise was transferred to state and local governments in 1982, the USEPA provided guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The USEPA found that to prevent hearing loss over the lifetime of a receptor, the yearly average L_{eq} should not exceed 70 dBA. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. While these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community. The USEPA also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA L_{dn} , have settled on the 65 dBA L_{dn} level as their standard. At 65 dBA L_{dn} , activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the USEPA. Such limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan, as required under OSHA, and is therefore not addressed further in this analysis.

U.S. Department of Housing and Urban Development

The U.S. Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding.¹ (This level is also generally accepted within the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings constructed under Title 24 standards typically provides in excess of 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

State Regulations

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally

¹ U.S. Department of Housing and Urban Development (HUD). 1985, March. *Noise Guidebook: A Reference Document for Implementing the Department of Housing and Urban Development's Noise Policy*.

acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels expressed in CNEL. These land use compatibility guidelines are shown in Table 4.10-5.

State of California Building Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, California Building Code. These noise standards are applied to new construction in California for the purpose of ensuring that the level of exterior noise transmitted to and received within the interior living spaces of buildings is compatible with their comfortable use. For new residential dwellings, hotels, motels, dormitories, and school classrooms, the acceptable interior noise limit for new construction is 45 dBA CNEL or L_{dn} . Title 24 requires acoustical studies for development in areas exposed to more than 60 dBA CNEL to demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or L_{dn} at the façade of a building, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the Project to meet the 45 dBA noise limit.

State of California Airport Noise Standards

California Code of Regulations Title 21, Subchapter 6, (Airport Noise Standards) establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Title 21 applies to airports that have been designated "noise problem airports," which include the San Jose and San Francisco International Airports. Noise-sensitive land uses in locations where the aircraft exterior noise level exceeds 65 dBA CNEL are generally incompatible unless an aviation easement for aircraft noise has been acquired by the airport proprietor or the residence is a high-rise apartment or condominium that has an interior CNEL of 45 dBA or less in all habitable rooms despite aircraft noise and an air circulation or air conditioning system, as appropriate. Assembly Bill (AB) 2776 requires any person who intends to sell or lease residential properties within an airport influence area to disclose that fact to the person buying the property.

Local Regulations

Foster City General Plan

The Noise Element of the City's General Plan, adopted in 1993, adheres to State requirements for General Plan Noise Elements. It summarizes key noise issues and standards and the existing noise environment. The Element has two goals and accompanying policies/programs. These goals and relevant accompanying policies are outlined in Table 4.10-6, below.













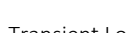
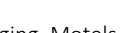























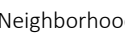
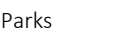




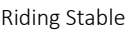
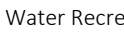
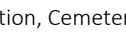


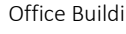
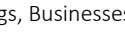
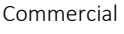
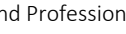


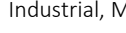
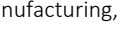
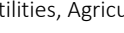



Foster City Municipal Code

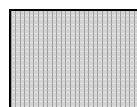
Noise Standards

Section 17.68.030 of the City's Municipal Code regulates noise with maximum noise limits for various land use categories and times of day. These are limits laid out in Table 4.10-7.

NOISE

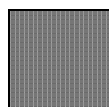
TABLE 4.10-5 CALIFORNIA LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Land Uses	CNEL (dBA)					
	55	60	65	70	75	80
Residential – Low Density Single-Family, Duplex, Mobile Residences						
Residential – Multiple Family						
Transient Lodging, Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Residences						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Businesses, Commercial and Professional						
Industrial, Manufacturing, Utilities, Agricultural						



Normally Acceptable:

Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Normally Unacceptable:

New construction or development should generally be discouraged. If new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Conditionally Acceptable:

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Clearly Unacceptable:

New construction or development generally should not be undertaken.

Source: Governor's Office of Planning and Research, General Plan Guidelines, November 2003

NOISE

TABLE 4.10-6 FOSTER CITY GENERAL PLAN NOISE POLICIES

Goal	Policy
N-A: Assure that the noise impacts of new development or redevelopment of property is done in a manner that is compatible with existing land uses.	N-1 Land Use Compatibility Standards. New development exposed to transportation noise sources must meet acceptable exterior noise level standards. (see Foster City Municipal Code, below)
	N-3 Acoustical Studies. The City will use the noise guidelines and contours to determine if additional noise studies are needed for a proposed new development.
	N-5 Mitigating Impacts on Surrounding uses. The City will require proposal to reduce noise impacts on adjacent properties through the following and other means, as appropriate: <ul style="list-style-type: none"> a. Screen and control noise sources. b. Increase setbacks for noise sources c. Wherever possible do not remove fences, walls or landscaping that serve as noise buffers d. Use soundproofing materials and double glazed windows. e. Control hours of operation to minimize noise impacts.
	N-6 Noise Sensitive Uses. The City will protect schools, hospitals, libraries, churches, convalescent residences and other noise sensitive uses from noise levels exceeding those allowed in residential areas. Projects located near noise sensitive uses should be oriented away from noise sources unless mitigation measures are included.
N-B: Preserve and improve the “quiet ambiance” within existing neighborhoods.	N-8 Protecting Existing Residential Areas. Protect the noise environment in existing residential areas. In general, the City will require the evaluation of mitigation measures for projects that would cause the Ldn to increase by 3 dB or more, if the increase would result in an Ldn greater than 60 dB or if the Ldn already exceeds 60 dB.
	N-9 Noise Source Control. The City will work with property owners and will enforce noise standards to control noise at its source to maintain existing noise levels to assure that noise levels do not exceed acceptable noise standards.
	N-12 Enforcement Approach. The City will administer the policies identified in the Noise Element and comply with State requirements for certain other noise control programs through specific local enforcement programs.
	N-13 Noise Ordinance. The City will apply the quantitative noise ordinance standards throughout the City.
	N-14 Vehicle Noise. The City will strive to reduce traffic vehicle noise, and especially as they impact residential areas.

Source: City of Foster City General Plan.

TABLE 4.10-7 FOSTER CITY NOISE LIMITS

Receiving Land Use Category	Noise Level (dBA)		
	Time of Day	Duration Greater than 3 Minutes (L_5)	Duration Less than 3 Minutes (L_{max})
One or two Family Residential	10 p.m. to 7:30 a.m.	50	55
	7:30 a.m. to 10 p.m.	60	65
Multi-family Residential; public space	10 p.m. to 7:30 a.m.	55	60
	7:30 a.m. to 10 p.m.	60	65
Commercial, office	10 p.m. to 7:30 a.m.	60	65
	7:30 a.m. to 10 p.m.	65	70
Light Industrial	10 p.m. to 7:30 a.m.	65	70
	7:30 a.m. to 10 p.m.	70	75

Source: City of Foster City Municipal Code.

NOISE

Vibration Standards

Per Section 17.68.040, the Municipal Code also states that no vibration that causes “a noticeable tremor, measurable without instruments at the lot line” is permitted.

In lieu of such quantified thresholds, it is common practice to rely on published information from the FTA. The FTA provides criteria for acceptable levels of ground-borne vibration for various types of special buildings that are sensitive to vibration. The FTA criteria are often used to evaluate vibration impacts during construction and are used herein for impact assessment thresholds. FTA Noise and Vibration Impact Guidelines for construction impact identifies that an impact would occur if construction activities generate vibration that is strong enough to (a) physically damage buildings or (b) cause undue annoyance at sensitive receptors. The threshold for human annoyance at residential receptors during the daytime is 78 VdB. The threshold for vibration-induced architectural damage is 0.2 peak particle velocity (PPV) in inches per second (in/sec) for typical wood-framed buildings.²

Vibration Related Annoyance

The human reaction to various levels of vibration is highly subjective and varies from person to person. The FTA criteria for annoyance are shown below in Table 4.10-8. These criteria are based on the work of many researchers that suggested that humans are sensitive to vibration velocities in the range of 8-80 Hz.

TABLE 4.10-8 GROUNDBORNE VIBRATION CRITERIA: HUMAN ANNOYANCE

Land Use Category	Max L _v (VdB) ^a	Description
Workshop	90	Distinctly felt vibration. Appropriate to workshops and non-sensitive areas
Office	84	Felt vibration. Appropriate to offices and non-sensitive areas.
Residential – Daytime	78	Barely felt vibration. Adequate for computer equipment.
Residential – Nighttime	72	Vibration not felt, but groundborne noise may be audible inside quiet rooms.

L_v is the velocity level in decibels, as measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hz.

Source: Federal Transit Administration (FTA). 2006, May. *Transit Noise and Vibration Impact Assessment*. U.S. Department of Transportation (DoT). FTA-VA-90-1003-06.

Construction Noise Standards

Section 17.68.030 of the Foster City Municipal Code regulates noise and noise sources. The section exempts construction activities in residential districts, or within 100 yards of a residential district, from the city noise limits shown in Table 4.10-7, at these times:

- Between seven-thirty a.m. and eight p.m. on weekdays
- Between nine a.m. and eight p.m. on weekends

² Federal Transit Administration (FTA). 2006, May. *Transit Noise and Vibration Impact Assessment*. U.S. Department of Transportation (DoT). FTA-VA-90-1003-06.

The Municipal Code clarifies that even with this exemption, the maximum allowable noise level from any single or multiple sources in Foster City is 100 dBA, without prior city authorization.

4.10.1.3 EXISTING CONDITIONS

This section describes the existing noise environment in the vicinity of the Project site. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities including in and around the Project site. Additional sources of noise in the vicinity of the Project site include aircraft noise from San Carlos Municipal Airport and San Francisco International Airport.

Nearby Sensitive Receptors

The Project site is located in a largely residential environment. As described in Chapter 3, Project Description, it is surrounded to the west by multi-family townhouse residences; to the south, across Beach Park Boulevard, by single-family residences; and to the east, across Shell Boulevard, by multi-family residences. A church is located immediately north of the Project site with a second church across Shell immediately to the north of the Project site.

On-Road Vehicles

On-road vehicles, including cars, trucks and buses, are the main contributors to the noise environment of the Project site. The major city streets in the vicinity of the Project site include Shell Boulevard and Beach Park Boulevard. Both Shell Boulevard and Beach Park Boulevard are four-lane roadways that run adjacent to sensitive residential areas in the vicinity of the Project site. Noise levels resulting from the roadways included as part of the City’s General Plan analysis, are shown in Table 4.10-9.

TABLE 4.10-9 TRAFFIC NOISE LEVELS, DBA

Roadway	Segment	Noise Level at Closest Receptor
Beach Park Blvd	Edgewater to Foster City	68.7
Shell Boulevard	E. Hillsdale to Beach Park	60.4

Source: City of Foster City, 2015. Foster City General Plan and Climate Action Plan Final Environmental Impact Report.

Airport Noise

The Project site is located approximately 2.6 miles north of San Carlos Municipal Airport and approximately 3.5 miles southeast of San Francisco International Airport (SFO). The Project site is located within Area A of the Airport Influence Area (AIA) for the San Carlos Airport, the larger and less regulated of the two-tier AIA. In Area A, requirements for real estate disclosure are mandatory due to potential noise issues.

NOISE

The Project site is also located within Area A of the AIA for SFO, also the larger area. Area A includes all of San Mateo County. Similar to San Carlos, SFO Area A is a “Real Estate Disclosure Area” in which Section 11010 of the Business and Professions Code requires people offering subdivided property for sale or lease to disclose the presence of all existing and planned airports within two miles of the property.³

The Project site does not fall within any 2019 aircraft noise contours for SFO⁴ or any 2015 aircraft noise contours for San Carlos Airport.⁵

Noise Measurements

Existing ambient noise levels were monitored at seven locations on and around the Project site to document representative noise levels at a variety of locations. Short term (ST) noise levels measurements were taken at four monitoring locations for a minimum of 15 minutes during the day on Wednesday, April 19, 2017, between the hours of 10:45 a.m. and 12:01 p.m. Long term (LT) noise measurements were taken at three monitoring locations for a period of 15 hours beginning on April 19, 2017 and ending on April 22, 2017. These dates were chosen for typical weekday and weather conditions to represent typical midweek ambient noise conditions consistent with industry standard practice.

Short-term and long-term noise monitoring locations are shown on Figure 4.10-1. Short-term measurements are summarized in Table 4.10-10, including maximum noise measurements associated with various noise sources.

Long-term noise measurements are summarized in Table 4.10-11.

Long Term Site 1

LT-1 represents the current noise environment in the eastern vicinity of the Project site including the main Charter Square parking area and entrance to the shopping center.

Long Term Site 2

LT-2 is located against the western Project site property line at the northern parking lot. It represents the noise environment in the northwest vicinity of the Project site, which is the portion most removed from on-road vehicle traffic, but abuts the existing church to the north and residences to the west of the site.

Long-Term Site 3

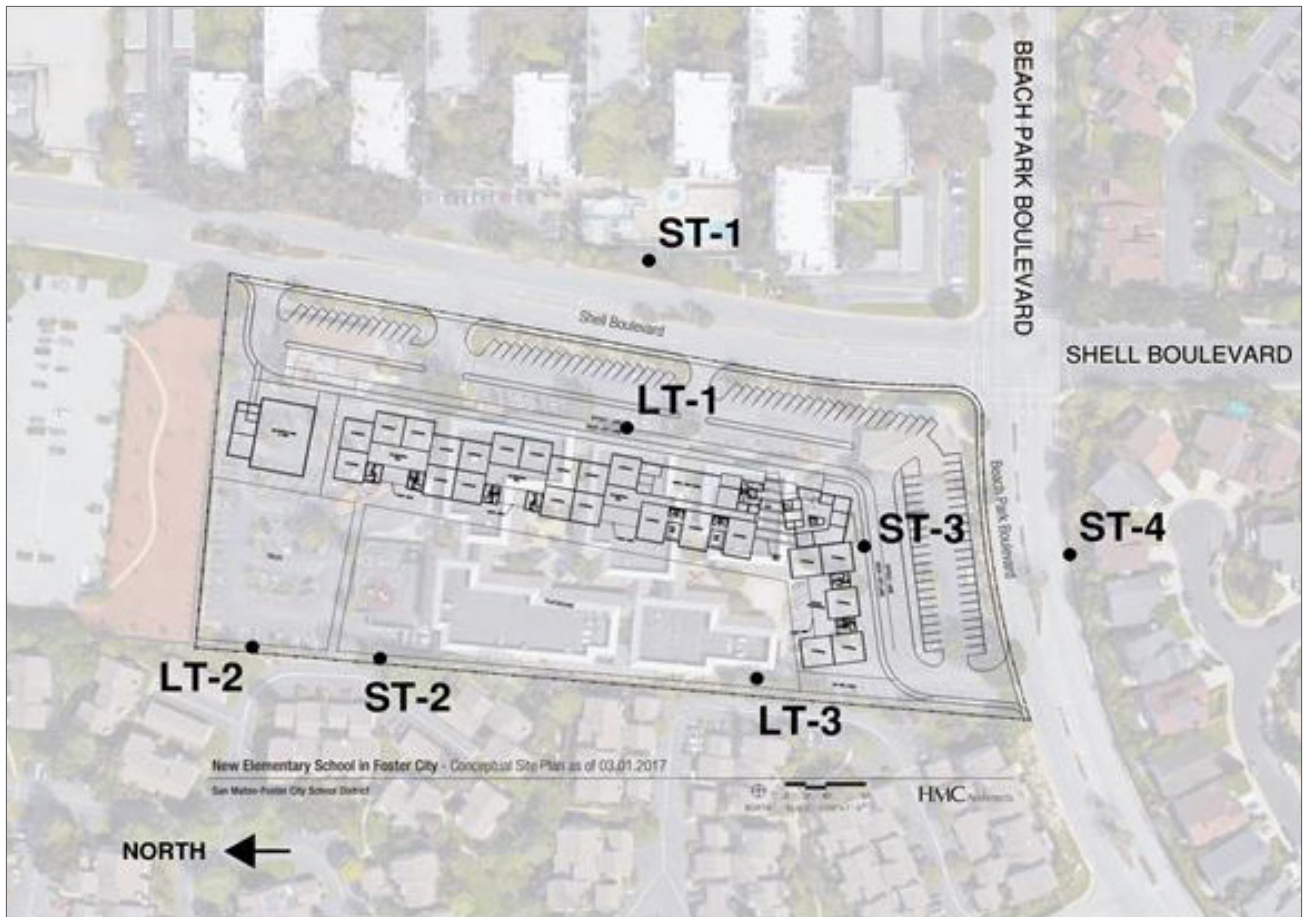
LT-3 is located along the southern end of the western property line. Like LT-2, it abuts residences immediately west of the Project site.

³ City/County Association of Governments of San Mateo County, 2012. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport, page IV-2.

⁴ San Francisco International Airport, Noise Exposure Map Report, http://media.flysfo.com/media/sfo/noise-abatement/sfo_p150_2019-nem-36x24-plot-signed_ada.pdf, accessed May 3, 2019.

⁵ City/County Association of Governments of San Mateo County, April 2015. Comprehensive Airport Land Use Plan for the Environs of San Carlos Airport, <http://ccag.ca.gov/wp-content/uploads/2015/06/Draft-Final-ALUCP-San-Carlos-Airport-062515.pdf>, accessed May 3, 2017.

NOISE



Source: RGD Acoustics, 2017.



Figure 4.10-1
Noise Monitoring Locations

NOISE

TABLE 4.10-10 SHORT-TERM NNOISE MEASUREMENT RESULTS

Monitoring Site	Location	Start Time	L _{eq}	L ₅	L _{dn} ^a	L _{max}
ST-1	Multi-family Residences on Shell Boulevard	11:46 a.m.	61	66	62	Cars: 64 – 69 Bus: 72 Aircraft: 53
ST-2	Project site parking lot along west property line behind existing daycare's outdoor play area	10:49 a.m.	58	63	60	Children: 53 – 58 Children at Play: 64 - 73 Music at daycare: 56 Aircraft: 56 - 64 Leafblower: 53
ST-3	Project site parking lot near the setback of proposed classrooms facing Beach Park Boulevard	10:26 a.m.	52	56	61	Cars: 51 – 65 Trucks: 51,62 Bus: 45 Aircraft: 46 – 55 Parking Lot: 54 - 62
ST-4	Two-story single-family housing on Beach Park Boulevard across from Project site	11: 27 a.m.	68	73	70	Cars: 64 – 74 typ., 81 Truck: 64 Motorcycle: 70, 87 Aircraft: 46 – 53

a. Short term L_{dn} calculated based correlation between simultaneous short term and long term measurements.
Source: RGD Acoustics, Inc., 2017.

TABLE 4.10-11 AMBIENT NOISE LEVELS AT LONG-TERM SITES

Receiver	L _{dn} , dBA	Average Hourly Noise Level, dBA		
		Time of Day	L _{eq}	L ₅
LT-1	58	7:00 – 22:00	56	60
		22:00 – 7:00	49	54
LT-2	57	7:00 – 22:00	54	63
		22:00 – 7:00	50	54
LT-3	58	7:00 – 22:00	56	57
		22:00 – 7:00	50	53

Source: RGD Acoustics, Inc., 2017.

Short Term Site 1

ST-1 is located immediately east of and across from the Project site, adjacent to the multi-family residences on Shell Boulevard. The noise environment is characterized primarily by the sound of passing traffic and intermittent aircraft noise.

Short Term Site 2

ST-2 is located on the western boundary of the Project site, behind the existing daycare's outdoor play area. Here, the noise environment is characterized by the sounds of children at play and intermittent aircraft noise.

Short Term Site 3

ST-3 is located on the southern Project site parking lot, near the setback of proposed classrooms facing Beach Park Boulevard. Here, the noise environment is characterized by a mix of car, truck and bus traffic on Beach Park Boulevard, the existing Charter Square parking lot and intermittent aircraft noise.

Short Term Site 4

ST-4 is located across Beach Park Boulevard from the Project site at the single family residences along the Boulevard. Like ST-3, the noise environment here is characterized by passing vehicular traffic on Beach Park Boulevard and intermittent aircraft noise.

4.10.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact if it would:

1. Generate noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies.
2. Generate excessive groundborne vibration or groundborne noise levels.
3. Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.
4. Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

4.10.3 IMPACT DISCUSSION

This section discusses the impacts of the Project on the noise environment and on the perception of noise by sensitive receptors within and in the vicinity of the Project site. This discussion is organized by and responds to each of the potential impacts identified in the Standards of Significance.

NOISE-1	The proposed Project would expose people to, or generate noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies.
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Land Use Compatibility

The measured noise level and calculated future ambient levels at the setback of the classrooms are an Ldn of 59 dBA. As shown in Table 4.10-5, the Foster City General Plan considers schools with normal construction exposed to an Ldn below 60 dBA to be “normally acceptable”. Therefore, this potential impact is considered *less than significant*.

Significance Without Mitigation: Less than significant.

NOISE

Outdoor Student Activity Noise

The primary noise from the school would be students playing outdoors. The Project will include new hard courts, natural turf, and play areas. Noise during lunch hour is expected to generate the most noise during a school day.

Table 4.10-12 shows the predicted noise levels from student activities outdoors (lunch hour, recess and class time) at the modeling/receiver sites, considered sensitive residential receptors and shown in Figure 4.10-2. The sites include:

- Site R-1: Residences immediately west of the Project site.
- Site R-2: Church to the immediate north of the Project site.
- Site R-3: Residences along Shell Boulevard, across from the Project site to the east.
- Site R-4: Residences along Beach Park Boulevard, across from the Project site to the south.

TABLE 4.10-12 TYPICAL NOISE LEVELS FROM OUTDOOR STUDENT ACTIVITIES

Receiver Site	Lunch Hour		Recess		Class	
	L ₅	L _{max}	L ₅	L _{max}	L ₅	L _{max}
R-1	74	82	71	79	65	73
R-2	71	80	68	76	62	70
R-3	58	66	55	63	48	57
R-4	59	67	55	64	49	57

Source: RGD Acoustics, Inc., 2017.

As explained in Section 4.10.1.2 and shown in Table 4.10-7, the thresholds of significance for Foster City are a daytime noise limit of L₅ of 60 dBA and an L_{max} of 65 dBA. As such, the calculated lunch hour noise levels would exceed L_{max} municipal thresholds at all sensitive receiver sites. At Sites R-1 and R-2, the L₅ noise levels from lunch hour activities are projected to be 8 to 11 decibels above the daytime ambient L₅ noise level. This is clearly noticeable and has the potential to cause annoyance at the Site R-1 residences immediately west of the Project site and the Site R-2 church immediately to the north. This is a *significant* impact. The L₅ noise levels from lunch hour activities would generally not exceed the threshold of significance at locations R-3 and R-4. In addition, the development of a fourth elementary school in Foster City, designed to reduce overcrowding at existing schools, would result in reduced noise levels at those schools and more even distribution of noise exposure across the City.

Impact NOISE-1: Typical daytime student activities at the proposed school would create noise levels that exceed Foster City L_{max} and L₅ thresholds at two sensitive receptors immediately adjacent lunch to the Project site.

NOISE



Source: RGD Acoustics, 2017.



Figure 4.10-2
Noise Modeling Locations and Mitigation Wall

NOISE

TABLE 4.10-13 CHANGE IN LUNCH HOUR NOISE LEVEL WITH MITIGATION

Receiver	Noise Level During Lunch Hour				Change (dBA)
	Without Barrier		With 8-foot Barrier		
	L ₅ (dBA)	L _{max} (dBA)	L ₅ (dBA)	L _{max} (dBA)	
R-1	74.1	82.4	65.9	74.2	(8.2)
R-2	71.3	79.6	63.0	71.3	(8.3)
R-3	57.8	66.1	58.0	66.3	0.2
R-4	58.6	66.9	58.8	67.1	0.2

Source: RGD Acoustics, Inc., 2017.

Mitigation Measure NOISE-1: An 8-foot-tall noise reduction barrier shall be constructed along the property line between the outdoor use areas and the neighboring residences and church (see Figure 4.10-2). This entirely gap-free barrier of simple wood-construction, with a surface weight of 2.5 pounds per square foot, would reduce noise from outdoor recreational and instructional activities by 8 dBA at first floor (ground level) elevation. This would be a noticeable reduction in noise associated with students on the play area. However, as shown in Table 4.10-13, noise levels when students are outside would still exceed an L₅ of 60 dBA and an L_{max} of 65 dBA at the nearest residences.

Significance with Mitigation: Significant and unavoidable (SU).

The effectiveness of noise barriers of increasing heights was also studied. It was determined that barriers of up to 20 feet tall would not fully mitigate the noise impacts of the proposed school on the two sensitive receptors immediately adjacent to the site. The 8-foot barrier was found to be the most effective balance of sound mitigation and associated aesthetic, shadow and private property impacts.

Building Operations Noise

The proposed school buildings would have associated mechanical equipment, public address (PA) system and a school bell, each with the potential to make significant contributions to the overall noise associated with elementary school operations. Noise from the PA and the school bell is accounted for in the student activity periods included in Impact NOISE-1. This is not the case for the mechanical equipment. According to the MEP/FA/FS Narrative from the applicant's 100% Schematic Designs, mechanical systems serving the proposed buildings would be packaged gas/electric units located on the roof and are typically 3-5 tons for classroom service. The noise impact from the building mechanical equipment is *potentially significant* to nearby sensitive receptors identified throughout this subchapter and shown in Figure 4.10-2.

Impact NOISE-1a: Mechanical equipment that would be located on school rooftops could generate noise levels above municipal thresholds.

NOISE

Mitigation Measure NOISE-1a: The Project developer/SMFCSD shall demonstrate that Project mechanical equipment has been designed to meet the City's noise ordinance limits. For example, at the adjacent residences, the noise ordinance limit for continuously operation equipment is 60 dBA during the daytime and 50 dBA at night.

Significance with Mitigation: Less than significant (LTS).

NOISE-2 **Implementation of the proposed Project would expose people to, or generate, excessive groundborne vibration or groundborne noise levels.**

Construction Impacts

Construction activities would generate groundborne vibration. Construction of the Project would include the demolition of existing buildings, grading and foundation work, and construction of the buildings, outdoor areas and hard courts. Construction of the school is expected to last 13 months from May 2018 to June 2019. Table 4.10-14 presents typical vibration levels, at various distances, from the construction equipment likely to be used at the Project.

TABLE 4.10-14 VIBRATION LEVELS PRODUCED BY VARIOUS CONSTRUCTION EQUIPMENT

Equipment	Vibration Velocity, VdB			
	25 Feet	50 Feet	75 Feet	100 Feet
Vibratory Roller	94	85	80	76
Hoe ram	87	78	73	69
Large Bulldozer	87	78	73	69
Caisson Drilling	87	78	73	69
Loaded Trucks	86	77	72	68
Jackhammer	79	70	65	61
Small Bulldozer	58	49	44	40

Note: VdB = RMS Vibration Velocity Level expressed in decibels re 1 micro-inch per second.

Existing buildings requiring demolition are located between 20 to 260 feet from the property line to the west. The proposed school buildings are generally located at distances of 170 feet from the nearest residential property line but there are some classrooms located closer with one as close as 40 feet from the nearest residential property line on the west of the site. During the Project demolition phase, the use of heavy construction equipment such as a vibratory roller, a hoe ram or a large bulldozer would generate groundborne vibration levels between 56 to 97 VdB at the nearest residential property line. A jackhammer would generate vibration levels between 48 to 82 VdB. During the construction of the school buildings, heavy construction equipment would generate groundborne vibration levels between 62 to 88 VdB. Other

NOISE

construction tools would generate vibration levels of 54 to 73 VdB. Since construction activities are calculated to exceed the 80 VdB, groundborne vibration is a *significant* impact.

Impact NOISE-2: Equipment used during Project construction would generate excessive groundborne vibration with severe, albeit temporary, effects on a group of residential properties as close as 40 feet from the site of construction. At distances of 50 feet or more, the groundborne vibration due to the operation of a single hoe ram or a large bulldozer would be below the threshold of significance.

Mitigation Measure NOISE-2: During construction, locate machinery and tools such as a hoe ram and large bulldozers away from the sensitive receptors as practically as possible. Alternatively, if feasible, minimize the use of hoe rams by using smaller jackhammers to minimize the groundborne vibration transfer to adjacent properties. Though the aforementioned measures would provide measurable vibration reductions at the property line, construction activities would still produce vibration that exceeds 80 VdB at points along the property line nearest construction activity.

Significance with Mitigation: Significant and Unavoidable (SU).

NOISE-3	The proposed Project would cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.
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The proposed school would generate noise associated with outdoor activities and projected generated traffic. Total ambient noise levels at each receptor site would be altered as a result of the proposed Project. As shown in Table 4.10-15, noise modeling completed as part of the noise study shows that the change in total ambient noise levels due to the proposed Project would be greater than 3 dB at site R-1 (4.3 L_{dn} increase) and site R-2 (3.0 L_{dn} increase). These increases meet or exceed the 3 db threshold established in Policy N-8 of the Foster City General Plan (see Section 4.10.1.2, Regulatory Framework). Although these permanent increases would be restricted to short, intermittent increases associated with typical school day operations, this is a *potentially significant* impact.

Impact NOISE-3: The proposed Project would result in an increase in ambient noise levels at sensitive receptors that exceeds Foster City thresholds.

Mitigation Measure NOISE-3: Implementation of Mitigation Measure NOISE-1. With construction of an 8-foot noise barrier, the increase in total ambient noise levels would be 1.0 L_{dn} or less at all sensitive receiver sites, consistent with Policy N-8 of the Foster City General Plan. The results of noise modeling with mitigation incorporated are shown in Table 4.10-16

Significance With Mitigation: Less than significant (LTS).

NOISE-4	The proposed Project would cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.
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NOISE

TABLE 4.10-15 CHANGE IN L_{DN} DUE TO PROPOSED PROJECT

Receiver	Noise Source	Typical School Day (L_{dn})		
		Existing	Existing Plus Project	Increase
R-1 Residences immediately to the west of the Project site.	Ambient	57.3	57.3	--
	Noise from School	--	59.5	--
	Noise from Project Traffic and parking Lot	--	33.8	--
	Total	57.3	61.6	4.3
R-2 Church immediately north of the Project site.	Ambient	56.8	56.8	--
	Noise from School	--	56.8	--
	Noise from Project Traffic and parking Lot	--	31.5	--
	Total	56.8	59.8	3.0
R-3 Residences on Shell Boulevard across from Project site.	Ambient	62.2	62.2	--
	Noise from School	--	43.4	--
	Noise from Project Traffic and parking Lot	--	39.5	--
	Total	62.2	62.3	0.1
R-4 Residences on Beach Park Boulevard across from Project site.	Ambient	70.0	70.0	--
	Noise from School	--	44.0	--
	Noise from Project Traffic and parking Lot	--	44.3	--
	Total	70.0	70.0	<0.1

Source: RGD Consultants, Inc., 2017.

Construction of the proposed Project would include the demolition of existing buildings, grading and foundation work, and construction of the buildings and outdoor natural turf area and hard courts. Table 4.10-17 presents typical construction equipment noise levels at a reference distance of 50 feet. The noisier activities tend to occur during the demolition and grading/foundation phases of construction. The later construction phases of the school buildings generate lower noise levels when the construction activities occur indoors.

Based on a typical construction equipment noise source level of 85 dBA at 50 feet, the noise levels during the construction of the school buildings would be 75 dBA for some residences immediately to the west, 72 dBA for residences bordering Shell Boulevard, and 64 to 72 dBA for residences bordering Beach Park Boulevard. During the construction of the playground areas, the noise levels could reach up to 93 dBA for some residences immediately west due to their close proximity to the proposed playground areas. These noise levels will be clearly noticeable and at times may interfere with normal daily activities.

NOISE

TABLE 4.10-16 CHANGE IN L_{DN} DUE TO PROPOSED PROJECT WITH 8-FOOT NOISE BARRIER

Receiver	Noise Source	Typical School Day (L_{dn})		
		Existing	Existing Plus Project	Increase
R-1 Residences immediately to the west of the Project site.	Ambient	57.3	57.3	--
	Noise from School	--	51.4	--
	Noise from Project Traffic and parking Lot	--	33.8	--
	Total	57.3	58.3	1.0
R-2 Church immediately north of the Project site.	Ambient	56.8	56.8	--
	Noise from School	--	48.3	--
	Noise from Project Traffic and parking Lot	--	30.6	--
	Total	56.8	57.4	0.6
R-3 Residences on Shell Boulevard across from Project site.	Ambient	62.2	62.2	--
	Noise from School	--	43.4	--
	Noise from Project Traffic and parking Lot	--	39.5	--
	Total	62.2	62.3	0.1
R-4 Residences on Beach Park Boulevard across from Project site.	Ambient	70.0	70.0	--
	Noise from School	--	44.0	--
	Noise from Project Traffic and parking Lot	--	44.3	--
	Total	70.0	70.0	<0.1

Source: RGD Consultants, Inc. 2017

As explained in Section 4.10.1.2, above, the Foster City Municipal Code allows construction operations to exceed City noise limits in or near residential districts between 7:30 AM and 8:00 PM on weekdays, and 9:00 AM and 8:00 PM on weekends. This is subject to the fact that noise levels do not exceed 100 dBA at any time.. Of all existing buildings to be demolished, the building closest to the Project's property line on the west is approximately 20 feet from the property line. Of buildings to be constructed, the one closest to the property line would be 14 feet from the western property line. This corresponds to a typical construction equipment noise of 93 dBA or less. Although noise levels would exceed the City maximum of 100 dBA, construction will temporarily increase noise levels at some adjacent residences. This is a *potentially significant* impact.

NOISE**TABLE 4.10-17 TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS**

Equipment	L_{max} (dBA) at 50 feet
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Dozer	85
Generator	81
Grader	85
Jack Hammer	88
Loader	85
Pneumatic Tool	85
Saw	76
Scraper	89

Source: Federal Transit Administration Manual, Construction Equipment Noise Emission Levels, 2006

Impact NOISE-4: Project construction could result in noise levels up to 93 dBA at some residences immediately west of the proposed playground areas.

Mitigation Measure NOISE-4: In order to minimize disruption and potential annoyance during construction, the following is required:

- All construction equipment shall be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition and appropriate for the equipment.
- All construction equipment shall be maintained to minimize noise emissions.
- Stationary demolition and construction equipment shall be located on the site so as to maintain the greatest possible distance to the sensitive receptors.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.

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- The construction contractor shall provide the name and telephone number for an on-site construction liaison. In the event that construction noise is intrusive to the community, the construction liaison shall investigate the source of the noise and require that reasonable measures be implemented to correct the problem.

Significance With Mitigation: Less than significant (LTS).

4.10.4 CUMULATIVE IMPACTS

NOISE-5	The proposed Project would not result in significant and unavoidable cumulatively excessive noise levels within the city.
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Most of the potential for noise impacts are site- and area-specific, not cumulative, with the possible exception of traffic-related noise (discussed below). As summarized in Table 4-1, in Chapter 4, Environmental Analysis, of this Draft EIR, there are no nearby off-site construction projects planned that would occur concurrent with the Project that, combined with Project construction, would result in substantial impacts greater than those discussed above in Impact NOI-4. Also, because there are no vacant, developable lots nor are there any reasonably foreseeable projects proposed in the immediate vicinity of the Project site, overall cumulative noise impacts with respect to future, nearby projects would be considered *less than significant*.

For traffic-related noise, the analysis to evaluate potential traffic noise impacts, as presented in NOISE-3 above, addresses both project-level and cumulative impacts because it is based on traffic modeling that accounts for traffic related to the Project and cumulative projects.

The Project would, therefore, not contribute to cumulatively considerable noise and vibration for construction, operations, and/or traffic. Thus, the cumulative impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

POPULATION AND HOUSING

4.11 POPULATION AND HOUSING

This Subchapter describes the population, housing, and employment characteristics of Foster City and evaluates the potential impacts related to population, housing, and employment that could result from adoption and implementation of the proposed Project.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 REGULATORY FRAMEWORK

This section summarizes existing state, regional and local laws and policies pertaining to population and housing in Foster City. There are no federal regulations applicable to the proposed Project with regards to population and housing.

State Regulations

California General Plan Law

California Housing Element law (Government Code Sections 65580 to 65589.8) includes provisions related to the requirements for housing elements of local government General Plans. Among these requirements are an assessment of housing needs and an inventory of resources and constraints relevant to meeting these needs. Additionally, in order to assure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, the California Government Code calls for local jurisdictions to plan for, and facilitate the construction of, their fair share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA).

Regional Regulations

Association of Bay Area Governments

Association of Bay Area Governments (ABAG) is the regional planning agency for the San Francisco Bay Area, which is composed of the nine Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma and contains 101 cities. ABAG produces growth forecasts in four-year cycles so that other regional agencies, including the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD), can use the forecasts to make funding and regulatory decisions.

The ABAG projections are the basis for the Regional Transportation Plan (RTP), regional Ozone Attainment Plan, the Bay Area Air Quality Management District's Clean Air Plan, and the East Bay Municipal Utility District's Urban Water Management Plan. In this way, ABAG projections have practical consequences that shape growth and environmental quality. General Plans, zoning regulations, and growth management programs of local jurisdictions inform the ABAG projections. The projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the

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region. ABA calculates the RHNA for individual jurisdictions within San Mateo County, including Foster City.

Local Regulations

Foster City Housing Element

The most recent Foster City Housing Element was certified in February, 2015 and is intended to plan for the period from 2015 to 2023. The Housing Element includes a housing needs assessment; an analysis of potential housing sites; potential constraints to housing production; housing goals, objectives, and policies; as well as an implementation program meant to accommodate housing development that will be affordable to a range of household types and income levels.

The Housing Element outlines non-governmental constraints to housing production specific to Foster City. One of the constraints listed is school capacity and increasing school enrollment in the San Mateo-Foster City School District (SMFCSD).

Foster City Zoning Ordinance

The Foster City Zoning Ordinance implements the land use designations of the General Plan by establishing zoning districts and regulations for the City. The Zoning Ordinance includes the zoning map, which establishes and delineates various districts within the city, and zoning regulations that apply development standards to the different zones delineated on the zoning map. By establishing development standards for the City, the Zoning Ordinance serves to regulate the density of Foster City's neighborhoods and prevent overcrowding.

4.11.1.2 EXISTING CONDITIONS

Population

As shown below in Table 4.11-1, according to *ABAG Projections 2013*, Foster City's population is projected to increase from 31,000 in 2015 to 33,000 in 2035, this represents an increase of approximately 7 percent.¹ Since *ABAG Projections 2013* are used in regional planning efforts, the ABAG numbers are used for the purpose of evaluating environmental impacts in this EIR (see discussion of Impact POP-1 for a comparison of the proposed Project's buildout with ABAG projections).

Housing

In 2015, Foster City contained 12,866 housing units. This represents an increase of approximately 4.8 percent from the 2000 Census data, which reported a total of 12,268 housing units.² Of the total number of existing housing units in 2010, 57.9 percent were owner-occupied and 42.1 percent were renter occupied.

¹ Association of Bay Area Governments (ABAG), 2013. *Plan Bay Area, Projections 2013*, City Table, Alameda County.

² U.S. Census Bureau, 2006-2010 American Community Survey, <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>, accessed June 2, 2017.

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TABLE 4.11-1 ABAG POPULATION, HOUSEHOLD, AND JOBS PROJECTIONS FOR FOSTER CITY

Foster City	2015	2035	Change from 2015 - 2035	
			Number	Percent
Population	31,000	33,000	2,000	7%
Households	12,170	12,790	620	5%
Jobs	14,810	16,900	2,090	14%

a. Percent are rounded to the nearest whole number.

Source: Association of Bay Area Governments (ABAG), 2013. *Plan Bay Area, Projections 2013*, City Table, San Mateo County.

Total Jobs

Industry and commerce provide thousands of jobs, millions of dollars in annual sales, and property tax revenues, and many critical services to Foster City residents. As shown in Table 4.11-1, according to the *ABAG Projections 2013*, jobs are expected to increase from 14,810 in 2015 to 16,900 in 2035; this represents an increase of approximately 14 percent.³

Jobs-to-Household Balance

A jobs-to-household ratio demonstrates the balance between the number of jobs and households within a community. It is calculated by dividing the number of jobs in the community by the number of households in the same area. A high number of jobs relative to a low number of households indicates that workers must commute into the community. A low number of jobs and high number of households indicates that workers must commute out of the community for work. In contrast, a healthy jobs-to-housing ratio, which is region specific, increases opportunities for residents to work locally. According to the *ABAG Projections 2013*, Foster City's jobs-to-household ratio was 1.27⁴ and is expected to increase to 1.32⁵ by the year 2035.

According to the *ABAG Projections 2013*, the Bay Area region jobs-to-household ratio was 1.35 jobs per household in 2015,⁶ and is expected to increase to 1.36⁷ by the year 2035. Therefore, Foster City is slightly under the proportion of jobs per household within the region as a whole. However, the extent to which residents will work locally depends in part on complex relationships between the housing types available in the City, the skills and education levels among the City's labor force, and the jobs that are located within the City. In no Bay Area community do all employed residents work in the city where they live, nor do all people employed in any given city live in that city.

³ Association of Bay Area Governments (ABAG), 2013, *Plan Bay Area, Projections 2013*, City Table, Alameda County.⁴ 14,810 jobs (2015) divided by 12,170 households (2015) = 1.27 jobs per household.⁵ 16,900 jobs (2035) divided by 12,790 households (2035) = 1.32 jobs per household.⁶ 3,669,990 (total jobs in Bay Area Region, 2015) divided by 2,720,410 (total households in Bay Area Region, 2015) = 1.349 jobs per household.⁷ 4,346,820 (total jobs in Bay Area Regions, 2035) divided by 3,188,330 (total households in Bay Area Region, 2035) = 1.363 jobs per household.

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Employment

According to ABAG projections, there are currently about 15,000 jobs in Foster City. As of 2016, the SMFCSD employed 1,172 teachers and 413 classified staff at its 22 sites located in San Mateo and Foster City⁸

4.11.2 STANDARDS OF SIGNIFICANCE

The proposed Project would result in a significant impact if it would:

1. Induce substantial unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.11.3 IMPACT DISCUSSION

POP-1	Implementation of the proposed Project would not induce substantial unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
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Development of the proposed Project would result in the demolition of an aging shopping center and construction of an elementary school serving up to fifth grade. As explained in Chapter 3, Project Description, the objectives of the Project are to address past increases in San Mateo-Foster City School District (SMFCSD) enrollment and accommodate existing students in Foster City who currently attend at-capacity schools and to provide capacity for anticipated future growth. The school would be funded by the Measure X bond program, which was passed by voters to reduce overcrowding at existing schools and provide for future enrollment growth. Teachers would be transferred from existing schools to the proposed new school. As such, the proposed Project would not induce substantial unexpected population growth, but would respond to historic growth. The impact related to growth would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

⁸ San Mateo Foster City School District, Fact Sheet, <http://www.smfcisd.net/assets/files/Communications/SMFCSD%20Fact%20Sheet%202015-16.pdf>, accessed June 2, 2017.

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POP-2	Implementation of the proposed Project would not displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.
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As highlighted in the discussion of POP-1, development of the proposed Project would result in the demolition of an aging shopping center and construction of an elementary school serving up to fifth grade, without associated population growth. No housing would be displaced directly or indirectly. There would be *no impact*.

Significance Without Mitigation: No Impact (NI).

POP-3	Implementation of the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.
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As highlighted in the discussion of POP-1, development of the proposed Project would result in the demolition of an aging shopping center and construction of an elementary school up to fifth grade. Charter Square Shopping Center has had a recent vacancy rate of above 50 percent. As a result a small group of small businesses, a preschool and a United States Post Office would be displaced. This does not represent a direct displacement of population, nor or substantial quantity of displacement, although a small number of individuals associated with existing businesses may be effected. The impact related to displacement of people would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.11.4 CUMULATIVE IMPACTS

POP-4	Implementation of the proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to population and housing.
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This section analyzes potential impacts to population and housing that could occur from a combination of the Project and other reasonably foreseeable projects in the surrounding area. The geographic scope of this analysis is taken as Foster City. A cumulative impact would be considered significant if the proposed Project, taken together with past, present, and reasonably foreseeable projects in Foster City, would result in the displacement of either people or housing units. Impacts resulting from the displacement of both people and housing necessitating the construction of replacement housing elsewhere are site-specific and are assessed on a site-by-site basis. The significance of the impacts would depend largely on what, if any, existing housing and residents occur on or near the sites of the related projects identified in Table 4.4-1 in Chapter 4, Environmental Analysis, of this Draft EIR. As shown on Table 4.4-1, 966 new residential units will be constructed in Foster City by 2030, assuming buildout of approved projects. This is in addition to 456 potential new units associated with pending residential projects. Similar to the proposed Project, the determination for the displacement of a substantial number of people and housing would be made on a case-by-case basis and, if necessary, the applicants of the related projects would be required to comply

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with the City's Affordable Housing Linkage Fees. Future applicants may also be required to provide relocation assistance to rental households displaced as a result of conversion projects, pursuant to Chapter 17.76 of the Foster City Municipal Code. Thus, given that the proposed Project's impacts regarding the displacement of housing and people are less than significant, the proposed Project's impacts in this regard would not be cumulatively considerable. Therefore, cumulative impacts to population and housing would be less than significant and no mitigation measures are required.

Significance Without Mitigation: Less than significant (LTS).

4.12 PUBLIC SERVICES AND RECREATION

This Subchapter describes public services and recreation facilities in the City of Foster City and evaluates the potential impacts to public services and recreation from future development that could occur by developing the proposed Project.

4.12.1 FIRE PROTECTION SERVICES

4.12.1.1 ENVIRONMENTAL SETTING

This section describes the current regulations, resources, and response time for fire protection and emergency services in Foster City.

Regulatory Framework

State Regulations

California Code of Regulations

Public Safety

Division 1 of Title 19, Public Safety, of the California Code of Regulations (CCR) pertains to fire and life safety and constitutes the Basic Building Design and Construction Standards of the Office of the State Fire Marshal. Title 19 includes prevention and engineering measures for new construction. Title 19 is regularly reviewed and updated by the Office of the State Fire Marshal.

California Building Code

The State of California provides minimum standards for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 (California Building Standards Code) of the CCR. The CBC is based on the International Building Code but has been amended for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code (IFC) of the International Code Council, with California amendments. This is the official Fire Code for the State and all political subdivisions. It is located in Part 9 of Title 24 of the CCR. The CFC is revised and published every three years by the California Building Standards Commission.

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California Health and Safety Code

The California Health and Safety Code provides regulations pertaining to the abatement of fire-related hazards. This Code also requires that local jurisdictions enforce the State Building Standards Code, which provides standards for fire-resistant building and roofing materials and other fire-related construction methods, as discussed above.

California Fire Plan

The California Fire Plan is the State's "road map" for reducing the risk of wildfire. The overall goal of the plan is to reduce total costs and losses from wildland fire in California through focused pre-fire management prescriptions and increased initial attack success. The current plan was finalized in early 2010. The Plan provides guidance to local jurisdictions in meeting State goals.¹

Local and Regional Regulations

Foster City General Plan

The Local Hazard Mitigation Plan/ Safety Element of the Foster City General Plan contain relevant policies and programs specifically targeting structural fire safety. These include:

- **Policy S-C-4: Minimize Loss of Life, Injuries, and Property Damage Due to Fires.** The City will minimize loss of life, injuries, and property damage due to fires through review of development proposals, public education, and maintenance of well-trained fire suppression personnel.
- **Program S-C-4-a: Development Review for Fire Safety.** The City will review proposals for new and modified buildings to ensure that fire safety provisions are included as required by the most current uniform codes and local regulations.
- **Program S-C-4-b: Annual Inspections for Fire Safety and Hazardous Materials.** The City will conduct annual inspections of businesses and multi-family dwellings in order to ensure compliance with fire safety and hazardous materials requirements. The City will continue to provide inspections of residential care facilities at the request of the Department of Social Services.

Foster City Municipal Code

The City of Foster City Municipal Code, organized by title, chapter, article, and section contains all ordinances for Foster City. Title 1, Administration and Personnel, and Title 15, Building and Construction, include regulations relevant to fire protection services in Foster City as discussed below.

Section 2.26, Fire Department

This section of the Municipal Code outlines the establishment of the Fire Department, the responsibility of the Fire Chief, and the appointment/direction of the Fire Chief by the City Manager.

¹ California Department of Forestry and Fire Protection, http://cdfdata.fire.ca.gov/fire_er/fpp_planning_cafireplan, accessed January 22, 2016.

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Chapter 15.24, Fire Code

This Chapter outlines the standards and regulations of the Foster City Fire Code. Section 15.24.010 incorporates the 2016 edition of Title 24 and the International Fire Code (IFC), 2015 edition by reference and adopts these documents as the Fire Code of the City of Foster City.

Existing Conditions

The Foster City Fire Department (FCFD) is part of a shared management fire protection service that includes two other fire agencies in San Mateo County, the San Mateo Fire Department and the Belmont Fire Department. These departments are dispatched together, and through this arrangement, the unit nearest an event responds to that emergency call, regardless of jurisdiction. The FCFD also has a mutual aid agreement with the City of Hayward Fire Department, and participates in the Master Mutual Aid System for the State of California. This provides access to fire protection resources throughout the State. The FCFD provides Advanced Life Support with a paramedic is assigned to every fire engine.

Foster City Fire Station 28 is located at 1040 E. Hillsdale Boulevard, about 0.80 miles from the Project site. Equipment at the Station consists of two fire engines with three personnel each, one fire boat and one command vehicle. The FCFD also maintains one fire engine and one fire truck on reserve for use when another Station vehicle is under repair or out of service. In the event that both vehicles are dispatched, the County communications service will send an engine from another jurisdiction for support. According to the Department's 2016 Annual Report, one new Firefighter/Medic was hired by the FCFD in 2016.² The FCFD received 1,965 calls, with an average response time of 5 minutes, 11 seconds.³ Together, the Foster City, Belmont and San Mateo Fire Departments committed 4,288.25 total hours to State mutual aid response.⁴

4.12.1.2 THRESHOLDS OF SIGNIFICANCE

Implementation of the proposed Project would have a significant impact related to fire protection and emergency services if, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services, it would result in new or physically altered fire protection facilities, or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts.

4.12.1.3 IMPACT DISCUSSION

SVCS-1	The proposed Project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.
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² Foster City Fire Department, 2016. 2016 Annual Report, page 8.

³ Foster City Fire Department, 2016. 2016 Annual Report, page 19.

⁴ Foster City Fire Department, 2016. 2016 Annual Report, page 16.

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The Project would have a significant environmental impact if it would exceed the ability of fire and emergency medical responders to adequately serve the Project site, thereby requiring construction of new facilities or modification of existing facilities, the construction of which could cause significant environmental impacts.

The proposed Project would result in the demolition of seven existing commercial structures totaling approximately 56,000 square feet and construction of an approximately 42,500 square-foot elementary school projected to enroll 430 to 460 students with a maximum capacity of 600 students. The proposed Project would include approximately 75 parking stalls supporting a single less intense use of the site compared to the current use which 250 parking spaces and multiple tenants. Although the relationship is not directly proportional, less intense uses of land typically result in decreased potential for fire and emergency incidents. The proposed Project would also result in structures built to contemporary safety and fire standards. Thus, the Project is likely to result in decreased demand for fire protection services and would not result in need for new fire facilities. Given these conditions, the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.12.1.4 CUMULATIVE IMPACTS

SVCS-2	The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to fire protection services.
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A significant cumulative environmental impact would result if, in combination with other past, present, and reasonably foreseeable projects, construction of the proposed Project would exceed the ability of fire and emergency medical responders to adequately serve the vicinity, thereby requiring construction of new facilities or modification of existing facilities. This section analyzes potential impacts to fire protection services that could occur as a result of the proposed Project in combination with reasonably foreseeable growth. For the purposes of this analysis the area of cumulative effect will be considered the service area of the FCFD, which as discussed above includes communities within San Mateo County.

The proposed Project in combination with other development within the FCFD service area would incrementally increase the demand for emergency medical and fire protection services. However, as discussed above, Foster General Plan Safety Element policies and programs require that all proposals for new and modified buildings are reviewed to ensure that fire safety provisions are included as required by the most current uniform codes. Additionally, in order to receive a building permit, all future potential development in the FCFD service area would be required to comply with the CBC and CFC. These requirements would reduce the potential for incidents that would require additional calls for service. Finally, if in the future, development in the FCFD service area is expanded to the point that the FCFD would need expanded facilities in order to maintain acceptable service ratios, response times or other performance objectives, and the construction of such facilities has the potential to result in significant environmental effects, such projects would be subject to the provisions of CEQA and significant environmental impacts would be mitigated to the extent feasible. Therefore, a *less-than-significant* cumulative impact would result.

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Significance Without Mitigation: Less than significant (LTS).

4.12.2 POLICE SERVICES

4.12.2.1 ENVIRONMENTAL SETTING

This section describes the current resources and response time for police protection and emergency services in Foster City.

Existing Conditions

Foster City Police Department

The Foster City Police Department (FCPD) provides police services within the Foster City city limits and the Foster City sphere of influence (SOI). The San Mateo County Sheriff's Department provides mutual aid on an as-needed basis. The FCPD is located at 1030 E. Hillsdale Boulevard, about 0.80 miles from the Project site.

The FCPD is composed of a Field Operations Division which includes all uniformed personnel who patrol the streets and respond to crimes and all calls received. This includes Patrol, Traffic, S.W.A.T., Parking Enforcement, Community Service Officers and Reserve Officers. The separate Administrative Services Division is comprised of Detective, Youth Services, Recruitment, Crime Prevention, Property/Evidence, Dispatch and Records Bureau personnel.

There are 53 FCPD employees including one chief, two captains, two lieutenants, seven sergeants, six corporals and 21 officers.⁵ Using Foster City's 2015 population of 31,000, the existing service ratio is 6.7 officers per 10,000⁶ residents.

According to the 2016 Annual Crime Report, FCPD responded to 13,161 calls for service in 2016, a three percent increase over 2015. FCPD Officers arrested 559 suspects, a 7 percent increase over 2015.⁷

4.12.2.2 THRESHOLDS OF SIGNIFICANCE

The proposed Project would have a significant impact related to police protection and emergency services if, in order to maintain acceptable service ratios, response times, or other performance objectives for police services, it would result in new or physically altered facilities, or the need for new or physically altered facilities, the construction or operation of which could cause significant environmental impacts.

⁵ City of Foster City, Preliminary Budget Fiscal Year 2016-2017.

⁶ 21 officers divided by 31,000 existing 2015 population = .00067 officers per resident multiplied by 10,000 residents = 6.7. I think that this ought to be 6.7 officers per 10,000 (10,000 x .00067 officers per 10,000 residents).

⁷ Foster City Police Department, 2016. Annual Crime Report, page 9-10.

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4.12.2.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to police protection services potentially resulting from implementation of the proposed Project.

SVCS-3	The proposed Project would not result in the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.
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A significant environmental impact would result if development of the proposed Project would necessitate the need for construction or operation of new or physically altered police facilities. As discussed under the fire protection services impact discussion, the proposed Project would result in the demolition of seven existing commercial structures with various commercial tenants totaling approximately 56,000 square feet and construction of a 42,500-square-foot elementary school projected to enroll 430 to 460 students with a maximum capacity of 600 students. The proposed Project would include approximately 75 parking stalls, a less intense use compared to the current site which contains 250 parking stalls. Utilization of the Project site if developed with an elementary school would also be restricted to daytime and afternoon hours, while existing diverse uses, which include retailers, restaurants and various businesses, are open during the day and the evening. Although the relationship is not directly proportional, a less intense, more hourly-restricted use of land typically results in decreased potential for emergency incidents and a decrease in the number of calls to police departments. In addition, because the proposed school would serve students currently assigned to schools throughout the City, and utilize existing SMFCSD teachers, calls associated with an increase in local population would not increase. Thus, it is reasonable to assume that the Project would not result in the need for new or physically altered police protection facilities. This assumption was verified by the Chief of the Foster City Police Department.⁸ Therefore, Project impacts to police services would be *less than significant* and no mitigation measures are warranted.

Significance Without Mitigation: Less than significant (LTS).

4.12.2.4 CUMULATIVE IMPACTS

SVCS-4	The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to police services.
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A significant cumulative environmental impact could result if, in combination with other past, present, and reasonably foreseeable projects, construction of the proposed Project would exceed the ability of FCPD responders to adequately serve the vicinity thereby requiring construction of new facilities or modification of existing facilities. This section analyzes potential impacts to police protection services that could occur from implementation of the Project in combination with reasonably foreseeable growth. For

⁸ Joe Pierucci, Police Chief, Foster City Police Department. Personal communication with PlaceWorks, July 20, 2017.

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the purposes of this analysis, the area of cumulative effect will be considered the service area of the FCPD, the area within the city limit of Foster City and its Sphere of Influence (SOI).

As described above, the proposed Project is unlikely to increase the level of activity on the Project site and as such would not increase the number of calls for police protection services. As noted, the FCPD has determined that the Project would not require the construction or expansion of FCPD facilities. Moreover, as part of the FCPD's involvement with Foster City's public facilities and growth, other development in Foster City will be reviewed by FCPD to assess potential impacts on the Department's ability to provide adequate services. Finally, if and when new or expanded FCPD facilities do become necessary, new construction or expansion projects would be subject to separate CEQA review in order to identify and mitigate potential environmental impacts to the extent feasible. Therefore, impacts related to the provision of police protection services resulting from buildout of the Project would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.12.3 SCHOOLS

4.12.3.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

California Senate Bill 50

California Senate Bill 50 (SB 50) places limitations on the power of local governments to require mitigation of school facilities by developers. Under the provisions of SB 50, school districts can collect fees to offset the cost of expanding school capacity which becomes necessary as development occurs. These statutory mitigation fees are determined based on the square footage of proposed uses. As a part of this Bill, school districts must base their long-term facilities needs and costs on long-term population growth in order to qualify for this source of funding. Payment of statutory mitigation fees is deemed to be adequate mitigation of school impacts under CEQA.

California Government Code (Section 65995(b)) and Education Code (Section 17620)

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess statutory mitigation fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. On January 22, 2014 the State Allocation Board (SAB) approved increasing the allowable amount of statutory school facilities fees (Level I School Fees) from \$3.20 to \$3.36 per square foot of assessable space for residential development of 500 square feet or more, and from \$0.51 to \$0.54 per square foot of

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chargeable covered and enclosed space for commercial/industrial development.⁹ According to California Government Code Section 65995(h), the payment of statutory mitigation 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...on the provision of adequate school facilities.” The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Mitigation Fee Act (California Government Code (Sections 66000 through 66008))

Enacted as AB 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing a statutory mitigation fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put.¹⁰ The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development project on which it is to be levied. This Act became enforceable on January 1, 1989.

Local Regulations

San Mateo-Foster City School District Measure X

The San Mateo – Foster City School District (SMFCSD) Measure X bond program is a school facilities bond approved by voters in November of 2015. The Measure was developed to “provide funds to relieve overcrowding at schools in the SMFCSD and to provide additional classrooms and other space for increasing enrollment.”¹¹ The Measure included a series of commitments when passed including securing the Project site for development of the proposed Project. A second elementary school, additional classrooms at existing schools, and new school facilities are also included in Measure X commitments.

Foster City Municipal Code

The City of Foster City Municipal Code, organized by title, chapter, article, and section, contains all ordinances for Foster City. Title 16 Subdivisions, includes regulations relevant to schools in Foster City.

Under Chapter 16.16 Subdivision Procedure, of the Municipal Code, a developer may be required to dedicate a school site to a school district as a condition of approval of a tentative subdivision map.

⁹ State Allocation Board Meeting, January 22, 2014, http://www.documents.dgs.ca.gov/OPSC/Resources/Index_Adj_Dev.pdf, accessed December 8, 2015.

¹⁰ California Government Code, Sections 66000-66008, <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=66000-66008>, accessed December 8, 2015.

¹¹ San Mateo-Foster City School District, Measure X, <http://www.smfcscd.net/en/measure-x/information-about-measure-x.html>, accessed July 3, 2017.

PUBLIC SERVICES AND RECREATION**Existing Conditions***San Mateo-Foster City School District*

The SMFCSD serves the communities of Foster City, San Mateo and San Mateo County (Highlands). It had a total enrollment of 12,500 students during the 2015-16 school year,¹² a seven percent increase over the 2013-14 school year, when 11,705 students were enrolled. In 2016-17, SMFCSD operates 15 elementary schools, one K-8 school, and four middle schools. Three SMFCSD elementary schools and one middle school are located in Foster City.

Table 4.12-1 shows the current enrollment and capacity for those four schools.

TABLE 4.12-1 CURRENT CAPACITY AND ENROLLMENT FOR SMFCSD SCHOOLS IN FOSTER CITY

Schools	Capacity ^a	2015/16 Enrollment	Remaining Capacity
Audubon Elementary School	796	717	79
Brewer Island Elementary School	702	696	6
Foster City Elementary School	796	897	(101)
Elementary Schools Total	2,294	2,310	(16)
Bowditch Middle	918	1,068	(150)
Middle Schools Total	918	1,068	(150)
Grand Total	3,212	3,378	(166)

a. City of Foster, 2016, City of Foster City General Plan Land Use and Circulation Element.
Source: <http://dq.cde.ca.gov/dataquest/content.asp>.

4.12.3.2 THRESHOLDS OF SIGNIFICANCE

The proposed Project would have a significant impact related to school services if, in order to maintain acceptable service ratios or other performance objectives for school services, it would result in new or physically altered school facilities, or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts.

¹² San – Mateo Foster City School District, 2015-2016 fact Sheet, <http://www.smfcisd.net/assets/files/Communications/SMFCSD%20Fact%20Sheet%202015-16.pdf>, accessed July 1, 2017.

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4.12.3.3 IMPACT DISCUSSION

SVCS-5	The proposed Project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.
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The proposed Project would have a significant impact related to schools if it would increase the demand for school services to the degree that new facilities are required. As a proposed new elementary school, the Project would have no impact.

Significance Without Mitigation: No impact (NI).

4.12.3.4 CUMULATIVE IMPACTS

SVCS-6	The proposed Project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to school services.
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A significant cumulative environmental impact could result if, in combination with other past, present, and reasonably foreseeable projects, buildout of the proposed Project in combination with past, present and reasonably foreseeable projects would exceed the ability of SMFCSD to adequately serve the vicinity, thereby requiring construction of new facilities or modification of existing facilities. This section analyzes potential impacts to school services that could occur from implementation of the Project in combination with reasonably foreseeable growth. For the purposes of this analysis the area of cumulative effect will be considered the service area of the SMFCSD, which as discussed above includes the areas within the communities of Foster City, San Mateo and San Mateo County (Highlands).

As described above, the proposed Project would result in a new elementary school. There would be *no impact*.

Significance Without Mitigation: No impact (NI).

4.12.4 PARKS AND RECREATIONAL FACILITIES

4.12.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

The following section describes the regulatory framework and existing conditions related to parks in Foster City. There are no federal or State regulations relevant to the proposed school project.

PUBLIC SERVICES AND RECREATION*Local Regulations*Foster City General Plan

The Foster City General Plan includes the State-mandated Parks and Open Space Element. The purpose of the Element is to address the preservation of parks and open space in the City of Foster City. The Element includes a series of policies that are directly related to schools and school recreational facilities in the City, including shared use and program coordination. These are shown in Table 4.12-2

TABLE 4.12-2 SCHOOLS-RELATED PARKS AND OPEN SPACE ELEMENT GOALS AND POLICIES

Goal/Policy No.	Goal/Policy Text
Goal PC-C	Maintain and Improve the City's Pedway and Bikeway System. Maintain and improve the pedway system that surrounds the City of Foster City and the walkway system that provides safe access to parks, schools and other streets.
Policy PC-22	Shared Use Facilities. Work with local schools to make their facilities available for City of Foster City sponsored recreation programs
Policy PC-bb	Shared Use Facilities. The City of Foster City shall continue to work with the San Mateo-Foster City School District to share facilities with the school district and provide activities and programs at schools within the City of Foster City.

Source: Foster City General Plan.

Existing Conditions

The Foster City Parks and Recreation Department operates parks and recreational facilities in Foster City. The City of Foster City has 23 major and “slot parks” parks within the 4 square miles comprising the City’s boundaries, ranging in size from 0.15 acre to 23.90 acres, for a total of approximately 108.6 acres. The City also contains 14.17 acres of public walk and pedways as well as the 212 acres of waterway that comprise the lagoon.

Table 4.12-3 compares park acreage from the 2009 Parks and Open Space Element of the General Plan to existing (2016) park conditions. The table shows that Shorebird Park, Baywinds Park and Bridgeview Park have been created in the City since 2009 although the usable acreage of the Levee Pedway has been reduced.

As noted in Chapter 3, Project Description, the Project site is located in Foster City Neighborhood 5. Only 3.86-acre Farragut Park is located in Neighborhood 5. As a result, Neighborhood 5 has the third lowest parks acreage of the City’s nine neighborhoods.¹³ However, the following four parks are within 0.5 miles of the Project site:

- 5.88-acre Catamaran Park
- 3.86-acre Farragut Park
- 1.60-acre Ketch Park
- 23.90-acre Sea Cloud Park

¹³ City of Foster City, 2016. 2025 General Plan, Parks and Open Space Element, page 5-11.

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TABLE 4.12-3 PARKS AND RECREATION FACILITIES IN FOSTER CITY

Name	2009 Acreage	2016 Acreage
Major Parks		
Leo J. Ryan Memorial park	20.73	20.73
Boat Park/Dog Park	3.18	3.18
Erckenbrack Park	3.48	3.48
Gull Park	3.14	3.14
Marlin Park	3.13	3.13
Catamaran Park	5.88	5.88
Farragut Park	3.86	3.86
Sea Cloud Park	23.90	23.90
Port Royal Park	3.98	3.98
Boothbay Park	11.21	11.21
Shorebird Park	N/A	3.85
Edgewater Park	8.53	8.53
<i>Total Major Parks</i>	<i>91.02</i>	<i>94.87</i>
Green Areas/Slot Parks		
Kildeer Park	1.53	2.42
Baywinds Park	N/A	1.50
Shad Park	2.16	2.16
Bridgeview Park	N/A	1.42
Pompano Circle	0.56	0.56
Sunfish park	2.41	2.41
Ketch Park	1.60	1.60
Turnstone Park	1.53	1.53
Gateshead Park	0.12	0.12
Leo Park	0.15	0.15
Arcturus Park	0.75	0.75
<i>Total Green Areas/Slot Parks</i>	<i>11.70</i>	<i>13.73</i>

PUBLIC SERVICES AND RECREATION**TABLE 4.12-3 PARKS AND RECREATION FACILITIES IN FOSTER CITY**

Name	2009 Acreage	2016 Acreage
Waterways		
Lagoon	212.0	212.0
<i>Total Waterways</i>	<i>212.0</i>	<i>212.0</i>
Walkways and Pedways		
Constitution & Pilgrim Drive Walkways	3.0	3.0
Sandy Hook Green Area	0.1	0.1
Levee Pedway	43.3	11.16
<i>Total Walkways and Pedways</i>	<i>46.4</i>	<i>14.17</i>
Total Parks Facilities	361.12	334.77

Source: City of Foster, 2016. 2025 Foster City General Plan, Park Grid web page, <http://www.fostercity.org/parksandrecreation/park-grid.cfm>, accessed June 12, 2017.

THRESHOLDS OF SIGNIFICANCE

The proposed Project would have a significant impact related to parks if it would:

1. Result in new or physically altered park facilities, or the need for new or physically altered facilities, the construction or operation of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks and recreational facilities.
2. Increase 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.
3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.12.4.2 IMPACT DISCUSSION

SVCS-7	The proposed Project would not result in the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.
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The proposed Project would have a significant impact related to park facilities if it would increase the demand for park facilities in order to maintain acceptable service ratios requiring the construction of new facilities that may cause significant environmental impacts. As tallied in Table 4.12-3, there are over 334 acres of parks in Foster City. As has been stressed throughout this document, the proposed school would

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be developed to serve students now attending the three existing elementary schools at locations across Foster City. The proposed school would serve communities around the Project site with a fourth elementary school. It would neither promote the movement of students within Foster City, nor increase the population of Foster City. Thus it would not increase strain on existing park facilities. The proposed Project would result in a *less-than-significant* impact.

Significance Without Mitigation: Less than significant (LTS).

SVCS-8	The proposed Project would not increase 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.
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The proposed Project would have a significant impact related to use of existing recreational facilities if it would increase the demand for those facilities, thus requiring the construction of new facilities that may cause significant environmental impacts. Typically, such demand is generated by the construction of new residential development or other activities that generate new residents within the park service area. As previously discussed under the school services impact discussion, the proposed Project would result in the demolition of seven existing commercial structures totaling approximately 56,000 square feet and constructing a single-story elementary school that would support a maximum student body of approximately 600 students. As shown on Figure 3-4 in Chapter 3, Project Description, the proposed Project would include instructional and recreational areas, such as active play structures and basketball courts, a kindergarten play area, and a natural turf area.

As the proposed Project is in response to an existing need for new educational facilities that would primarily accommodate existing students in the SMFCSD and would provide recreational facilities on-site to serve users of the school, the proposed Project would not generate additional demand for new park and recreational facilities. Therefore, the proposed Project would have a *less-than-significant* in this respect.

Significance Without Mitigation: Less than significant (LTS).

SVCS-9	The proposed Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
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The proposed Project would have a significant impact related to the inclusion of recreational facilities or requiring the construction of new facilities that may cause significant environmental impacts. Typically, such demand is generated by the construction of new residential development or other activities that generate new residents within the park service area. The proposed Project would result in the demolition of 56,000 square feet of commercial space and construction of an elementary school serving up to fifth grade, with a projected enrollment of 430 to 460 students and a maximum enrollment of 600 students. As shown on Figure 3-4 in Chapter 3, Project Description, the proposed Project would include outdoor instructional and recreational areas, such as active play structures, hardcourts and a natural turf area.

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As the proposed Project is in response to an existing need for new educational facilities that would primarily accommodate existing students in the SMFCSD and would provide recreational facilities on-site to serve users of the school, the proposed Project would include recreational facilities that may have an adverse physical impact on the environment. However, these facilities would be limited to outdoor recreational, instructional and collaborative learning areas, as well as a small area of natural turf. These would be located on already developed infill site. As such, the proposed Project would have a *less than significant* impact in this respect, and no mitigation is required.

Significance Without Mitigation: Less than significant (LTS).

4.12.4.3 CUMULATIVE IMPACTS

SVCS-10	The proposed Project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to parks.
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A significant cumulative environmental impact could result if, in combination with other past, present, and reasonably foreseeable projects, buildout of the proposed Project in combination with past, present and reasonably foreseeable projects would exceed the ability of the Foster City Parks and Recreation Department to adequately serve the vicinity, thereby requiring construction of new facilities or modification of existing facilities. This section analyzes potential impacts to park and recreation facilities that could occur from implementation of the Project in combination with reasonably foreseeable growth. For the purposes of this analysis the area of cumulative effect will be considered the service area of the Foster City Parks and Recreation Department which, as discussed above, includes the city of Foster City.

As described above, the proposed school would be developed to serve students now attending the three existing elementary schools at locations across Foster City. The proposed school would serve communities around the Project site with a fourth elementary school. It would neither promote the movement of students within Foster City, nor increase the population of Foster City. It would not increase strain on existing park facilities. As the proposed Project would contain recreational facilities for students, related impacts would be site specific, and would not create a need for additional new or expanded park and recreation facilities. Therefore, there would be a *less than significant* impact related to the provision of park and recreation facilities resulting from buildout of the Project.

Significance Without Mitigation: Less than significant (LTS).

4.12.5 LIBRARIES

4.12.5.1 ENVIRONMENTAL SETTING

This section describes the regulatory framework and existing conditions related to library services in the City of Foster City.

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Regulatory Framework

State Regulations

The Mello-Roos Communities Facilities Act of 1982

The Mello-Roos Community Facilities Act, Government Code Section 53311 et seq., provides an alternative method of financing certain public capital facilities and services through special taxes. This State law empowers local agencies to establish Community Facilities Districts (CFDs) to levy special taxes for facilities such as libraries.

Existing Conditions

San Mateo County Libraries, a Joint Powers Authority (JPA) established in 1999, operates one of its 12 public libraries in the City of Foster City. The branch is located at 1000 East Hillsdale Boulevard, about 0.75 miles from the Project site. It is open seven days a week and, in addition to providing the traditional library services, is a mobile/computing hotspot with public computers and free WiFi access.

4.12.5.2 THRESHOLDS OF SIGNIFICANCE

The proposed Project would have a significant impact related to library services if, in order to maintain acceptable service ratios or other performance objectives, the proposed Project would result in new or physically altered facilities, or the need for new or physically altered facilities, the construction or operation of which could cause significant environmental impacts.

4.12.5.3 IMPACT DISCUSSION

SVCS-11	The proposed Project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.
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The Peninsula Library System provides library services to the city of Foster City at 1000 East Hillsdale Boulevard, about 0.75 miles from the Project site, and does not maintain a service ratio. As described above, the proposed Project would not result in substantial direct or indirect population growth as the Project is to alleviate overcrowding within the Foster City elementary schools. As such, it is unlikely that the proposed Project would induce demand for library services in the same way that the construction of new residential or other facilities would have the potential to result in significant environmental impacts. Moreover, the proposed Project would include a 2,380-square-foot Library and Resource Center which would serve the student body associated with the proposed Project. Therefore, *no impact* would result in this respect.

Significance Without Mitigation: No impact (NI)

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4.12.5.4 CUMULATIVE IMPACTS

SVCS-12	The proposed Project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to the construction of library facilities.
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A significant cumulative environmental impact could result if, in combination with other past, present, and reasonably foreseeable projects, buildout of the proposed Project in combination with past, present and reasonably foreseeable projects would exceed the ability of the San Mateo County Library System to adequately serve the vicinity, thereby requiring construction of new facilities or modification of existing facilities. This section analyzes potential impacts to library facilities that could occur from implementation of the Project in combination with reasonably foreseeable growth. For the purposes of this analysis, the area of cumulative effect is considered the service area of the Peninsula Library System which as discussed above includes the eleven communities the System serves within San Mateo County.

As described above the proposed Project would increase the amount of library space available to existing students within the service area. This would result in a favorable impact to the Library System and would thus not create a need for additional new or expanded library facilities by accommodating existing students in the District. Therefore, there would be *no impact* related to the provision of library facilities resulting from buildout of the Project.

Significance Without Mitigation: No impact (NI).

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TRANSPORTATION AND TRAFFIC

4.13 TRANSPORTATION AND TRAFFIC

This Subchapter describes the regulatory framework and existing conditions in the vicinity of the Project site related to transportation and traffic and evaluates the potential impacts of the Project on transportation and traffic. The analysis contained in this subchapter was prepared by Hexagon Transportation Consultants, Inc. The technical appendices for the traffic analysis are included in Appendix E, Traffic Impact Analysis, of this Draft EIR.

4.13.1 ENVIRONMENTAL SETTING

4.13.1.1 REGULATORY FRAMEWORK

This section describes State, regional, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process for transportation and circulation.

State Regulations

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, design, construction, and maintenance of all interstate freeways and State routes. The department sets design standards that are often used by local governments. Caltrans requirements are described in its Guide for Preparation of Traffic Impact Studies,¹ which covers the information needed for Caltrans to review the impacts to State highway facilities, including freeway segments, on- and off-ramps, and signalized intersections.

Caltrans is the primary State agency responsible for transportation issues. One of its duties is the construction and maintenance of the State highway system. Caltrans has established standards for roadway traffic flow and developed procedures to determine if State-controlled facilities require improvements. For projects that may physically affect facilities or require access to the State highway, Caltrans requires encroachment permits before such activity may be undertaken. For projects that would not physically affect facilities but may influence traffic flow and levels of services at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects.

Regional Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area including San Mateo County. It also functions as the federally mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP) mandated by the Sustainable Communities and Climate Protection Act of 2008 (SB 375). The RTP is a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

¹ California Department of Transportation (DOT), 2002. *Guide for the preparation of Traffic Impact Studies*.

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The current RTP, Plan Bay Area: Strategy for a Sustainable Region was adopted on July 18, 2013 and includes both the region's Sustainable Communities Strategy (SCS) and the 2040 RTP. Plan Bay Area was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG) and cities and counties throughout the region. Plan Bay Area is an integrated long-range transportation and land-use/housing plan intended to support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution in the Bay Area. Through this initiative, local governments identified Priority Development Areas (PDA) which form the implementing framework for Plan Bay Area. The PDAs are areas along transportation corridors that are served by public transit that allow opportunities for development of transit-oriented, infill development within existing communities that are expected to host the majority of future development. There are no planned or potential PDAs in Foster City.

City/County Association of Governments of San Mateo County

The City/County Association of Governments (C/CAG) of San Mateo County is the County's Congestion Management Agency. It prepares a Congestion Management Plan (CMP), which identifies improvements and strategies to relieve congestion on regional transportation facilities, and sets funding priorities.

The San Mateo County CMP roadway system comprises 53 roadway segments and 16 intersections. The CMP facilities in Foster City include US 101 and SR 92. The level of service standards (LOS) (see Table 4.13-3 for LOS definitions) for these facilities varies:

- SR 92 from US 101 to Alameda County Line, LOS E
- US 101 from Peninsula Avenue to SR 92, LOS F
- US 101 from SR 92 to Whipple Road, LOS E

San Mateo County Transportation Authority

The San Mateo County Transportation Authority was formed to administer the proceeds from Measure A; the 1988 voter approved half-cent sales tax, to fund a variety of transportation-related projects and programs. In 2004, County voters approved a reauthorization of Measure A through 2033. Major programs funded by Measure A include:

- Transit, 30 percent of funds
- Highways, 27.5 percent of funds
- Local Streets and Transportation, 22.5 percent of funds

The San Mateo County Transportation Authority projects in the vicinity of Foster City include auxiliary lanes on US 101.

Local Regulations

Foster City General Plan

The Land Use and Circulation Element of the Foster City General Plan was updated in 2016. It includes numerous goals, policies and actions related to transportation and traffic. These are outlined in Table 4.13-1, below.

TRANSPORTATION AND TRAFFIC

TABLE 4.13-1 FOSTER CITY GENERAL PLAN GOALS, POLICIES, AND ACTIONS RELATED TO TRANSPORTATION AND TRAFFIC

Goal/Policy/ Action Number	Goal/Policy/Action Text
Goal LUC-E	Provide for Diversified Circulation Needs. Develop, improve and maintain a circulation system which provides efficient and safe access for private vehicles, commercial vehicles, public transit, emergency vehicles, bicycles and pedestrians.
Policy LUC-E-2	Complete Streets. The City will plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel.
Action LUC-E-2-a	Plan Consultation and Consistency. Maintenance, planning, and design of projects affecting the transportation system shall be consistent with local bicycle, pedestrian, transit, multimodal, and other relevant plans, except that where such consistency cannot be achieved without negative consequences, consistency shall not be required if the head of the relevant department provides written approval explaining the basis of such deviation.
Policy LUC-E-8	Pedestrian, Bicycle and Neighborhood Electric Vehicle (NEV) Friendly Design. Encourage bicycling, walking and use of NEVs instead of driving automobiles to reduce greenhouse gas emissions, save money on fuel and maintenance, and foster a healthier population. Prioritize pedestrian and bicycle-friendly improvements including bike lanes on main streets, an urban bike-trail system, bike parking, pedestrian crossings, and associated master plans with new or modified development, as appropriate.
Policy LUC-E-9	Bicycle Routes and Pedestrian Paths. Maintain a system of bicycle routes and pedestrian paths, which will include separate bicycle lanes and posted bicycle routes. Pedestrian pathways and easements shall be maintained, either by the City, or, in the case of private ownership, according to a maintenance agreement or landscaping district agreement applicable to the pathway/easement.
Action LUC-E-9-a	Pedestrian and Bicycle Safety. Provide safe and convenient access for pedestrians and bicyclists to, across, and along major roadways. The City shall conduct a study of all intersections in the City from a comprehensive perspective which would consider the needs of pedestrians, bicyclists and motorists. The study will include an examination of potential options to address not only current conditions but also conditions anticipated by future development, including enforcement of traffic laws applicable to pedestrians and bicycles. The City will also prepare a study that reviews highly used intersections by pedestrians that are going to Foster City schools and recreational amenities such as the levee and parks and identify ways to increase pedestrian safety at those intersections.
Goal LUC-F	Maintain Acceptable Operating Conditions on the City's Road Network. Maintain acceptable operating conditions on the City's road network at or above LOS D, or equivalent measurement, and encourage the maximum effective use of public and private vehicles, reduce the growth in peak hour traffic volumes and reduce single passenger trips.
Policy LUC-F-1	Traffic Level of Service Standards. The City shall seek to achieve a traffic service level of "C" or better on City streets and level of "D" or better during peak traffic hours.
Goal LUC-G	Provide Adequate Parking. Ensure that adequate off-street parking is incorporated into new and modified projects, and designed for safe and effective circulation.

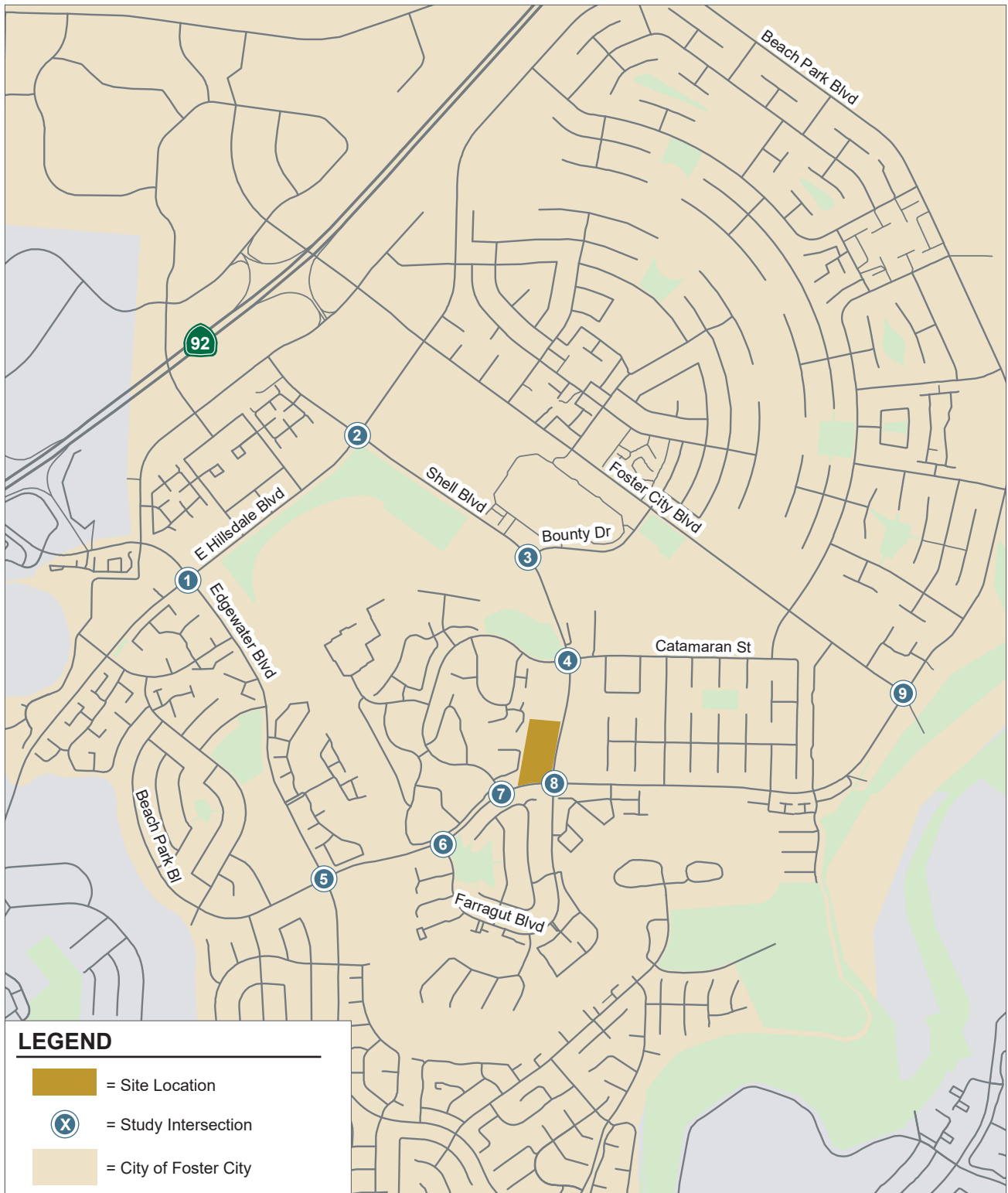
Source: Foster City, 2016. Foster City General Plan.

4.13.1.2 EXISTING CONDITIONS

Roadway Network

A series of interstate and State highways and local roadways are in the vicinity of the Project site, and provide indirect or direct access to the site. Figure 4.13-1 illustrates the location of the Project site and surrounding roadway network.

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-1
Site Location and Roadways

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Highways

- **US 101** is an eight-lane north-south freeway in the vicinity of the site. US 101 extends northward through San Francisco and southward through San Jose. Access to and from the Project study area is provided via a full interchange at Hillsdale Boulevard.
- **State Route 92** is a four- to six- lane east-west freeway extending from Half Moon Bay in west San Mateo County to Hayward in Alameda County. Access to and from the Project study area is provided via partial interchanges at Metro Center Boulevard, Chess Drive/Foster City Boulevard, Edgewater Boulevard, and Fashion Island Boulevard.

Local Streets

Indirect local access to the site is provided on Hillsdale Boulevard, Mariners Boulevard/Edgewater Boulevard, Bounty Drive, Catamaran Street, and Farragut Boulevard. Direct local access to the Project site is provided on Shell Boulevard and Beach Park Boulevard.

- **Beach Park Boulevard** is an east-west, four-lane arterial roadway that extends in an approximately circular direction from Polaris Avenue to Hillsdale Boulevard. Beach Park Boulevard provides direct access to the Project site via a driveway.
- **Shell Boulevard** is a north-south, four-lane arterial roadway that runs parallel to Edgewater Boulevard. In the vicinity of the proposed Project, Shell Boulevard permits on- street parking and has bike lanes on both sides of the street. Shell Boulevard provides direct access to the Project site via three driveways.
- **Hillsdale Boulevard** is an arterial roadway that extends in an east-west direction starting at the College of San Mateo in San Mateo and transitioning into Beach Park Boulevard. According to the Foster City General Plan, arterials are defined as roadways generally designed to feed heavy volumes of through traffic to freeways with such traffic controls as medians, traffic lights, and separate turning lanes. In the vicinity of the Project site, Hillsdale Boulevard has six lanes. Hillsdale Boulevard provides access to the Project site via Edgewater Boulevard, Shell Boulevard, and Beach Park Boulevard.
- **Edgewater Boulevard** is a north-south, four-lane arterial roadway that extends from 3rd Avenue in San Mateo to Baffin Street in Foster City. In the immediate vicinity of the proposed Project, Edgewater Boulevard permits on-street parking and has bike lanes on both sides of the street. Edgewater Boulevard provides access to the Project site via Beach Park Boulevard.
- **Bounty Drive** is a north-south, two-lane local collector that extends from Shell Boulevard to Comet Drive. Collector streets are designed to channel traffic from local streets to arterials, and to handle short trips within neighborhoods. Bounty Drive provides access to the Project site via Shell Boulevard.
- **Catamaran Street** is an east-west partially circular, two-lane local collector that extends from Beach Park Boulevard to Spinnaker Street. Catamaran Street provides access to the Project site via Shell Boulevard and Beach Park Boulevard.
- **Farragut Boulevard** is a north-south, two-lane local collector that extends from Beach Park Boulevard south where it transitions into Halsey Boulevard. Farragut Boulevard provides access to the Project site via Beach Park Boulevard and Halsey Blvd (which is the southern part of Shell Boulevard).

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Transit Facilities

Existing transit services near the Project site are provided by the San Mateo County Transit District (SamTrans) and Alameda-Contra Costa Transit District (AC Transit). The area immediately surrounding the site is served directly by four local bus routes and one regional route, as shown in Figure 4.13-2. Bus lines that intersect the Project site area are described in Table 4.13-2, including their route description and commute hour headways.

TABLE 4.13-2 EXISTING TRANSIT SERVICE NEAR PROJECT SITE

Bus Route	Route Description	Headway ^a
SamTrans Local Route 251	Hillsdale Shopping Center to Beach Park/Foster City	60-120 minutes
SamTrans Local Route 256	Hillsdale Shopping Center to Beach Park/Foster City	60 minutes
SamTrans Limited Route 54	Hillsdale/Norfolk to Bowditch Middle School	N/A ^b
SamTrans Limited Route 57	Edgewater/Beach Park to Hillsdale High School	N/A ^c
ACTransit Transbay Route M ^d	Hillsdale Shopping Center to Hayward BART Station	35-40 minutes
Mariner's Island Caltrain Shuttle	Hillsdale Caltrain Station to Port Royal/Cumberland	40-45 minutes

a. Approximate headways during peak commute periods.
b. Route 54 has only one trip in the AM and three trips in the PM.
c. Route 57 has only one trip in the AM and one trip in the PM.
d. ACT Route = Operated by Alameda-Contra Costa Transit District.
Source: Hexagon Transportation Consultants, Inc., July 2017.

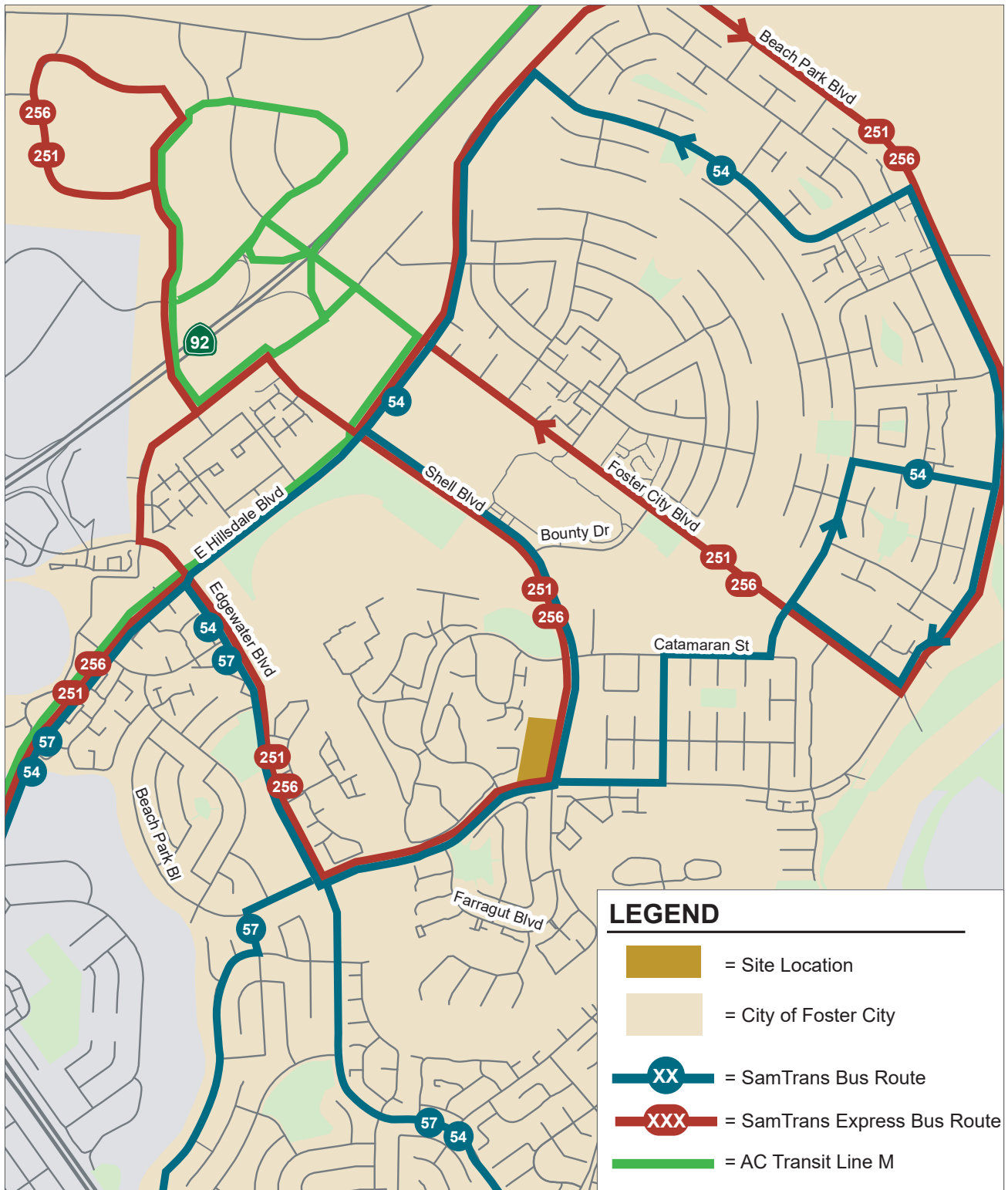
Pedestrian and Bicycle Facilities

The following section describes walking and cycling infrastructure surrounding the Project site.

Pedestrian Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the area around the proposed Project site, Sidewalks exist along both sides of Hillsdale Boulevard, Edgewater Boulevard, Shell Boulevard, Beach Park Boulevard, Halsey Boulevard, Bounty Drive, Catamaran Street, and Farragut Boulevard. These provide pedestrian access to and from the Project site. Marked crosswalks with pedestrian signal heads and push buttons exist at most approaches of the signalized study intersections. At the unsignalized study intersections, marked crosswalks are provided along all stop-controlled approaches except on the north leg of the Catamaran Street/Beach Park Boulevard intersection and the north leg of the Beach Park Boulevard/Foster City Boulevard intersection. Although some crosswalk connections are missing on Beach Park Boulevard and Shell Boulevard, the overall network of sidewalks and crosswalks surrounding the Project site has good connectivity and provides pedestrians with safe routes to the site.

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-2
Existing Transit Service

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Bicycle Facilities

There are several types of bicycle facilities in the vicinity of the Project site. The following facilities are illustrated on Figure 4.13-3, as well.

Class I Bikeways

A Class I Bikeway/Trail is an off-street path with exclusive right-of-way for non-motorized transportation.

- **Foster City Pedway** is a Class I bicycle/pedestrian pathway that follows the outer lagoons and bay, encircling Foster City. Located approximately 1 mile from the Project site.
- **San Francisco Bay Trail** is a 500-mile Class I facility that provides a multi-use path around the entire San Francisco Bay running through all nine Bay Area counties, 47 cities, and across the region's seven toll bridges. It is accessible from the Project site via Beach Park Boulevard.

Class II Bike Lanes

Class II bike lanes are preferential use areas within a roadway designated for bicycles. The following segments of Class II lanes exist near the Project site.

- **Edgewater Boulevard** between Beach Park Boulevard and the SR 92 northbound ramps.
- **Shell Boulevard** between Metro City Boulevard and Catamaran Street.

Class III Bike Routes

Class III Bike Routes are signed bike routes that provide a connection to Class I and Class II facilities. The following roadway segments are designated Class III bike routes in the vicinity of the Project site:

- Hillsdale Boulevard, from Edison Street in San Mateo to Beach Park Boulevard
- Edgewater Boulevard, from Beach Park Boulevard to Baffin Street
- Beach Park Boulevard, from Virgo Lane to Hillsdale Boulevard

Analysis Approach

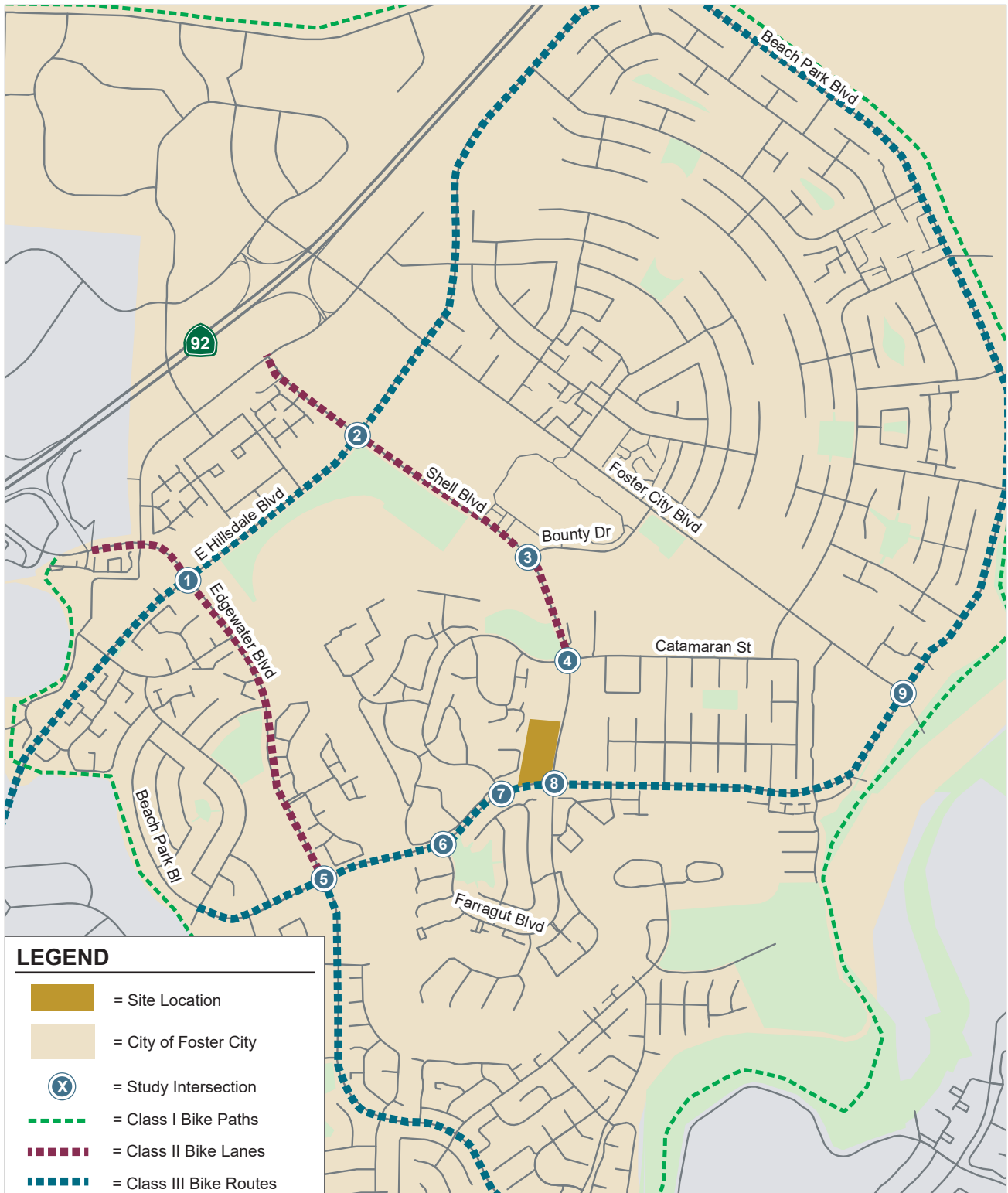
The Traffic Impact Analysis (TIA) used in this Chapter was conducted to identify potential traffic impacts related to the proposed development and to review the proposed site access and circulation. The potential impacts of the Project were evaluated in accordance with the standards set forth by Foster City and the C/CAG CMP, outlined above. The study does not assume any modifications to the existing and planned internal roadway network as part of the Project, except as necessary to accommodate the Project components.

Study Intersections

The Traffic Study includes an analysis of traffic conditions for three signalized intersections and six unsignalized intersections in the vicinity of the Project site as specified by Foster City. The location and lane configurations of these intersections are shown in Figure 4.13-4. They include:

1. Edgewater Boulevard and Hillsdale Boulevard
2. Shell Boulevard and Hillsdale Boulevard

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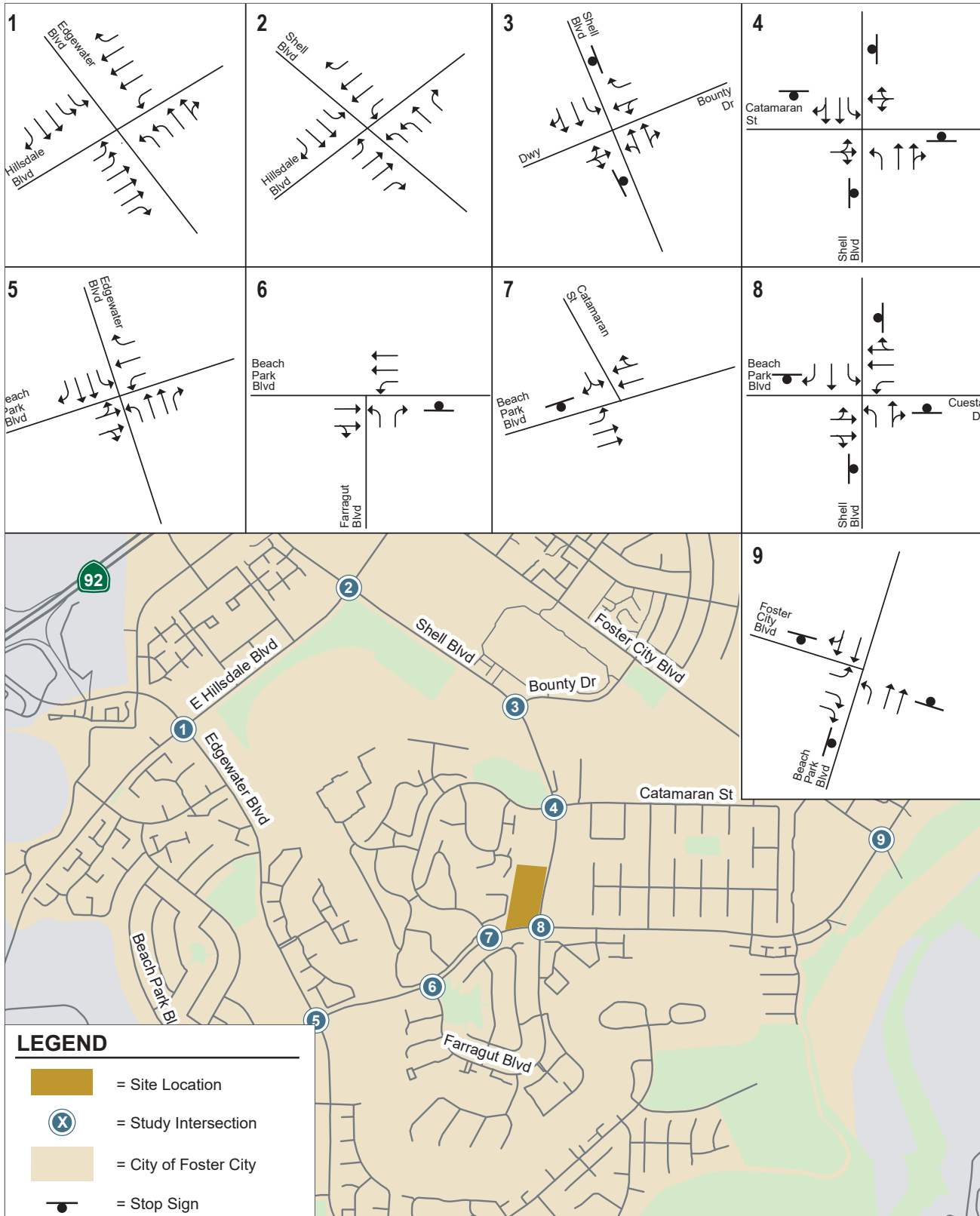


Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-3
Existing Pedestrian and Bicycle Facilities

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-4
Traffic Impact Study Area Intersections

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3. Shell Boulevard and Bounty Drive (unsignalized)
4. Shell Boulevard and Catamaran Street (unsignalized)
5. Edgewater Boulevard and Beach Park Boulevard
6. Farragut Boulevard and Beach Park Boulevard (unsignalized)
7. Catamaran Street and Beach Park Boulevard (unsignalized)
8. Shell Boulevard and Beach Park Boulevard (unsignalized)
9. Beach Park Boulevard and Foster City Boulevard (unsignalized)

Analysis Scenarios

Intersection traffic conditions were evaluated for the following five different traffic scenarios.

- **Scenario 1, Existing Conditions.** Existing traffic volumes at study intersections were based on traffic counts conducted on a standard school day on three separate weeks between January and February of 2017. The study intersections were evaluated with a level of service analysis using Synchro software in accordance with the 2010 Highway Capacity Manual methodology.
- **Scenario 2, Background Conditions.** Background traffic volumes reflect traffic added by projected volumes from approved but not yet completed developments in the Project area. The approved Project trips and/or approved Project information was provided by Foster City.
- **Scenario 3, Existing Plus Project Conditions.** Existing traffic volumes with the Project were estimated by adding to existing traffic volumes the additional traffic generated by the Project. Existing Plus Project conditions were evaluated relative to existing conditions in order to determine the effects the Project would have on the existing roadway network.
- **Scenario 4, Project Conditions.** Projected peak-hour traffic volumes with the Project were estimated by adding to background traffic volumes the additional traffic generated by the Project. Project Conditions were evaluated relative to background conditions in order to determine potential Project impacts.
- **Scenario 5, Cumulative Conditions.** Cumulative conditions are represented by future traffic volumes, at the estimated date of maximum enrollment, on the future roadway network. Cumulative conditions include traffic growth projected to occur due to the approved development projects and proposed but not yet approved (pending) development projects in the study area. The added traffic from pending projects was based on the list of pending projects identified by Foster City.

Analysis Time Periods

Traffic conditions at the study intersections were analyzed for the weekday AM, midday, and PM peak hours. The AM peak hour occurs between 7:00 AM and 9:00 AM, the midday peak hour will coincide with the school dismissal time sometime between 2:00 PM and 4:00 PM, and the PM peak hour occurs between 4:00 PM and 6:00 PM on a regular weekday. The peak hour of school traffic in the morning would coincide with the AM peak hour of commute traffic (generally between 7:00 a.m. and 9:00 a.m.). It is during these peak commute periods that traffic is busiest and the impact on the roadway system by traffic from the school would be greatest.

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Level of Service Standards

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

Foster City's Level of Service standards were used to evaluate the signalized study intersections. Foster City evaluates intersection Level of Service based on the Highway Capacity Manual (HCM) 2010 method using the Synchro software. The 2010 HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. Foster City's level of service standard for signalized intersections is LOS D or better.

The ranges of delay associated with the various levels of service are indicated in Table 4.13-3.

Existing Levels of Service at each of the nine study intersections in presented in Table 4-13.4, below.

Existing Intersection Levels of Service

The Existing Conditions scenario provides an evaluation of current operations based on recently-collected peak-hour traffic volumes. New traffic counts were collected on a standard school day at all three operating Foster City elementary school sites on three separate weeks between January and February of 2017. The highest peak hour count among the three days at each intersection was used for the LOS analysis per the direction of the City of Foster City. The existing peak-hour intersection volumes are shown in Figure 4.13-5.

4.13.2 STANDARDS OF SIGNIFICANCE

The proposed Plan would result in a significant impact if it would:

1. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit, non-motorized travel, and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
2. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-5
Existing Traffic Volumes

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TABLE 4.13-3 INTERSECTION LEVEL OF SERVICE CRITERIA

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Source: Transportation Research Board, 2010. *Highway Capacity Manual*.

- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.13.3 IMPACT DISCUSSION

This section analyzes potential impacts of the proposed Plan on transportation and traffic.

TRAF-1	The proposed Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
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TABLE 4.13-4 EXISTING INTERSECTION LEVELS OF SERVICE

Number	Intersection	Peak Hour	Count Date	Control Type	Existing Conditions	
					Avg. Delay (Sec.)	LOS
1	Mariners Island Boulevard/Edgewater Boulevard and Hillsdale Boulevard	AM	2/14/17	Signal	39.2	D
		Midday	2/14/17		40.8	D
		PM	2/14/17		43.3	D
2	Shell Boulevard and Hillsdale Boulevard	AM	2/14/17	Signal	22.3	C
		Midday	2/14/17		24.2	C
		PM	2/14/17		27.9	C
3	Shell Boulevard and Bounty Drive	AM	2/14/17	Two-Way Stop ^a	16.9	C
		Midday	1/24/17		17.2	C
		PM	2/14/17		27.6	D
4	Shell Boulevard and Catamaran Street	AM	2/14/17	All-Way Stop	11.7	B
		Midday	2/14/17		10.3	B
		PM	1/31/17		11.7	B
5	Edgewater Boulevard and Beach Park Boulevard	AM	2/14/17	Signal	23.4	C
		Midday	2/14/17		26.7	C
		PM	1/24/17		31.9	C
6	Farragut Boulevard and Beach Park Boulevard	AM	2/14/17	Two-Way Stop ^a	19.8	C
		Midday	2/14/17		15.4	C
		PM	1/24/17		19.5	C
7	Catamaran Street and Beach Park Boulevard	AM	2/14/17	Two-Way Stop ^a	12.5	B
		Midday	2/14/17		11.8	B
		PM	1/31/17		11.9	B
8	Shell Boulevard and Beach Park Boulevard	AM	1/31/17	All-Way Stop	12.4	B
		Midday	2/14/17		10.7	B
		PM	2/14/17		12.3	B
9	Beach Park Boulevard and Foster City Boulevard	AM	2/14/17	All-Way Stop	10.9	B
		Midday	2/14/17		8.8	A
		PM	2/14/17		8.1	A

a. For TWSC intersections, the worst approach's delay and level of service is reported.

Source: Hexagon Transportation Consultants, Inc., July 2017.

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Applied Operational Standards

As highlighted in Table 4.13-1 above, Goal LUC-F of the Foster City General Plan is to maintain acceptable operating conditions on the City's road network at or above LOS D. Per associated Policy LUC-F.1, the City seeks to achieve LOS C or better on City streets and LOS D or better during peak traffic hours.

Trip Generation

Anticipated trip generation rates for the proposed Project were derived from trip generation counts conducted at the three existing SMFCSD elementary schools in Foster City. The trip generation counts were conducted on standard school days between January and February of 2017. The observed trip generation rates are presented in Table 4.13-5.

TABLE 4.13-5 EXISTING FOSTER CITY SCHOOLS TRIP GENERATION RATES

Existing School	Students	AM Peak Hour				Midday Peak Hour ^a				PM Peak Hour			
		In	Out	Total	Rate	In	Out	Total	Rate	In	Out	Total	Rate
Audubon Elementary	748	302	264	566	0.76	186	186	372	0.50	66	45	111	0.15
Brewer Island Elementary	665	299	260	559	0.84	124	128	252	0.38	73	66	139	0.21
Foster City Elementary	874	385	331	716	0.82	158	198	356	0.41	30	35	65	0.07
<i>Existing Schools Average</i>		<i>329</i>	<i>285</i>	<i>614</i>	<i>0.81</i>	<i>156</i>	<i>171</i>	<i>327</i>	<i>0.43</i>	<i>56</i>	<i>49</i>	<i>105</i>	<i>0.14</i>

a. Midday peak hour trip generation reflects 2 PM - 4 PM, which is when dismissal for a standard school day occurs.
Source: Hexagon Transportation Consultants, Inc. July 2017

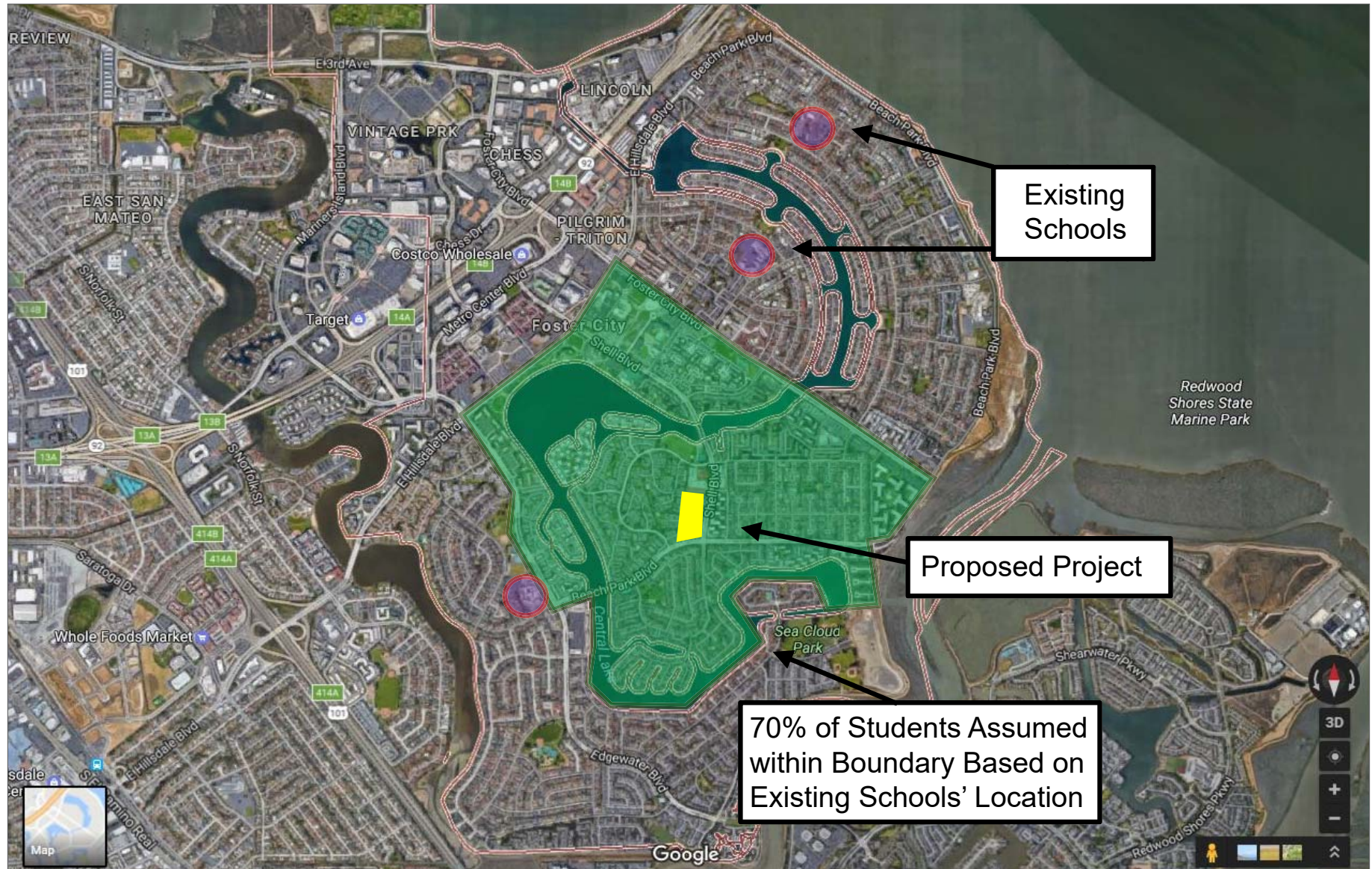
As directed by City staff, the highest trip generation rate during each peak hour (**boldfaced** in Table 4.13-5) were used to establish the most conservative estimate of traffic generated by the proposed school. These rates were multiplied by the proposed school's maximum future enrollment of 600 students to achieve those gross estimates. In order to establish the Project's net traffic impact, trips currently generated by the existing Charter Square Shopping Center, Preschool, and Post Office on the site were subtracted from the gross trip generation estimates.

The resulting estimated net trip generation of the proposed Project is shown in Table 4.13-6. While the proposed Project would result in more net AM peak hour trips, it would result in fewer net midday peak hour and PM peak hour trips.

Project Trip Distribution and Assignment

The trip distribution pattern for the Project was estimated based on the locations of the existing Foster City elementary schools as well as the existing travel patterns on the surrounding roadway network. Existing school locations were mapped and an attendance area for the new elementary school was assumed (see Figure 4.13-6) by the Traffic consultant. It was assumed that about 70 percent of the student population would live within the primary attendance area and the remaining 30 percent of

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-6
Assumed Project Attendance Area

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TABLE 4.13-6 PROPOSED PROJECT TRIP GENERATION

Land Use	Size	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		Rate	In	Out	Total	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Use													
Elementary School at Charter Square	600 Students	0.84	270	234	504	0.50	143	157	300	0.21	68	58	126
Existing Use													
Charter Square Shopping Center			(126)	(105)	(231)		(150)	(165)	(315)		(173)	(139)	(312)
Net Total Project Trips			144	129	273		(7)	(8)	(15)		(105)	(81)	(186)

Source: Hexagon Transportation Consultants, Inc., July 2017.

students were assumed to live near the edges of the projected boundary, primarily in areas to the northeast and south where there are more residential units.

Four separate trip distributions were used for the Project in this study. Each is assumed to comprise the following percentages of total trips generated:

1. Staff and visitors (10 percent of trips in AM and PM)
2. Working parents in the AM (60 percent of AM trips)
3. Working parents in the PM (60 percent of PM trips)
4. Non-working parents (30 percent of trips in AM and PM)

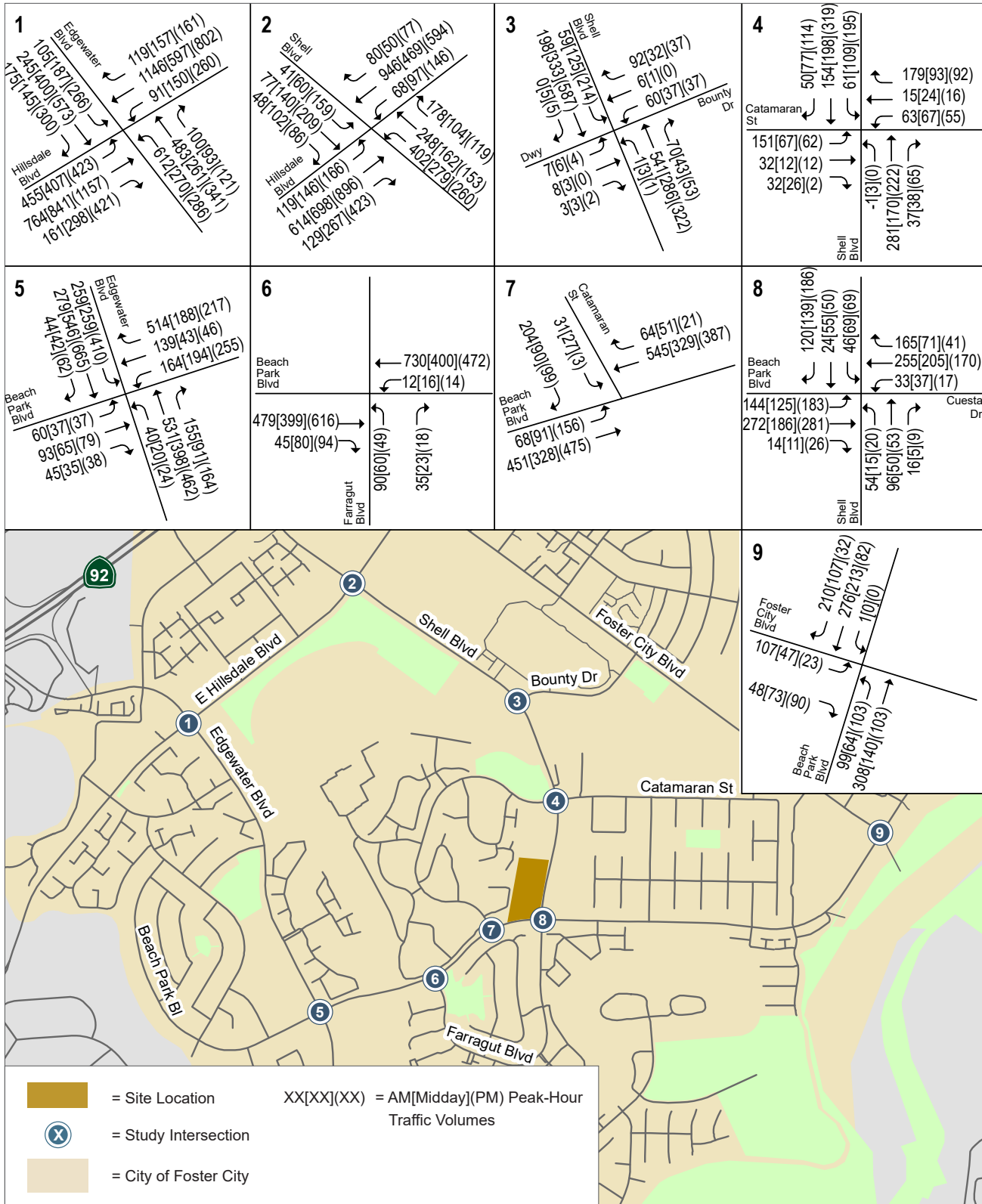
The trip distribution for staff was assumed to come primarily from outside the city and oriented toward the freeways. Working parents were assumed to drop off their students on the way to work and pick-up their students after work before going home. Thus, they were oriented toward the freeways similar to the school staff distribution. Non-working parents' trips were assumed to be oriented toward the residential neighborhoods as described above. The trip distribution for the existing shopping center was assumed to be about 35 percent within the attendance area with the remaining 65 percent to/from other residential areas of Foster City, primarily to the northeast and south.

Existing Plus Project Level of Service Analysis

Using the above assumptions, the Existing Plus Project Conditions level of service analysis was performed. The resulting Existing Plus Project traffic volumes are illustrated on Figure 4.13-7, and the LOS analysis summarized in Table 4.13-7.

As shown in the above results, level of service impacts of the proposed Project would be consistent with the performance standards established in the Foster City General Plan. All three of the signalized study intersections would continue to operate at the same acceptable levels of service (LOS D or better) during all peak hours. In addition, all of the stop-controlled study intersections, except the Shell Boulevard/Bounty Drive intersection, would operate at LOS C or better during all peak hours. The intersection of Shell Boulevard and Bounty Drive during the PM peak hour would operate at LOS D with and without the

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-7
Existing Plus Project Traffic Volumes

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TABLE 4.13-7 EXISTING PLUS PROJECT LEVEL OF SERVICE SUMMARY

Number	Intersection	Peak Hour	Control Type	No Project		With Project	
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	Mariners Island Boulevard/ Edgewater Boulevard and Hillsdale Boulevard	AM	Signal	39.2	D	40.0	D
		Midday		40.8	D	40.8	D
		PM		43.3	D	43.2	D
2	Shell Boulevard and Hillsdale Boulevard	AM	Signal	22.3	C	22.6	C
		Midday		24.2	C	24.0	C
		PM		27.9	C	27.8	C
3	Shell Boulevard and Bounty Drive	AM	Two-Way Stop	16.9	C	17.2	C
		Midday		17.2	C	16.9	C
		PM		27.6	D	27.6	D
4	Shell Boulevard and Catamaran Street	AM	All-Way Stop	11.7	B	12.7	B
		Midday		10.3	B	10.3	B
		PM		11.7	B	11.4	B
5	Edgewater Boulevard and Beach Park Boulevard	AM	Signal	23.4	C	23.2	C
		Midday		26.7	C	25.2	C
		PM		31.9	C	30.4	C
6	Farragut Boulevard and Beach Park Boulevard	AM	Two-Way Stop	19.8	C	20.0	C
		Midday		15.4	C	14.4	B
		PM		19.5	C	18.8	C
7	Catamaran Street and Beach Park Boulevard	AM	Two-Way Stop	12.5	B	16.1	C
		Midday		11.8	B	12.1	B
		PM		11.9	B	10.6	B
8	Shell Boulevard and Beach Park Boulevard	AM	All-Way Stop	12.4	B	13.2	B
		Midday		10.7	B	10.8	B
		PM		12.3	B	11.8	B
9	Beach Park Boulevard and Foster City Boulevard	AM	All-Way Stop	10.9	B	11.0	B
		Midday		8.8	A	8.7	A
		PM		8.1	A	7.9	A

Source: Hexagon Transportation Consultants, July 2017.

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proposed Project. As stated in the General Plan, while the City seeks to achieve LOS C on all City streets, LOS D is acceptable during peak traffic hours.

Significance Without Mitigation: Less than significant (LTS).

As explained earlier, proposed school staff would be assumed to come primarily from outside the city and oriented toward the freeways. Working parents would also be oriented toward regional freeways. However, given the proposed maximum capacity, the Project would add fewer than 100 peak hour trips to roadways identified in the CMP (SR 92 and US 101). Therefore a CMP analysis is not required.

Significance Without Mitigation: Less than significant (LTS).

TRAF-2	The proposed Project would not conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
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As identified in Regional Regulations, above, the City/County Association of Governments (C/CAG) of San Mateo County prepares a Congestion Management Plan (CMP), which identifies improvements and strategies to relieve congestion on regional transportation facilities. The CMP establishes the following level of service standards:

- SR 92 from US 101 to Alameda County Line, LOS E
- US 101 from Peninsula Avenue to SR 92, LOS F
- US 101 from SR 92 to Whipple Road, LOS E

Proposed school staff and working parents of students would be assumed to be oriented toward regional freeways. However, given the proposed maximum capacity of the school, the Project would add fewer than 100 peak hour trips to roadways identified in the CMP (SR 92 and US 101). Therefore a CMP analysis is not required.

Significance Without Mitigation: Less than significant (LTS).

TRAF-3	The proposed Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
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There are no public-use airports within 2 miles of the Project site. The closest public airport is San Carlos Airport which is approximately 2.6 miles to the north. As noted in Chapter 4.7, Hazards and Hazardous Materials, the Project site is located within Area A of the Airport Influence Area (AIA) for the San Carlos Airport, the larger and less regulated of the two-tier AIA. Regulation in Area A is limited to requirements for real estate disclosure.

While the Project site is within the AIA for San Carlos Airport, the tallest point of any of the proposed Project buildings would be 22 feet 2 inches above grade. These heights would not interfere with air travel

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or air safety. In addition, the Project would not increase demand for air travel or increase air traffic levels. Accordingly, there would be *no impact*.

Significance Without Mitigation: No impact (NI).

TRAF-4	The proposed Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment).
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The proposed Project is not proposing any changes to current design features (e.g., sharp curves or dangerous intersections) or incompatible uses. The proposed Project would include a total of approximately 75 parking stalls and internal drop-off/pick-up and passing lanes accessed by four existing driveways; one on Beach Park Boulevard and three on Shell Boulevard. Although Project driveways would experience 10- to 15-minute periods of delay during drop-off/pick-up times,² their design is not expected to result in or substantially increase hazards. Additionally, no roadway improvements are proposed under the Project. Therefore, the impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

TRAF-5	The proposed Project would not result in inadequate emergency access.
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As noted under TRAF-4, above, the Project would utilize four existing driveways—three on Shell Boulevard and one on Beach Park Boulevard—that currently provide access to the Project site. Three of these driveways would continue to provide emergency vehicle access to the site. With development of the proposed Project, the driveways would access an improved internal circulation system that includes coordinated, one-way passing and student drop-off lanes. This system would improve emergency vehicle flow and access over the existing less connected system of shopping center parking lots. As such, the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

TRAF-6	The proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
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The Foster City General Plan includes policies to prioritize and maintain bike lanes, bike parking, pedestrian crossings, and other non-automobile infrastructure with new development, as appropriate. Due to its size, character and proposed elements, the Project would not conflict with those policies or impact existing facilities.

² Hexagon Transportation Consultants, Inc., 2017. New Elementary School in Foster City, Traffic Impact Analysis, page 52 July 6.

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As noted in Existing Conditions, above, pedestrian sidewalks are located on both sides of Shell Boulevard, Beach Park Boulevard, and other nearby neighborhood roadways near the Project site. Development of the proposed maximum 600-student elementary school, with approximately 75 parking spaces, would not impact these facilities more than the existing shopping center, with multiple tenants and 250 parking spaces. Pedestrian improvements associated with the proposed Project support local policy. The Project would include two access points to the school limited to students who walk or bike, one a natural extension of the Shell Boulevard sidewalk and one an extension of the Beach Park Boulevard sidewalk. The Project would also include an on-site crosswalk near the Shell Boulevard/Beach Park Boulevard intersection to link the sidewalk to the main entry of the school building.

Similarly, size and use associated with the proposed Project would not impact surrounding bicycle facilities. As shown in Figure 4.13-3, the only bike route adjacent to the Project site is the limited Class III Bike Route, a route connector on Beach Park Boulevard. As a result, most young students are not expected to ride bicycles to school. Regardless, the proposed Project includes the dedicated bike/walk entryways described above, as well as a bike parking area for students and staff.

Finally, the Project site is well-served by SamTrans buses which would adequately accommodate any new riders to/from the school. The proposed Project would not impact this service. As concluded in the detailed Traffic Report, the Project “would not have an adverse effect on the existing transit, pedestrian or bicycle facilities in the study area.”³ The impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.13.4 CUMULATIVE IMPACTS

The analysis of the proposed Project, above, addresses cumulative impacts to the transportation network in the city and its surroundings; accordingly, cumulative impacts would be the same as proposed Project-specific impacts.

TRAF-7	The proposed Project, in combination with past, present and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation and traffic.
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Intersection Levels of Service

Cumulative conditions for the study intersections comprise the existing traffic volumes, trips generated by nearby approved developments that have not yet been constructed or occupied (see Table 4.4-1, Chapter 4), and proposed but not yet approved (pending) development projects, including the Marina Center, Harbor Cove Apartments Renovation, Beach Cove Apartments Expansion, Franciscan Apartments Expansion, and the Shadow Cove Apartments Expansion. Project trips were then added to the growth estimates to create the cumulative conditions volumes. The list of pending project trips and/or pending Project information was obtained from Foster City.

³ Hexagon Transportation Consultants, Inc., 2017. New Elementary School in Foster City, Traffic Impact Analysis, page 53 July 6.

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The results of the interstation levels of service analysis are tabulated in Table 4.13-8 and illustrated in Figure 4.13-8. As shown, all of the signalized study intersections would operate at acceptable levels of service (LOS D or better) during the AM, midday, and PM peak hours under cumulative and cumulative plus Project conditions.

Under the same conditions, all but one of the stop-controlled study intersections would operate at LOS C or better during both peak hours with and without the Project. Net trips generated by the school—a reduction from the existing shopping center—would subtract vehicles on Shell Boulevard and Bounty Drive, resulting in LOS D during the PM peak hour.

Trips generated by the proposed school would be new roadways immediately surrounding the site. However, as has been noted, the school would serve students at existing Foster City schools. As such, in a larger, city-wide context, the new elementary school trips would be merely reassigned trips from other schools in the area where the students would have otherwise attended. Those existing elementary schools will see a decrease in traffic that was not accounted for in the Traffic Study. This conservative approach, combined with the LOS analysis results presented above, demonstrates that the proposed Project, in combination with other past, present and reasonably foreseeable future projects, would not significantly impact surrounding street and intersections. The impact would be *less than significant*.

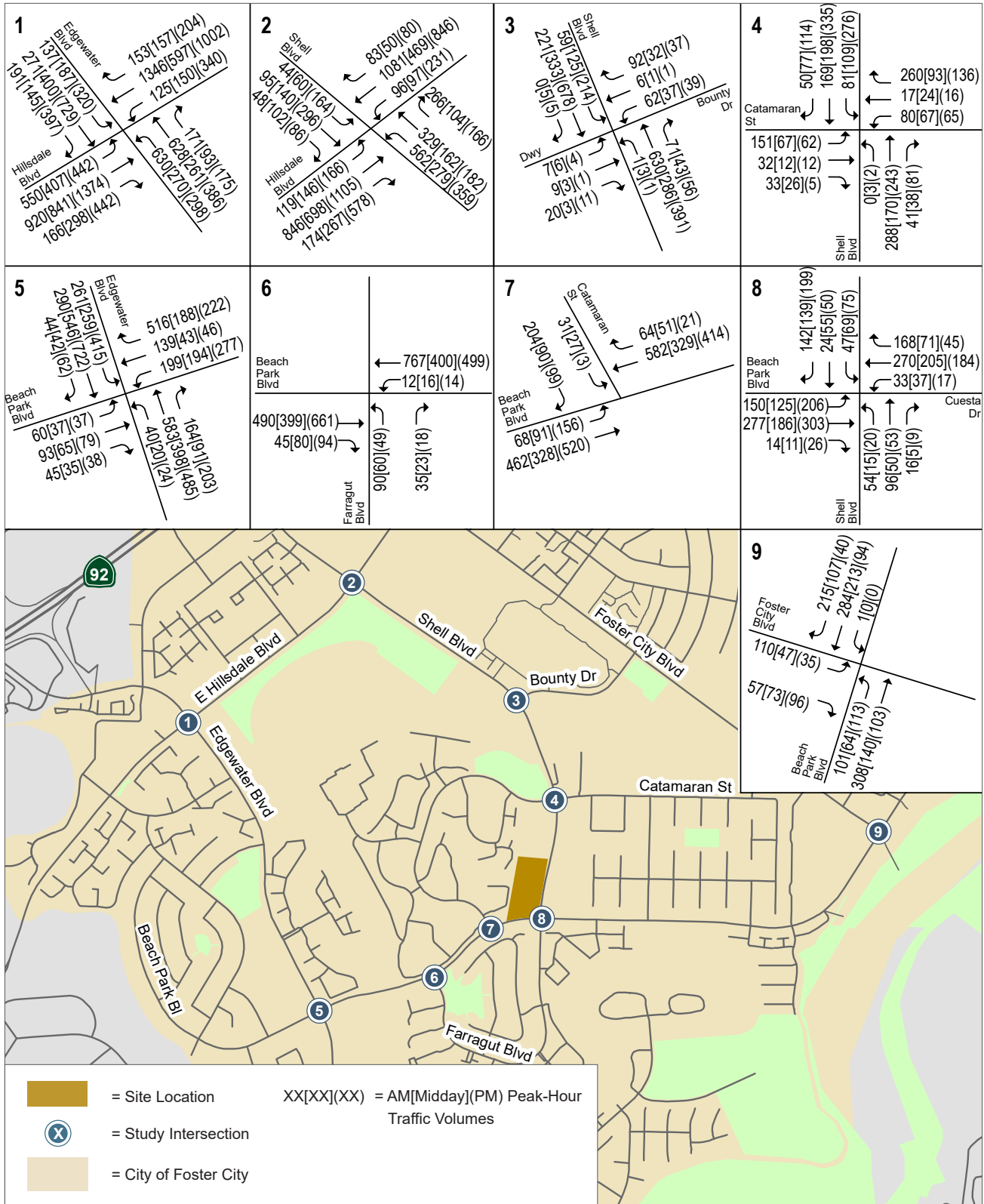
Significance Without Mitigation: Less than significant (LTS).

Pedestrian, Bicycle, and Transit

As discussed above, the size and characteristics of the proposed Project are both consistent with existing non-auto policy and would not impact surrounding bike, pedestrian and transit infrastructure/service. The school would provide a crosswalk on-site, near the Shell Boulevard/Beach Park Boulevard intersection, to link the sidewalk to the main entry of the school building. Students at the proposed school do not represent new residents of Foster City, but existing residents to be accommodated by the new facility. Accordingly, it is highly unlikely that the proposed Project would result in cumulative impacts to the overall pedestrian/bicycle/transit network and, therefore, the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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Source: Hexagon Transportation Consultants, 2017.



Figure 4.13-8

Cumulative Plus Project Traffic Volumes

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TABLE 4.13-8 CUMULATIVE LEVEL OF SERVICE SUMMARY

Number	Intersection	Peak Hour	Control Type	Cumulative No Project		Cumulative With Project	
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	Mariners Island Boulevard/ Edgewater Boulevard and Hillsdale Boulevard	AM	Signal	44.9	D	45.8	D
		Midday		40.8	D	40.8	D
		PM		52.5	D	52.4	D
2	Shell Boulevard and Hillsdale Boulevard	AM	Signal	25.6	C	26.2	C
		Midday		24.2	C	24.0	C
		PM		32.8	C	32.6	C
3	Shell Boulevard and Bounty Drive	AM	Two-Way Stop ¹	18.7	C	19.1	C
		Midday		17.2	C	16.9	C
		PM		33.1	D	32.9	D
4	Shell Boulevard and Catamaran Street	AM	All-Way Stop	14.0	B	15.7	C
		Midday		10.3	B	10.3	B
		PM		13.5	B	13.2	B
5	Edgewater Boulevard and Beach Park Boulevard	AM	Signal	24.0	C	23.8	C
		Midday		26.7	C	25.3	C
		PM		32.6	C	30.9	C
6	Farragut Boulevard and Beach Park Boulevard	AM	Two-Way Stop ¹	20.5	C	20.8	C
		Midday		15.4	C	14.4	B
		PM		20.6	D	19.9	C
7	Catamaran Street and Beach Park Boulevard	AM	Two-Way Stop ¹	12.7	B	16.6	C
		Midday		11.8	B	12.1	B
		PM		12.1	B	10.7	B
8	Shell Boulevard and Beach Park Boulevard	AM	All-Way Stop	12.8	B	13.6	B
		Midday		10.7	B	10.8	B
		PM		12.9	B	12.4	B
9	Beach Park Boulevard and Foster City Boulevard	AM	All-Way Stop	11.1	B	11.2	B
		Midday		8.8	A	8.7	A
		PM		8.3	A	8.1	A

Source: Hexagon Transportation Consultants, July 2017

UTILITIES AND SERVICE SYSTEMS

4.14 UTILITIES AND SERVICE SYSTEMS

This Subchapter describes the existing utilities and service systems for Foster City and the Project site and evaluates the potential environmental consequences of implementing the Project. Water supply, wastewater, solid waste, stormwater infrastructure, and energy conservation are each addressed in separate sections of this chapter. In each section, a summary of the relevant regulatory settings and existing conditions is followed by a discussion of potential impacts and cumulative impacts from the implementation of the Project.

4.14.1 WATER

This section outlines the regulatory setting, describes the environmental setting, and discusses potential impacts from buildout of the proposed Plan with regard to local water supply, treatment, and distribution.

4.14.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

The Safe Drinking Water Act, the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it became law. The Act authorizes the United States Environmental Protection Agency (EPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water, and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State Regulations

California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, which was passed in California in 1969 and amended in 2013, the State Water Resources Control Board (SWRCB) has authority over State water rights and water quality policy. This Act divided the State into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Foster City is overseen by the San Francisco Bay RWQCB.

California Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP)

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and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet¹ of water annually. The Act is intended to support conservation and efficient use of urban water supplies. The Act requires that total Project water use be compared to water supply sources over the next 20 years in five-year increments, that planning occur for single and multiple dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses.

CALGreen Building Code (Part 11, Title 24, CCR)

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the Code, throughout the State of California.

CALGreen established planning and design standards for sustainable site development including water conservation measures and requirements that new buildings reduce water consumption by 20 percent. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011. In the case of school construction, a CALGreen submittal of up to three parts must be made to the Division of the State Architect (DSA).

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design
- Energy efficiency
- Water efficiency and conservation
- Material conservation and resource efficiency
- Environmental quality

The California Plumbing Code (Part 5, Title 24, CCR)

The 2010 California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code. The general purpose of the universal Code is to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions. Among many topics covered in the Code are water fixtures, potable and non-potable water systems, and recycled water systems. Water supply and distribution shall comply with all applicable provisions of the current edition of the California Plumbing Code.

State Updated Model Water Efficient Landscape Ordinance (Assembly Bill 1881)

The updated Model Water Efficient Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by January 31, 2010 or to adopt a different ordinance that is at least as

¹ Once acre-foot is the amount of water required to cover 1 acre of ground (43,560 square feet) to a depth of 1 foot.

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effective in conserving water as the updated Model Water Efficient Landscape Ordinance (WELO). As noted in Chapter 4.8, Hydrology and Water Quality, the Foster City adopted a locally modified WELO on January 19, 2016 in accordance with Assembly Bill (AB) 1881.

Local Regulations

Foster City General Plan

The Conservation Element of the Foster City General Plan addresses existing water availability, desired conditions, and water conservation techniques. It explains that water service in the City is provided by the Estero Municipal Improvement District (EMID), a District created by the California Legislature in 1961 and granted with governing powers for the new municipality.

The Conservation Element identifies sources of “unaccounted for” water use, such as system leakage, firefighting training, billing error and unauthorized hydrant use, and outlines efforts to reduce this waste. These include ongoing water audits, and leak detection surveys. The Element also identifies a series of private property conservation techniques, including:

- Use of drought resistant plants and materials
- Limiting of turf to 25 percent of total landscaped areas
- Retrofitting plumbing and landscape fixtures with water-conserving fixtures

The Element outlines a series of goals, policies and programs to conserve water resources and maintain water quality, including the promotion of water-conserving landscaping and irrigation, appropriate declarations of water emergency and rationing, updating the City’s Water Conservation Plan, and ongoing implementation of the Lagoon Management Plan.

EMID 2015 Urban Water Management Plan

In compliance with Senate Bill x7-7 and the California Urban Water Management Planning Act (California UWMP), EMID coordinated with the Bay Area Water Supply and Conservation Agency (BAWSCA) and commissioned a water management plan that describes how current and future supplies in the EMID service area will be managed to provide reliable water supply over a planning horizon ending in 2040. Analyses of regional water supply reliability were performed for years with normal water conditions, single dry year conditions, and multiple dry year conditions. Climate change impacts to EMID water supplies were also assessed. The goals of the UWMP are to:

- Identify measures to be implemented or projects to be undertaken to reduce water demands and address water supply shortfalls.
- Identify stages of action and water shortage responses to address up to 50 percent reduction in water supplies during dry water years.
- Identify actions to be implemented in the event of a catastrophic interruption in water supplies.
- Assess the reliability of the sources during normal, single-dry, and multiple-dry water years.²

² Estero Municipal Improvement District, 2016. 2015 Urban Water Management Plan.

UTILITIES AND SERVICE SYSTEMS

Foster City Municipal Code

Title 8, Water and Sewer Service, of the Foster City Municipal Code, codifies a water system that successfully conserves and distributes water for all public and private uses. It establishes that all applicants for service must accept the conditions of water pressure and service.

Chapter 8.60 Water Conservation and Rationing

This Chapter establishes that, in accordance with the California Water Code, “the district board may declare a water shortage emergency condition to prevail and therefore a need to implement mandatory water conservation and/or water rationing ...” The Chapter defines and restricts nonessential water uses and establishes penalties for water violations.

Chapter 8.70 Indoor Water Use Efficiency

Chapter 8.80 of the Municipal Code is titled the “Estero Municipal Improvement District indoor water use efficiency ordinance.” The Chapter establishes that a minimum supply of potable water is essential to public health and requires, at a minimum, use of high-efficiency indoor water fixture for all new construction. The Chapter includes a table of toilets, faucets, valves, refrigerators, etc. and maximum allowable water use of each.

Chapter 8.80 Outdoor Water Conservation in Landscaping

Chapter 8.80 of the Municipal Code is titled the “Estero Municipal Improvement District outdoor water conservation in landscaping ordinance.” The Chapter again states that a minimum supply of potable water is essential to public health and that Project applicants are responsible for submitting, reviewing and implementing detailed landscape plans and reports focused conserving water and maintaining water quality.

Existing Conditions

Water Supply

The EMID, which serves all of Foster City and a small area of San Mateo immediately west of Foster City, serves 37,165 mostly residential customers via 8,158 individual accounts.³ It purchases its entire potable water supply from the San Francisco Public Utilities Commission Regional Water System (SFPUC RWS), 85 percent of which originates in the Hetch Hetchy watershed. The EMID’s current Initial Supply Guarantee (ISG) is 5.9 million gallons per day (mgal/day), or 2,154 MG per year.⁴ As of July 14, 2017 EMID demand was 3.62 mgal/day.⁵

³ Bay Area Water Supply and Conservation District, EMID web page, <http://bawsca.org/members/profiles/estero>, accessed July 4, 2017.

⁴ Estero Municipal Improvement District, 2016. 2015 Urban Water Management Plan.

⁵ Bay Area Water Supply and Conservation District, EMID web page, <http://bawsca.org/members/profiles/estero>, accessed July 4, 2017.

UTILITIES AND SERVICE SYSTEMS

Water from the SFPUC RWS enters Foster City through a single transmission line to a connection point in the City of San Mateo. The EMID owns and operates three steel water storage tanks with a capacity of 4 million gallons each and one concrete tank with an 8-million-gallon capacity, for a total storage capacity of 20 million gallons.⁶ All water demand in Foster City is met with this potable water supply; there are no supplemental water supplies such as wells or reclaimed water for use in irrigation.

Table 4.14-1 shows historical potable water supply delivered to the EMID through 2015 as well as the associated percent of its ISG. Due to recent conservation efforts, in 2015 EMID used 12 percent less of its guaranteed supply than it did in 2011.

TABLE 4.14-1 POTABLE WATER SUPPLY TO EMID

Potable Water Source	Annual Production (Million Gallons)				
	2011	2012	2013	2014	2015
SFPUC RWS	1,700	1,483	1,479	1,484	1,453
Percent of ISG	79%	69%	69%	69%	67%
Total	1,700	1,483	1,479	1,484	1,453

Source: Estero Municipal Improvement District, 2016. 2015 Urban Water Management Plan, June.

The residential sector accounted for 61 percent of average potable water demand in the EMID service area between 2011 and 2015. Commercial and industrial combined accounted for 11 percent of demand, while irrigation and other uses accounted for 23 percent of demand. Institutional/governmental uses including schools accounted for an average of two percent of potable water use from 2011-2015.⁷

4.14.1.2 STANDARDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact on water service if:

1. There were insufficient water supplies available to serve the Project from existing entitlements and resources, or if new or expanded entitlements were needed.
2. It would require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

⁶ Estero Municipal Improvement District, 2016. 2015 Urban Water Management Plan, page 14.

⁷ Estero Municipal Improvement District, 2016, 2015 Urban Water Management Plan, page 19.

UTILITIES AND SERVICE SYSTEMS

4.14.1.3 IMPACT DISCUSSION

UTIL-1	The proposed Project would have sufficient water supplies available to serve the proposed Project from existing entitlements and resources and would not require new or expanded entitlements.
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Development of the proposed Project would result in the demolition of a 56,000-square-foot shopping center built in 1977 and construction of a new elementary school with about 42,500 square feet of floor space. As noted in Chapter 3, Project Description, one of the objectives of the proposed school is to accommodate existing and future elementary student enrollments in Foster City.

The 2016 EMID UWMP identifies projections for water demand through the horizon year of 2040. The UWMP made projections based on planned housing projects through 2020 and growth rates projected by the Association of Bay Area Governments (ABAG) for 2020 to 2040. According to the UWMP, the population in the UWMP service area is expected to be 39,000 by 2040, a 0.4 percent average annual increase over 25 years relative to 2015. Projected employment growth for the Foster City portion of the EMID service area was projected based on planned and approved development projects through 2030, as well as ABAG projections for 2035-2040, resulting in an assumed annual growth rate of 1.3 percent relative to 2010. As noted above, the proposed Project would not add to this growth, but would develop a facility in response to it.

Projected supply vs. demand for both normal and dry years is shown in Table 4.14-2. The Table indicates that the EMID's projected water supplies are sufficient to meet projected demands during normal years and a first dry year. Water deficits are projected for multi-dry year, when during severe drought, it is expected that EMID would impose mandatory conservation measures.

Water demand generated by the proposed Project would not significantly impact the supply indicated in Table 4.14-2. Assuming the average school demand rate of 35 gallons/person⁸, school demand would be 0.02 mgal/day, or approximately 5.01 mgal/year.⁹ This would represent a 0.00000003 percent increase in EMID demand during Normal Year 2020, a rate that would remain largely unchanged in future years given the projected demand figures in Table 4.14-2. In addition, there should be less demand at the current Foster City schools as a result of reassignment of students who live in the neighborhood surrounding the proposed Project from the current elementary schools.

These results, combined with the water-efficient characteristics of the proposed Project due to existing conservation regulations, mean that new entitlements would not be required and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

⁸ BKF Engineers, 2017. Charter Square K-5 School Preliminary Water and Sewer Demands, July 2017

⁹ BKF Engineers, 2017. Charter Square K-5 School Preliminary Water and Sewer Demands, July 2017.

UTILITIES AND SERVICE SYSTEMS**TABLE 4.14-2 PROJECTED EMID WATER SUPPLY VERSUS DEMAND (MG)**

	2020	2025	2030	2035	2040
Normal Year Supply and Demand					
Total Projected Supply (MG)	2,154	2,154	2,154	2,154	2,154
Total Projected Demand (MG)	1,505	1,510	1,537	1,559	1,574
<i>Surplus or (Deficit)</i>	<i>649</i>	<i>644</i>	<i>617</i>	<i>595</i>	<i>580</i>
Single Dry Year Supply and Demand					
Total Projected Supply (MG)	1,593	1,593	1,593	1,593	1,593
Total Projected Demand (MG)	1,505	1,510	1,537	1,559	1,574
<i>Surplus or (Deficit)</i>	<i>88</i>	<i>83</i>	<i>56</i>	<i>34</i>	<i>19</i>
Second Dry Year Supply and Demand					
Total Projected Supply (MG)	1,432	1,432	1,432	1,432	1,432
Total Projected Demand (MG)	1,505	1,510	1,537	1,559	1,574
<i>Surplus or (Deficit)</i>	<i>(74)</i>	<i>(78)</i>	<i>(105)</i>	<i>(127)</i>	<i>(142)</i>

Source: Estero Municipal Improvement District, 2016. 2015 Urban Water Management Plan, June.

UTIL-2 **The proposed Project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.**

As discussed in Impact UTIL-1 above, the water demand associated with the Project would be served with available and planned water supplies provided by EMID.

The Project would continue to be provided with water services from the EMID. Existing local infrastructure would be preserved in place and there are sufficient water supplies to support the proposed Project without needing to construct or expand water treatment facilities. No major water infrastructure would be installed in the public right-of-way, and thus no associated public or environmental impacts created. Therefore, *no impact* would result in this respect.

Significance Without Mitigation: No impact (NI).

4.14.1.4 CUMULATIVE IMPACTS

UTIL-3 **The proposed Project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to water service.**

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This section analyzes potential impacts to water supply that could occur from the Project in combination with other reasonably foreseeable projects in the surrounding area. The geographic scope of this cumulative analysis is the EMID service area. As explained above, the Project would be unlikely to contribute to an increased cumulative demand for water supply and therefore would not exceed the long-term supply under normal circumstances. Additionally, EMID's UWMP determined that the water supply will be sufficient to accommodate future demand in the service areas through 2040 under normal circumstances. In the event of multiple dry years, with EMID drought contingency plans in place, any shortages would be managed through demand reductions and other measures such as increased supplemental supplies. In addition, with Senate Bill (SB) X7-7 and the State, County and local water conservation ordinances in place, all jurisdictions would be required to conserve water use through establishing water efficiency measures. The General Plan includes policies and strategies that would ensure adequate water supplies are available for the residents of Foster City. As outlined under Regulatory Framework above, various policies promote the efficient use of existing water supplies through a variety of water conservation measures. Together, these regulations, policies, and other considerations would ensure that cumulative impacts with respect to water supply would be less than significant.

Significance Without Mitigation: Less than significant (LTS).

4.14.2 SANITARY WASTEWATER (SEWER)

This section describes the existing regulatory setting and conditions as well as potential impacts of the proposed Project with regard to wastewater collection and treatment facilities.

4.14.2.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

The federal government regulates wastewater treatment and planning through the Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act, as well as through the National Pollutant Discharge Elimination System (NPDES) permit program, both of which are discussed in further detail below.

Clean Water Act

The Federal Water Pollution Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the nation. It is the primary federal law governing water pollution. Under the CWA, the USEPA implements pollution control programs and sets wastewater standards. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

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National Pollutant Discharge Elimination System (NPDES)

The NPDES permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharge, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable connections and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

State Regulations

State Water Resources Control Board

On May 2, 2006 the State Water Resources Control Board (SWRCB) adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California within more than 1 mile of sewer pipe. The order provides a consistent Statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sanitary Sewer Master Plan. The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system.

The SWRCB has delegated authority to nine Regional Water Quality Control Boards (RWQCB) to enforce these requirements within their region. The San Francisco Bay RWQCB issues and enforces NPDES permits in Foster City. NPDES permits allow the RWQCB to regulate where and how the waste is disposed including the discharge volume and effluent limits of the waste and the monitoring and reporting responsibilities of the discharger. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance.

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts and enforces the districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. The Act was amended in 1949 to allow the districts to also provide solid waste management and disposal services including refuse transfer and resource recovery.

The California Plumbing Code (Part 5, Title 24, CCR)

The 2010 California Plumbing Code (Part 5, Title 24, and CCR) was adopted as part of the California Building Standards Code. The general purpose of this universal Code is to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions. Among many topics covered in the Code are water fixtures, potable

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and non-potable water systems, and recycled water systems. Water supply and distribution in California must comply with all applicable provisions of the current California Plumbing Code

Local Regulations

Foster City General Plan

Both the recently updated Land Use and Circulation Element and Safety Element of the Foster City General Plan stress that a benefit of the relatively recently developed planned community is a well-maintained infrastructure including sanitary sewer system. Both contain goals, policies and programs devoted to maintaining this infrastructure. These are listed in Table 4.13-3.

TABLE 4.14-3 FOSTER CITY GENERAL PLAN SANITARY WASTEWATER POLICIES

Goal/Policy/ Program No.	Goal/Policy/Program Text
Land Use and Circulation Element	
Policy LUC-K-2	Consistency with City's Infrastructure. Ensure that all new buildings, whether free-standing or multi-building developments and all expansions of existing buildings demonstrate consistency with the infrastructure of the Estero Municipal Improvement District and the City, including sewer, storm sewer, parks/recreation facilities, and street system capacity.
Policy LUC-L-10	Adequacy of Public Infrastructure and Services. New projects which require construction or expansion of public improvements shall pay their pro rata fair share of the costs necessary to improve or expand infrastructure necessary to serve them, including streets and street improvements, parks, water storage tanks, sewer and water service, and other public services. The City has established several assessment districts to pay for needed municipal improvements. Facilities benefiting a specific development must be provided by the developer of that project.
Policy LUC-L-12	Wastewater Treatment. The District will continue to work with the City of San Mateo to ensure that the jointly owned Wastewater Treatment Plant is adequate to meet the needs of the District and applicable state, regional and federal regulations.
Policy LUC-L-13	Wastewater Transport. The District will continue to maintain the wastewater transport system to provide a safe, reliable, and adequate system to meet present and future needs.
Safety Element	
Goal S-A	Strong infrastructure. Preserve the quality of life by ensuring the City's infrastructure and municipal services are capable of withstanding reasonably foreseeable risks and hazards.
Policy S-A-4	Wastewater Treatment. The City will provide wastewater transport and treatment in the most safe and cost-effective manner, consistent with environmental regulations.
Program S-A-4-a	Wastewater Treatment Plant Improvements. Improve the Wastewater Treatment Plant to accommodate current and future operational requirements and needs and to be more resilient to hazards. (High Priority)

Source: Foster City General Plan.

Foster City Municipal Code

Title 8 of the Foster City Municipal Code is devoted to Water and Sewer Service. It contains the following chapters with requirements related to the physical development of public sewer infrastructure:

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Chapter 8.32 Public Sewer Service Connection

This chapter established design and construction requirements for sewers and sewer laterals as well as sewer connections and necessary excavations. It stresses that work “shall be in accordance with the standards established by the Director of Public Works.”

Chapter 8.37 Sanitary Sewer Use Rules and Regulations

This chapter establishes uniform requirements for users of EMID’s wastewater collection, treatment and disposal facilities. As stated in the chapter, the purpose of the requirements is to prevent damage to the collection system, prevent interference with the treatment process, and prevent avoidance of the necessary treatment process. According to the Code, City or EMID review and approval of all Project plans is required for construction and the Code outlines detailed construction requirements and guidelines.

Existing Conditions

This section describes the environmental setting and potential impacts of the Project with regard to wastewater collection and treatment facilities.

San Mateo Wastewater Treatment Plant

Wastewater from the EMID service area, including all of Foster City, is transported to the San Mateo Wastewater Treatment Plant (WWTP). The WWTP is jointly owned by the Cities of San Mateo and Foster City through a Joint Powers Agreement. EMID’s wastewater collection system consists of more than 43 miles of sanitary sewer lines, more than 8.5 miles of sewer force mains, 49 pumping stations, 15 permanent standby generators, and four portable generators

The Treatment Plant has an average daily dry weather flow capacity of 15.7 mgal/day, of which 25 percent, or 4.3 mgal/day, is purchased for EMID per the Joint Powers Agreement. The WWTP serves more than 130,000 people and businesses that contribute an average flow of 12.3 mgal/day, or 3.4 mgal/day less than the total flow capacity. EMID’s actual average daily flow is approximately 3.1 mgal/day or 1.2 mgal/day below capacity.¹⁰ The daily dry/wet weather capacity of the Plant, which has not been reconfigured since 2012, has not changed significantly. That reconfiguration is currently under discussion by the San Mateo City Council. Based on current flow data, average daily flows are below the capacities anticipated in the Joint Powers Agreement.

The Clean Water Program

The WWTP represents an aging wastewater collection system in need of system-wide upgrades. In response, the City of San Mateo and Foster City/EMID have initiated a joint effort to complete infrastructural upgrades for future reliability. The Clean Water Program is a \$900 million capital improvement program to be paid primarily with sewer use fees. The goals of the Program are to:

- Replace aging pipes and facilities
- Meet current and future regulatory requirements

¹⁰ City of Foster City, 2016, Foster City General Plan.

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- Increase system capacity during heavy rains
- Align with long-term sustainability and public health goals

4.14.2.2 STANDARDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact on wastewater service if it would:

1. Exceed wastewater treatment requirements of the applicable RWQCB.
2. 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.
3. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

4.14.2.3 IMPACT DISCUSSION

This section analyzes the proposed Project's potential impacts to wastewater collection and treatment facilities.

UTIL-4	Implementation of the proposed Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board.
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As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed Project is limited to demolition of a shopping center and construction of an elementary school. No new industrial land uses would be developed. The proposed use that would result from the adoption and implementation of the proposed Project would not generate wastewater of different quality and treatability than that generated by current land uses in the City. The San Mateo WWTP is currently in compliance with its NDPES permit requirements. As such, potential future development under the proposed Project would not be expected to generate wastewater that would exceed the treatment requirements of the San Francisco Bay RWQCB. In addition, as highlighted throughout this document, the proposed Project would not generate new students but would serve existing students to be taught by existing teachers. The proposed Project would result in a *less-than-significant* impact.

Significance Without Mitigation: Less than significant (LTS).

UTIL-5	The proposed Project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.
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As described in the existing conditions section above, EMID's portion of the permitted capacity of the San Mateo WWTP is 4.3 mgal/day. EMID's actual average daily flow is approximately 3.1 mgal/day. Accordingly, the WWTP has a remaining capacity to receive and process 1.2 mgal/day from EMID customers. As described above under impact discussion UTIL-1, projected water demand for the proposed

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Project would be 5.01 mgal/year, or 0.019 mgal/day. Assuming 95 percent of the net increase in water demand for the proposed Project becomes wastewater,¹¹ the proposed Project would generate 0.018 mgal/day of wastewater. This represents less than one-half of 1 percent (0.015) of the remaining WWTP EMID capacity. While the increase in wastewater flows from implementation of the proposed Project would add to the capacity demands on the WWTP and its conveyance system, the amount of wastewater generated would not exceed the remaining capacity. Therefore, the proposed Project would result in a less-than-significant impact with respect to the need for new or expanded wastewater collection facilities.

Significance Without Mitigation: Less than significant (LTS).

UTIL-6	The proposed Project would not result in the determination by the wastewater treatment provider, which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.
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As described under impact discussion UTIL-5, the San Mateo WWTP has adequate capacity to serve the proposed new elementary school serving up to fifth grade. The Project site is located in a highly urban environment that is well served by an existing conveyance system. Given the proposed development is limited to a 6-acre site; it is unlikely that the existing sewer infrastructure would not have adequate capacity related to the proposed school. In addition, ongoing compliance with General Plan Policies LUC-K-2 and LUC-L-10, identified above and which require maintaining consistency with, and adequacy of, the city's infrastructure would ensure impacts related to inadequate sewer lines would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.14.2.4 CUMULATIVE IMPACTS

UTIL-7	The proposed Project, in combination with past, present, and reasonably foreseeable projects would result in less than significant cumulative impacts with respect to wastewater service.
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The cumulative impact for wastewater is considered in the context of future growth within the EMID service area including Foster City and the Mariner's Island portion of San Mateo. While the proposed Project, with a maximum capacity of 600 students, would contribute to an increase in the cumulative demand for wastewater treatment, the increase represents less than one-half of 1 percent (0.015) of the remaining WWTP EMID capacity. As described above, the proposed Project would not exceed wastewater treatment requirements of the San Francisco Bay RWQCB and would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. In addition, the San Mateo WWTP has adequate capacity to treat the wastewater generated by the proposed Project. Accordingly, cumulative impacts to sanitary wastewater service would be *less than significant*.

¹¹ BKF Engineers, 2017. Charter Square K-5 School Preliminary Water and Sewer Demands, July.

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Significance Without Mitigation: Less than significant (LTS).

4.14.3 SOLID WASTE

This section describes the existing regulatory setting and conditions as well as potential impacts of the proposed Plan with regard to solid waste management.

4.14.3.1 ENVIRONMENTAL SETTING

Regulatory Setting

State Regulations

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989, AB 939, sets a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000 through source reduction, recycling, and composting. To help achieve this, the Act required that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. The California Integrated Waste Management Board was replaced by the California Department of Resources Recycling and Recovery (CalRecycle) in 2010. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate. In 2014, the Statewide residential per capita disposal rate was 4.5 pounds per resident per day, and the Statewide employee per capita disposal rate was 10.2 pound per employee per day.¹²

In 2011, AB 341 was passed that sets a State policy goal of not less than 75 percent of solid waste that is generated to be source reduced, recycled, or composted by the year 2020. CalRecycle was required to submit a report to the Legislature by January 1, 2014 outlining the strategy that will be used to achieve this policy goal. That report has not been certified.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act require areas in development projects to be set aside for collecting and loading recyclable materials. The Act required CalRecycle (formerly CIWMB) to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the

¹² CalRecycle, California's Statewide Per Resident, Per Employee, and Total Disposal Since 1989, <http://www.calrecycle.ca.gov/Igcentral/GoalMeasure/DisposalRate/Graphs/Disposal.htm>, accessed March 14, 2016.

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model or an ordinance of their own, providing for adequate areas in development projects for the collection and loading of recyclable materials.

Mandatory Commercial Organics Recycling

In October of 2014, Governor Brown signed AB 1826¹³ requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the State implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Greenhouse gas (GHG) emissions result from the decomposition of organic wastes in landfills. Mandatory recycling of organic waste is aimed at helping achieve California's recycling and GHG emission goals. The implementation schedule is as follows:

- **January 1, 2016:** Local jurisdictions shall have an organic waste recycling program in place. Jurisdictions shall conduct outreach and education to inform businesses how to recycle organic waste in the jurisdiction, as well as monitoring to identify those not recycling and to notify them of the law and how to comply.
- **April 1, 2016:** Businesses that generate eight cubic yards of organic waste per week shall arrange for organic waste recycling services.
- **January 1, 2017:** Businesses that generate four cubic yards of organic waste per week shall arrange for organic waste recycling services.
- **August 1, 2017 and ongoing:** Jurisdictions shall provide information about their organic waste recycling program implementation in the annual report submitted to CalRecycle. (See above for description of information to be provided.)
- **Fall 2018:** After receipt of the 2016 annual reports submitted on August 1, 2017, CalRecycle shall conduct its formal review of those jurisdictions that are on a two-year review cycle.
- **January 1, 2019:** Businesses that generate four cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services.
- **Fall 2020:** After receipt of the 2019 annual reports submitted on August 1, 2020, CalRecycle shall conduct a formal review of all jurisdictions.
- **Summer/Fall 2021:** If CalRecycle determines that the Statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses will expand to cover businesses that generate two cubic yards or more of commercial solid waste per week. Additionally certain exemptions, previously discussed, may no longer be available if this target is not met.

¹³ CalRecycle, 2016. Mandatory Commercial Organics Recycling, <http://www.calrecycle.ca.gov/recycle/commercial/organics/>, accessed February 4, 2016.

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Global Warming Solutions Act of 2006, Scoping Plan¹⁴

The California Global Warming Solutions Act of 2006 (AB 32) Scoping Plan, which was adopted by the Air Resources Board (ARB), included a Mandatory Commercial Recycling Measure. The Mandatory Commercial Recycling Measure focuses on diverting commercial waste as a means to reduce greenhouse gas (GHG) emissions with the goal of reducing GHG emissions by 5 million metric tons of carbon dioxide equivalents (MTCO₂e), consistent with the 2020 targets set by AB 32. To achieve the Measure's objective, the commercial sector will need to recycle an additional 2 to 3 million tons of materials annually by the year 2020.

CalRecycle adopted this Measure at its January 17, 2012 Meeting. The regulation was approved by the Office of Administrative Law on May 7, 2012 and became effective immediately. On June 27, 2012, the Governor signed SB 1018, which included an amendment requiring both businesses that generate 4 cubic yards or more of commercial solid waste per week and multi-family residences with five or more units to arrange for recycling services. This requirement became effective on July 1, 2012.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California, unless otherwise indicated in this Code. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires a project applicant to have a waste management plan for on-site sorting or construction debris which is submitted to the relevant local agency for approval. The Plan is required to address the following:

- Identify the materials to be diverted from disposal by recycling, reuse on the Project or salvage for future use or sale.
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected can be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both.

Local Regulations

San Mateo County Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 939) requires each county to prepare and adopt a Countywide Integrated Waste Management Plan (CIWMP). The CIWMP is a State-mandated plan

¹⁴ CalRecycle, <http://www.calrecycle.ca.gov/Recycle/Commercial/>, accessed March 14, 2016.

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prepared by the County of San Mateo. The plan identifies solid waste facilities and “waste sheds” within San Mateo County. It describes the Countywide plan for reaching the State-mandated 50 percent recycling goal and the county-mandated 75 percent recycling goal. Waste reduction and disposal facilities in the County that require Solid Waste Facility Permits must conform to policies and siting criteria contained in the CIWMP.

The CIWMP includes, by reference, source reduction and recycling elements, household hazardous waste elements, and non-disposal facility elements for each city and the unincorporated county area as well as a plan that describes countywide diversion programs and landfill disposal needs.

Foster City General Plan

The Conservation Element of the City’s General Plan includes a series of policies related to recycling and waste management. They include:

- **C-s: Citywide Recycling Program.** Continue the citywide residential recycling program for glass, aluminum and newspaper and establish a citywide commercial recycling program for white paper and cardboard.
- **C-t: Source Reduction and Recycling Element.** Implement Source Reduction and Recycling Element in accordance with State regulations.
- **C-u: Recycling Information.** Inform all Foster City residents and businesses about recycling opportunities.
- **C-v: Recycling Bins Incentives.** Waive fees and simplify the review process for trash enclosures around recycling bins.

Foster City Municipal Code

Per Section 1.01.010, Adoption, the Foster City Municipal Code adopts, by reference, the California Green Building Code, in order to minimize solid waste generation and conserve resources in Foster City. In addition, Chapter 15.44, Recycling and Salvaging of Construction and Demolition Debris, outlines landfill diversion requirements; detailed “waste management plan” requirements and associated permitting procedures; and required on-site demolition and construction practices targeting solid waste minimization.

Existing Conditions

The South Bayside Waste Management Authority (RethinkWaste) is a Joint Powers Authority of twelve public agencies in San Mateo County that manages waste collection and recycling in Foster City and other municipalities and unincorporated areas of the County. RethinkWaste outsources waste collection to Recology San Mateo County, a private service provider. Waste is then sorted and recycled by South Bay Recycling, a second private service provider and operator of the Shoreway Environmental Center (Shoreway) which is a materials recovery facility and waste transfer station in San Carlos. Once processed, remaining refuse is transported to the Corinda Los Trancos (Ox Mountain) Landfill which is the only landfill serving Foster City.

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Corinda Los Trancos Landfill is located in Half Moon Bay, California. It has a permitted daily capacity of 3,598 tons per day. Its remaining permitted capacity is 22,180,000 cubic yards. It has an estimated “cease operation date” of January 1, 2043.¹⁵ In 2016, 12,476 tons of solid waste was transferred from the Foster City service area to the Los Trancos Landfill.¹⁶

In 2015, Foster City’s per capita solid waste disposal rate for residents was 2.4 pounds per day (PPD); the per capita disposal rate target for residents according to CalRecycle is 3.7 PPD. Foster City’s per capita solid waste disposal rate for all employees in 2015 was 3.7 PPD; the CalRecycle per capita employee disposal rate target is 7.1 PPD.¹⁷

4.14.3.2 STANDARDS OF SIGNIFICANCE

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, the proposed Project would have a significant impact on solid waste service if:

1. Implementation of the Project would not be served by a landfill(s) with sufficient permitted capacity to accommodate the Project’s solid waste disposal needs.
2. Implementation of the Project would be out of compliance with federal, State, and local statutes and regulations related to solid waste.

4.14.3.3 IMPACT DISCUSSION

UTIL-8	The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project’s solid waste disposal needs.
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As described above, the solid waste produced in Foster City is collected by Recology San Mateo County and conveyed to the Shoreway Environmental Center for processing. Processed waste is then transported to the Los Trancos Landfill. In 2016, 12,476 tons of solid waste was transferred from Foster City to Los Trancos. Also noted, Foster City’s disposal rate per resident in 2015 was 2.4 pounds per day (PPD), which was below the CalRecycle target of 3.7 PPD. Similarly, Foster City’s per capita solid waste disposal rate for employees in 2015 was 3.7 PPD; the CalRecycle per capita disposal rate target for employees is 7.1 PPD.

The proposed Project does not include housing and is not intended to attract new residents, as the school would serve students from existing schools. However, as explained for the purposes of conservative analysis, it may assume that all faculty and staff of the proposed school would not represent new employees except for the 4-6 employees that may result if maximum student enrollment capacity of 600 is reached. According to SMFCSD statistics, the proposed school would employ a maximum of 40-44

¹⁵ CalRecycle, “Los Trancos Landfill” webpage, <http://www.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Detail/>, accessed June 28, 2017.

¹⁶ CalRecycle, Jurisdiction Disposal by Facility, <http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2016%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d164>, accessed June 28, 2017.

¹⁷ CalRecycle, Countywide, Regionwide, and Statewide Jurisdiction Diversions/Disposal Progress Report, Foster City, <http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx>, accessed June 29, 2017.

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persons. Accordingly, the total estimated solid waste generation for the proposed Project would be 148 PPD to 163 PPD, or less than 0.10 tons per day, which represents less than 1 percent of the daily permitted capacity of Los Trancos Landfill. Accordingly, construction and operation of the proposed Project would have a *less-than-significant* impact with regard to daily capacity at landfills.

Significance Without Mitigation: Less than significant (LTS).

UTIL-9	The proposed Project would comply with federal, State, and local statutes and regulations related to solid waste.
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As described above under Section 4.14.3.1, Regulatory Framework, California's Integrated Waste Management Act of 1989, AB 939, subsequently amended by SB 1016, set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000 through source reduction, recycling, and composting. The Conservation Element of the City's General Plan includes this amendment and outlines municipal efforts to facilitate recycling and education. The City has several waste reduction and recycling programs in place to divert the amount of waste that is transported to other landfills. Curb-side recycling efforts in multi-family and commercial projects as well as single-family neighborhoods contribute to increased waste diversion. Education and outreach programs such as electronic waste programs, print brochure and advertisements, and education efforts also assist in waste reduction.

Continued compliance with State policies such as AB 939 would ensure that impacts are less than significant with regards to solid waste and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.14.3.4 CUMULATIVE IMPACTS

UTIL-10	The proposed Project, in combination with past, present, and reasonably foreseeable development, would result in less than significant impacts with respect to solid waste.
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The cumulative impact for solid waste is considered in the context of estimated growth in the area served by Los Trancos Landfill.

Even the results of a very conservative analysis reveal that the proposed Project, a school that would serve existing District students and be staffed by existing District staff would not contribute to an increase in the cumulative demand for solid waste disposal. It would not strain the remaining capacity at Los Trancos Landfill. As described above, the proposed Project would be served by a landfill with permitted capacity and would comply with federal, State, and local statutes and regulations related to solid waste. Accordingly, cumulative impacts to solid waste would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

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4.14.4 ENERGY CONSERVATION

In order to ensure that energy implications are considered in project decisions, Appendix F, Energy Conservation of the CEQA Guidelines requires that EIRs include a discussion of the potential energy impacts of proposed Projects with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. However, no specific thresholds of significance for potential energy impacts are suggested in the State CEQA Guidelines.

This section provides a general description of the existing regulatory setting and conditions addressing electric and natural gas services and infrastructure and supply and demand in Foster City, as well as potential impacts of the proposed Project with regard to energy conservation.

4.14.4.1 ENVIRONMENTAL SETTING

Regulatory Setting

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, this Act is an energy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. The Act contains provisions for increasing fuel economy standards for cars and light trucks and establishing new minimum efficiency standards for lighting, as well as residential and commercial appliance equipment.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the federal Department of Transportation (DOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found in 49CFR Part 40, 40CFR Part 190, 40CFR Part 191, 49CFR Part 192, 49CFR Part 193 and 49CFR Part 199.

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National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this Policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the Energy Policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

State Regulations

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision as well as goals for each economic sector identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long Term Energy Efficiency Strategic Plan notes that commercial buildings which include schools, hospitals, and public buildings consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts for 38 percent of the State's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use while space heating, water heating, and cooking account for over 90 percent of commercial gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption accounting for approximately 10 percent of the State's electricity and gas use.

The CPUC and the California Energy Commission have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- **Goal 1:** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- **Goal 2:** 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- **Goal 3:** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

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California Building Code: Building Energy Efficiency Standards

The State provides a minimum standard for energy conservation through Title 24 of the California Code of Regulations, commonly referred to as the “California Energy Code”. The California Energy Code was adopted in June 1977 and most recently revised in 2016 (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. On June 10, 2015, the California Energy Commission adopted the 2016 Building Energy Efficiency Standards which went into effect on January 1, 2017. The 2016 Standards improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards respectively.¹⁸ While the 2016 standards do not achieve zero net energy, they do get very close to the State’s goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California.¹⁹

California Building Code: CALGreen

As discussed in Section 4.14.1, Water previously, CALGreen established standards that apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California unless otherwise indicated in the California Building Standards Code. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in energy efficiency among other practices.

The provisions of CALGreen apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure unless otherwise indicated in this Code throughout the State. Compliance with the CALGreen Code is not a substitution for meeting the certification requirements of any green building program. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances.

¹⁸ California Energy Commission, 2015. 2016 Building Energy Efficiency Standards, Adoption Hearing Presentation. <http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/>, accessed July 7, 2017.

¹⁹ California Energy Commission, 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf accessed July 7, 2017.

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Governor's Green Building Executive Order

In 2004, Executive Order (EO) S-20-04 was signed by the Governor committing the State to take aggressive action to reduce State building electricity usage by retrofitting, building, and operating the most energy- and resource-efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded, or leased by the State and to encourage cities, counties, and schools to do the same. It also calls for State agencies, departments, and other entities under the direct executive authority of the Governor to cooperate in taking measures to reduce grid-based energy purchases for State-owned buildings by 20 percent by 2015 through cost-effective efficiency measures and distributed generation technologies. These measures are to include but are not limited to:

- Designing, constructing and operating all new and renovated State-owned facilities paid for with state funds as "LEED Silver" or higher certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a USEPA Energy Star rating; and
- Purchasing or operating Energy Star electrical equipment whenever cost-effective.

Renewable Portfolio Standard

Signed into law in 2011, SB X1-2 directs the California Public Utilities Commission's Renewable Energy Resources Program to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California annually by December 31, 2013, 25 percent by December 31, 2016, and 33 percent by December 31, 2020. SB X1-2 codifies the 33 percent by 2020 renewable portfolio standard goal established by AB 32. This new renewable portfolio standard applies to all electricity retailers in the State. All of these entities must adopt the new renewable portfolio standard goals as listed.

California Energy Benchmarking and Disclosure

AB 1103 (2007) requires that electric and gas utilities maintain records of the energy consumption data of all nonresidential buildings to which they provide service and that, by January 1, 2009 upon authorization of a nonresidential building owner or operator, an electric or gas utility shall upload all of the energy consumption data for the specified building to the USEPA Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This Law further requires a nonresidential building owner or operator to disclose Energy Star Portfolio Manager benchmarking data and ratings for the most recent 12-month period to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, the Governor signed AB 802 which would revise and recast the above provisions. The new Law directs the California Energy Commission to establish a Statewide energy benchmarking and disclosure program and enhances the California Energy Commission's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning and program design. Among its specific provisions, AB 802 would require utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning no later than January 1, 2017, AB 802 would require each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered

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building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements. The Law also authorizes the Commission to specify additional information to be provided by utilities for certain purposes.

Local Regulations

Foster City General Plan

Both the Land Use and Circulation and Conservation Elements of Foster City's General Plan include policies promoting energy conservation. For example:

- **Policy LUC-H: Foster a More Sustainable Community.** Strive to be a community that meets the needs of the present without compromising the ability of future generations to meet their own needs by promoting land use strategies that decrease reliance on automobile use, increase the use of alternative modes of transportation, maximize efficiency provision of services and reduce emissions of GHGs.
- **Policy LUC- H-1: Promote sustainability.** Encourage sustainability efforts of residents and business owners. Foster the use of technology to improve sustainability, e.g., irrigation controls coordinated with the weather, sustainable remodeling guidelines for homes, use of recycled water for landscaping irrigation, infrastructure for electric vehicles, etc.
- **Program LUC-H-1-a: Green Building Guidelines and Incentives.** The City will support the use of green building practices by:
 - a. Providing information, marketing, training, and technical assistance about green building practices;
 - b. Considering guidelines for green building practices in residential and commercial development; and
 - c. Implementing sustainable practices where feasible in public buildings and spaces.
- **Policy C-4: Promote energy conservation in new and existing development.**
- **Policy C-o: Title 24.** Construct new buildings and additions to energy efficiency standards according to Title 24 of the California State Model Code.
- **Policy C-p: Solar Heating and Cooling.** Encourage installation of solar panels for heating and cooling with solar energy.

Climate Action Plan

The Foster City Climate Action Plan (CAP) is designed to be a blueprint of the community's response to the challenges posed by climate change. The Plan offers ways to make homes and buildings more energy efficient, increase the usage of renewable energy, encourage development patterns that maintain a mix of uses, provide for diversified circulation needs, reduce waste, and lower residential and commercial water usage, and outlines measures that the municipal government could take to reduce greenhouse gas emissions.

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The CAP contains multiple measures to conserve energy and promote energy efficiency, and, as highlighted in Chapter 4.6, Greenhouse Gas Emissions, the proposed Project is contains features that make it consistent with these measures. These are listed in Table 4.14-4.

Existing Conditions

Pacific Gas and Electric Company (PG&E) provides electricity and natural gas services to Foster City. PG&E is a publicly traded utility company which generates, purchases, and transmits energy under contract with the CPUC. PG&E owns and maintains above and below ground networks of electric and gas transmission and distribution facilities throughout the City. Both gas and electrical service is available on the Project area.

PG&E's service territory is 70,000 square miles in area roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada mountain range to the Pacific Ocean.

Electricity

PG&E's electricity distribution system consists of 141,215 circuit miles of electric distribution lines and 18,616 circuit miles of interconnected transmission lines. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams as well as newer sources of energy, such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines that links power plants with the PG&E system. The distribution system comprised of lower voltage secondary lines is at the street and neighborhood level and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

PG&E produces or buys its energy from a number of conventional and renewable generating sources which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2015 consisted of non-emitting nuclear generation (23 percent), large hydroelectric facilities (6 percent) and eligible renewable resources (30 percent), such as wind, geothermal, biomass, solar and small hydro.²⁰ The remaining portion came from natural gas/other (25 percent) and unspecified power (17 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. In addition, PG&E has plans to increase the

²⁰ Pacific Gas and Electric Company (PG&E), 2016. PG&E's 2015 Power Mix, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2016/11.16_PowerContent.pdf.

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TABLE 4.14-4 FOSTER CITY CLIMATE ACTION PLAN ENERGY CONSERVATION MEASURES

Applicable Goals	Consistency Analysis
Energy (Community)	
Measure EC 7: Encourage Solar Panel Installation. Encourage residential homeowners and landlords, as well as commercial property owners, to install solar panels by removing the building permit fee for solar panels and encouraging participation in the City's Collective Solar Bulk Purchase program.	Consistent. The proposed buildings would comply with Title 24 solar requirements and would meet solar ready requirements associated with Title 24. While the requirements under Title 24 don't require installation of solar-energy systems, the proposed buildings will be built to accept the installation of such a system.
Energy (Municipal)	
Measure EM 2: Implement an Environmentally Preferred Purchasing Policy. The City should make sustainable purchasing decisions on a case-by-case basis, and where costs associated with purchasing a more sustainable option represent 10 percent increase or less when compared to the cost of purchasing a less sustainable option, preference should be given to the more sustainable option.	Consistent. Purchasing associated with the proposed Project would emphasize recycled materials, energy star equipment, and consideration of energy-saving alternatives.
Measure EM 3: Adopt Green Building Standards for Municipal Buildings. Adopt green building standards for municipal buildings as part of the Commercial Green Building Ordinance, to mandate higher building performance in municipal buildings.	Consistent. The Project would be consistent with the California Building Code, 2016 Building Energy Efficiency Standards. This would improve energy efficiency 33.5 percent over the 2008 standard and would be consistent with the Foster City Climate Action Plan.
Transportation and Land Use (Community)	
Measure TL 2. Plan for a balanced, multimodal transportation network and encourage bicycling and walking instead of driving by prioritizing pedestrian and bicycle-friendly improvements. Implement bike lanes on main streets, an urban bike-trail system, bike parking, and pedestrian crossings.	Consistent. Project features such as bicycle and pedestrian crossings will be included which will promote pedestrian and bicycle travel.
Measure TL 4: Encourage a Preferred Parking/Electric Plug-in Policy for Alternative Fuel Vehicles. Encourage and consider making it mandatory for businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.	Inconsistent. The proposed elementary school would not include parking for alternative fuel vehicles.
Measure TL 5: Support Safe Routes to School. Coordinate Safe Routes to School programs in local schools to encourage walking and biking	Consistent. The proposed Project would comply with the Safe Routes to School Program and improve currently limited pedestrian and bicycle access to the site.
Transportation-Related Municipal Operations	
Measure TM 4: Establish a Public Employee Commuting Program. Continue to implement and expand the commute alternatives program to promote and incentivize public transportation, carpooling, biking, etc. among City employees. Request feedback from City employees to improve the current program offerings.	Consistent. The SMFCSD will research implementation of commuter incentive programs and non-auto commute options.
Waste	
Measure WC 1: Achieve a Higher Waste Diversion Rate of 75 Percent. Achieve a higher waste diversion rate of 75 percent by 2020.	Consistent. The proposed Project would divert at least 75% of waste and therefore would comply with the City's CAP, which includes participation in programs for recycling, food waste collection, and yard waste.

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TABLE 4.14-4 FOSTER CITY CLIMATE ACTION PLAN ENERGY CONSERVATION MEASURES

Applicable Goals	Consistency Analysis
Measure WC 2: Adopt an Ordinance to Prohibit Disposable Polystyrene Food Ware. This measure effects a ban on single-use polystyrene food containers used by restaurants and food vendors. This ban is enforced by San Mateo County Environmental Health Division personnel.	Consistent. The proposed Project would not use disposable polystyrene food ware on the premises.
WC 5: Adopt a Construction and Demolition Ordinance. Adopt a Construction and Demolition Ordinance to include incentives for deconstruction, and require mandatory recycling and reuse rates for contractors.	Consistent. The proposed Project would divert 50% of its construction waste from landfill.
(Energy and) Water	
Measure EW 3: Adopt an Ordinance and Implement Incentives for Indoor Water Savings. Implement an Indoor Water Use Efficiency Ordinance to require various types of water-using appliances for new construction and applicable remodels. Continue the water appliance rebate program and explore expanding it to include dishwashers.	Consistent. The proposed Project would comply with all Tier 1 CalGreen Standards and incorporate appropriate water efficient mechanisms.

Source: City of Foster City, 2016. Foster City Climate Action Plan.

use of renewable power. For instance, PG&E purchases power from customers that install small scale renewable generators (e.g., wind turbines or photovoltaic cells) up to 1.5 megawatts in size.

PG&E’s projected annual electricity demand growth between 2012 and 2024 is 1.25 percent.²¹ Energy providers in the State project demand by assuming future economic growth.

Natural Gas

PG&E’s natural gas (methane) pipe delivery system includes 42,141 miles of distribution pipelines and 6,438 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.2 million gas customers in northern and central California. The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis and includes leak inspections, surveys, and patrols of the pipelines. A new program, the Pipeline 2020 program, aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely-operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.

Regulatory requirements for efficient use of electricity and gas are contained in Title 24, Part 6, of the CCR, entitled “Energy Efficiency Standards for Residential and Nonresidential Buildings.” These regulations specify the State’s minimum energy efficiency standards that apply to new construction of both residential

²¹ California Energy Commission (CEC), 2013. California Energy Demand 2014-2024 Preliminary Forecast, May.

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and nonresidential buildings. The standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting.

The PG&E *transmission* pipeline nearest the Project site runs along East Hillsdale Boulevard, about 4,500 feet to the northwest. *Distribution* pipelines are located throughout the Project site.

4.14.4.2 THRESHOLDS OF SIGNIFICANCE

As previously discussed, Appendix F, Energy Conservation, of the CEQA Guidelines, requires a discussion of the potential energy impacts of proposed Projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy; however, no specific thresholds of significance for potential energy impacts are published in the State CEQA Guidelines or are established by the Foster City. Therefore, this EIR analysis determined that impacts would be significant if the proposed Project would result in a substantial increase in natural gas and electrical service demands that would require the new construction of energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities. To further the intent of Appendix F, relevant, potential impacts listed in that Appendix are also incorporated in the evaluation.

Appendix F lists the following possible impacts to energy conservation that should be considered to the extent they are applicable and relevant to a particular project:

1. The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the Project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the Project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the Project complies with existing energy standards.
5. The effects of the Project on energy resources.
6. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

4.14.4.3 IMPACT DISCUSSION

This section analyzes the proposed Project's potential impacts and cumulative impacts to electric and natural gas services and infrastructure, supply and demand, and energy conservation.

UTIL-11	Implementation of the proposed Project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.
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Implementation of the proposed Project would result in demolition of a strip-style shopping center of 56,000 square feet constructed in 1977, before the codification of federal, State, and local energy

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efficiency standards, and construction of a sustainably designed, approximately 42,500-square-foot elementary school to which the codes and regulations described above apply. The proposed Project is very unlikely to result in significant long-term increases in energy demand.

Construction Energy Impacts

Construction energy expenditures are one-time, short-term occurrences that would not significantly contribute to long-term cumulative energy use. While construction activities require a commitment of energy sources, efficiency standards such as in the California Building Code as described in Section 4.6, Greenhouse Gas Emissions, improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development.

Although not expected, any public right-of-way work would be subject to compliance with the City's and PG&E's regulations and standard conditions for new construction related to infrastructure improvements. For example, these regulations and conditions would require gas and electric line construction to include best management practices that require construction areas to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. Also, any such work would be subject to compliance with applicable regulations and standard conditions of approval for construction projects, (e.g., grading permits, private development review, encroachment permits, etc.) CAP, and Green Building Program.

Construction vehicles consume fuel. As discussed in Section 4.6, Greenhouse Gas Emissions, the USEPA adopted the Heavy-Duty National Program to establish fuel efficiency and GHG emission standards in the heavy-duty highway vehicle sector which includes combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). These standards include targets for gallons of fuel consumed per mile beginning in model year 2014. These standards have been extended through model year 2018 through current rulemaking by the USEPA. While construction activities require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development. As a result, construction impacts would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

Operational Energy Impacts

As noted above, the potential future development under the proposed Project would result in minimal, if any, net increase energy demand. The proposed Project is expected to use approximately 257,775 kWh of electricity and 666,307 kBtu of natural gas annually.²²

The proposed Project would be constructed using energy efficient modern building materials and construction practices. The new buildings also would use new modern appliances and equipment and would comply with the current CALGreen Building Code, which requires the use of recycled construction

²² These values are consistent with *California Emissions Estimator Model User's Guide* of electricity and natural gas, respectively, for commercial uses, from California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2*. 2016. Calculations are included in Appendix B, of this Draft EIR.

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materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems. These features, combined with the fact that the proposed school would not serve new students or staff but rather accommodate students at existing schools, would result in *less-than-significant* operational energy impacts.

Significance Without Mitigation: Less than significant (LTS).

Renewable Energy Impacts

The proposed Project would be within the 70,000-square-mile PG&E service territory for electricity and natural gas generation, transmission and distribution. Due to the proposed Project's size and location within an urban area, construction of the proposed Project would not significantly increase energy demands within the service territory and would not require new energy supply facilities or transmission infrastructure. As a result, new energy supply facilities and transmission infrastructure, or capacity-enhancing alterations to existing facilities, would not be required. Therefore, with consideration of the applicable regulations (listed above), impacts related to renewable energy, energy conservation and utility electrical and gas facilities would be *less than significant*.

Significance Without Mitigation: Less than significant (LTS).

4.14.4.4 CUMULATIVE IMPACTS

UTIL-12	The proposed Project, in combination with past, present, and reasonably foreseeable development, would result in less than significant impacts with respect to energy conservation.
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The discussion under UTIL-11 described the proposed Project's impacts in relationship to the PG&E service territory and therefore includes a discussion of cumulative impacts.

Significance Without Mitigation: Less than significant (LTS).

5. Alternatives to the Proposed Project

5.1 INTRODUCTION

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed plan that would avoid or substantially lessen any of the significant effects of the proposed plan. Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines states that:

An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

5.1.1 PURPOSE

The alternatives evaluated in this Draft EIR were developed consistent with Section 15126.6(b) of the CEQA Guidelines, which states that:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

5.1.2 PROJECT OBJECTIVES

As considered in Chapter 3, Project Description, of the Draft EIR, the primary goal of the proposed Project is to construct a new elementary school to serve the current and future student population of Foster City. The following six Project objectives are meant to aid decision-makers in their review of the alternatives to the proposed Project and the associated environmental impacts:

1. Address the 24 percent increase in elementary school enrollments in Foster City during the last decade by providing a fourth elementary school with an enrollment of 430 to 600 students.
2. Address the over-capacity challenges at the three existing elementary schools in Foster City by providing a fourth elementary school and reassigning students from the current schools who live in the neighborhoods near the new school.

ALTERNATIVES TO THE PROPOSED PROJECT

3. Create the capacity to enroll all elementary students living in Foster City who choose to attend a public elementary school in Foster City.
4. Reduce and distribute traffic caused by existing student pick-up/drop-off at current Foster City elementary schools with a fourth elementary school.
5. Fulfill the commitment to voters, who passed Measure X, to build a fourth elementary school in Foster City, pending land acquisition.
6. Provide a fourth school in Foster City with the same high standards, instructional staff and parent involvement that make the current three elementary schools outstanding academically.
7. Be a good neighbor to adjacent neighborhoods by locating the buildings closest to the streets and minimizing neighborhood traffic impacts by providing onsite parking for staff, parents and visitors and an on-site queuing lane for student drop off and pick up.

5.2 SELECTION OF A REASONABLE RANGE OF ALTERNATIVES

Section 15126.6(c) of the State CEQA Guidelines states:

The range of potential alternatives to the proposed Project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

5.2.1 ALTERNATIVES CONSIDERED AND REJECTED

As described above, Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in and EIR are (i) failure to meet most of the basic Project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

As discussed throughout this Draft EIR, the proposed Project would be funded in large part by Measure X, passed by voters on November 3, 2015 and permitting SMFCSD to issue \$148 million in general obligation bonds. Measure X was written to relieve overcrowding at schools in SMFCSD and to provide additional classrooms and other space for increasing enrollment. One of a series of specific commitments made to voters was to secure the Charter Square site for a fourth elementary school in Foster City. Given the promises made with Measure X, a series of alternatives have been deemed infeasible because they fail to meet most of the basic Project objectives.

ALTERNATIVES TO THE PROPOSED PROJECT

- **Expand Capacity at Existing Schools.** The potential of expanding or redistributing student capacity at the three existing SMFCSD elementary schools in Foster City was assessed. This alternative would have reduced some of the potential impacts of the proposed Project on the physical environment. However, this alternative would have been in direct conflict with commitments made as a part of Measure X to reduce overcrowding at existing schools and provide for future enrollment growth including specifically to provide a fourth elementary school in Foster City. It would also directly conflict with the objectives of the proposed Project. In addition, as listed in Table 4.12-1 in Chapter 4.12, Public Services and Recreation, those schools, when taken together, are currently over capacity. Accommodating future enrollment at existing schools would require new facilities that could themselves result in traffic, noise, vibration and land use impacts, as well impacts in other physical and regulatory areas.
- **Reduce Enrollment of the Proposed School.** Developing a restricted attendance area for the proposed school in order to limit student enrollment, improve local access and student safety, and increase neighborhood integration was studied. However, this was deemed infeasible because attendance potential of the proposed school would already be limited, and decreasing the attendance area would further restrict the proposed school's ability to fulfill its primary role of helping to serve existing and new student populations in Foster City. In addition, existing schools would remain overcrowded and in need of additional facilities.
- **Alternative Location.** SMFCSD has been working with the community and assessing school site options for over a decade. The nearly fully-developed environment of Foster City, combined with recent potential FEMA flood restrictions, severely reduces developable sites both within and beyond the area of need. With the passage of Measure X and successful negotiations for the Charter Square site, returning to the site assessment process has been deemed unnecessary and infeasible.

5.2.2 ALTERNATIVES CONSIDERED

In accordance with the CEQA Guidelines, three Project alternatives and the comparative merits of the alternatives are discussed below. All of the potential environmental impacts associated with adoption and implementation of the proposed Project were found to be either *less than significant* without mitigation or *less than significant with mitigation*, with the exception of an impacts associated with noise, which was found to be *significant and unavoidable with mitigation measures*. The alternatives were selected because of their potential to further reduce and avoid these impacts. The alternatives to be analyzed in comparison to the proposed Project include:

- No Project Alternative
- Alternative Site Layout
- Reduced Future Capacity

The first alternative discussed is the CEQA-required "No Project" Alternative and assumes the Project would not be approved and the Project site would remain in its current condition. The second alternative, Alternative Site Layout, assumes that the footprint of the school buildings would be rotated along the north-south axis and shifted to the west, so that the multipurpose room and classrooms would abut the western property line. Under this Alternative, the administration building would start at the western property line on Beach Park and classrooms for the Annex and future enrollment would extend toward Shell Boulevard and the outdoor areas would be located on the eastern side of the Project site. Under the

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Reduced Future Capacity alternative, the proposed Project would not include the five classrooms for future enrollment, and as such would accommodate a maximum of 450 students rather than 600.

5.3 ALTERNATIVES COMPARISON

Table 5-1 presents a comparative summary of the alternatives considered in this analysis. Each alternative is analyzed against the impact factors considered for the Project, according to whether it would have a mitigating or adverse effect. The basis for the determination in Table 5-1 is further discussed in the next section of this chapter.

TABLE 5-1 COMPARISON OF PROJECT ALTERNATIVES

Topic	No Project Alternative	Alternative Site Layout Alternative	Reduced Future Capacity Alternative
Aesthetics	+	+	0
Air Quality	-	0	-
Biological Resources	-	0	0
Cultural Resources	-	0	0
Geology and Soils	+	0	0
Greenhouse Gas Emissions	-	0	-
Hazards and Hazardous Materials	-	0	0
Hydrology and Water Quality	+	0	0
Land Use and Planning	0	0	0
Noise	-	+	0
Population and Housing	0	0	0
Public Services	+	0	0
Transportation and Traffic	+	0	0
Utilities and Service Systems	+	0	-

Note: The symbols in the table indicate the following: Similar Impacts (0), Less Severe Impacts (-), More Severe Impacts (+).

5.3.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the existing uses and building layout would remain unchanged. As such, the existing structures and uses of the Charter Square Shopping Center would remain the same and no school would be constructed. Further, under this alternative, there would be no improved landscaping or outdoor spaces developed throughout the Project site. The three existing elementary schools in Foster City would remain overcrowded, future enrollment growth would remain unaddressed, and Foster City

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students would remain in need of critical school facilities. In addition, traffic crossing Foster City to drop-off/pick up students who live in the neighborhoods around the projected site but are currently assigned to one of the three currently operating Foster City schools would continue.

5.3.1.1 AESTHETICS

Under the No Project Alternative, the existing Project site would remain in its current condition. None of the Project components or improvements would be constructed and the Project site would remain in its existing condition, which is that of a 1977 courtyard style mall composed of seven similar style buildings. As described in Subchapter 4.1, Aesthetics, of this Draft EIR, potential impacts related to the visual character or quality of the site and its surroundings would not be significant due to lack of surrounding scenic vistas and the introduction of a contemporary, architecturally designed structure onto a site of low-visual quality. Overall, the No Project Alternative would not benefit from the visual improvements of the proposed elementary school. Therefore, this alternative would result in *more severe* impacts than the Project with regards to aesthetics.

5.3.1.2 AIR QUALITY

Under this alternative, the existing uses of the Project site would remain the same, and structures would remain in their existing locations. As described in Subchapter 4.2, Air Quality, the Project would result in significant construction-related emissions; however, Mitigation Measure AIR-2 would reduce those impacts to a less-than-significant level. In addition, the Project would temporarily elevate concentrations of Toxic Air Contaminants (TACs) and PM_{2.5} in the vicinity of the Project site thereby exceeding BAAQMDs risk threshold due to construction activities associated with the Project; however, Mitigation Measure AIR-4 would reduce those impacts to a less-than-significant level. Although the Project would result in less than significant air quality impacts with implementation of mitigation measures, the No Project Alternative would not involve construction given that it would remain in its existing condition and therefore would not result in construction-related emissions. Therefore, because this alternative would not generate any construction air emissions, a *less severe* air quality impact would occur compared to the Project.

5.3.1.3 BIOLOGICAL RESOURCES

Under the No Project Alternative, the existing uses of the Project site would remain the same, and structures would remain in their existing locations. No demolition or construction would occur. As described in Subchapter 4.3, Biological Resources, potential impacts to the nests and eggs of protected birds were identified, and mitigation measures in the form of nest surveys and construction setbacks were established. Although with mitigation the Project would not result in a significant impact with regards to biological resources, the No Project alternative would not involve removal of existing trees or disturbance to structures currently on site, some of which were identified as potentially suitable bird habitats. Therefore, the No Project Alternative would result in *less severe* impacts to biological resources.

5.3.1.4 CULTURAL RESOURCES

The No Project Alternative would not involve any ground disturbance; therefore, it would reduce the potential for disturbing cultural resources and human remains. As described in Subchapter 4.4, Cultural

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Resources, of this Draft EIR, ground-disturbance attributed to construction activities of the Project could result in a significant impact related to historical, archaeological, paleontological, or Native American cultural resources; however, implementation of the mitigation measures described throughout Subchapter 4.4 would effectively reduce those impacts to a less-than-significant level. While the existing site has been previously disturbed and paved, the potential to uncover not yet discovered cultural resources remains. Given that the No Project Alternative would not involve any ground-disturbing construction activities since the Project site would remain in its existing condition, the No Project Alternative would result in *less severe* impacts compared to the Project.

5.3.1.5 GEOLOGY AND SOILS

Under the No Project Alternative, no construction of new buildings would occur on site. As discussed in Subchapter 4.5, Geology and Soils, of this Draft EIR, the Project site is subject to soil compression and expansion due to the presence of soft Bay Mud beneath it. Adverse effects on new buildings as a result of this soil were identified as a significant impact. However, as noted in Subchapter 3, Project Description, and in Mitigation Measure GEO-2, the design of new Project buildings will be certified by a geotechnical engineer and in compliance with current building codes, which are more stringent than the building codes when existing structures on site were constructed. Given that the No Project Alternative would not be associated with any soil adaptive design techniques, Storm Water Pollution Prevention Plan (SWPPP) and Monitoring, or the development of a detailed soil report, a *more severe* impact would occur compared to the Project.

5.3.1.6 GREENHOUSE GAS EMISSIONS

Under this alternative, the existing Project site would remain unchanged and continue to operate under its current condition and construction and operation of a school would not occur; therefore, greenhouse gas emissions related to construction activities and operation of the site would not increase. Although Subchapter 4.6, Greenhouse Gas Emissions, concludes that a less-than-significant GHG impact would occur given that the net increase in GHG during operation of the Project would be nominal and would not exceed BAAGMD's significance criteria of 1,100 MT of CO₂e per year, this alternative would ultimately result in fewer GHG emissions given that the existing operation of the site would be less than the hotel and restaurant proposed under the Project. Consequently, this alternative would result in *less severe* GHG impacts than the Project.

5.3.1.7 HAZARDS AND HAZARDOUS MATERIALS

Under the No Project Alternative, no demolition of existing structures would occur. As described in Subchapter 4.7, Hazards and Hazardous Materials, of this Draft EIR, the presence of asbestos-containing materials (ACM) and lead-based paint was verified in buildings that would be demolished as part of the proposed Project. The release of these materials was identified as having a potentially significant impact. Although Mitigation Measure HAZ-1, requiring a systematic plan for identifying and removing hazardous building materials, would reduce the impact to less than significant, the No Project Alternative would not be subject to any release of these materials, and a *less severe* impact would occur.

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5.3.1.8 HYDROLOGY AND WATER QUALITY

Under the No Project Alternative, the Project site would continue to operate under existing conditions and construction of an elementary school would not occur. As discussed in Subchapter 4.8, Hydrology and Water Quality, the Project would result in less than significant hydrology and water quality impacts with regards to groundwater supplies and recharge as a result of compliance with Best Management Practices (BMPs) and Low Impact Design (LID), which includes filtration features that will contribute to groundwater recharge and minimize stormwater runoff. Although the Project site would not result in any increases or decreases to the amount of impervious surface under the No Project Alternative, there would not be implementation of the BMPs and LID that would otherwise be constructed under the Project to improve infiltration and groundwater recharge. Therefore, this alternative would result in *more severe* hydrology and water quality impacts compared to the Project.

5.3.1.9 LAND USE AND PLANNING

Under the No Project Alternative, the Project site would continue to operate as a shopping center in a Planned Development District. As explained in Subchapter 4.9, Land Use and Planning, the proposed Project would develop a new school in that district; a development deemed appropriate given the flexible definition of the Planned Development district and the Project's consistency with applicable General Plan land use policies. As such, a *similar* impact to the proposed Project would occur.

5.3.1.10 NOISE

The No Project Alternative would not result in any changes to existing conditions and temporary increases in noise and vibration as a result of construction-related activities associated with the Project would not occur. As discussed in Subchapter 4.10, Noise, the Project would result in significant and unavoidable noise impacts by exposing people to or generating temporary and permanent increases to ambient noise and vibration levels. Mitigation measures identified in that Subchapter would not reduce those impacts to a less-than-significant level. The No Project Alternative would not result in construction activities that would expose people to or generate groundborne vibration or temporary or permanent increases to ambient noise levels given that the site would remain in its existing condition. For those reasons, this alternative would result in *less severe* noise impacts compared to the Project.

5.3.1.11 POPULATION AND HOUSING

The No Project Alternative would not result in any changes to existing site conditions or land uses that would impact population or housing in Foster City. As determined in Subchapter 4.11, Population and Housing, the proposed Project would include demolition of a shopping center and construction of a school, and thus would not result in the loss or displacement of people or housing. For those reasons, this alternative would result in *similar* population and housing impacts as the Project.

5.3.1.12 PUBLIC SERVICES AND RECREATION

Under this alternative, the Project site would continue to operate in its current condition and would not result in the construction of a school and associated outdoor recreational space. The Project would result in 42,000 square feet of school building area, compared to the existing 56,000 square feet of building area

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currently on site. Overall, because the Project would result in less building space and less use in evening hours, there would be a decrease in the amount of calls for police and fire protection services compared to the existing uses on site; therefore, the No Project Alternative would result in *more severe* impacts to public services compared to the Project.

5.3.1.13 TRANSPORTATION AND TRAFFIC

Under the No Project Alternative, the existing Project site would continue to operate under its current condition and would not result in changes to the existing circulation pattern at the Project site. As discussed in Subchapter 4.13, Transportation and Traffic, level of service (LOS) impacts of the proposed Project would be consistent with the performance standards established in the Foster City General Plan. All study intersections would continue to operate at the same acceptable LOS under the proposed Project. No traffic impacts relating to intersection performance or non-auto facilities would occur. However, peak hour traffic patterns under the Project would change, traffic impacts of three existing schools in Foster City would be reduced and distributed across four schools, and the internal circulation of Project site would be improved and made safer. Therefore, this Alternative would result in *more severe* transportation and traffic impacts compared to the Project.

5.3.1.14 UTILITIES AND SERVICE SYSTEMS

This alternative would result in the Project site remaining and operating under its existing condition and the school proposed by the Project would not be constructed. The current shopping center, built in 1977 before the application of contemporary efficiency guidelines, would remain as is. As described in Subchapter 4.14, Utilities and Service Systems, the City is expected to have sufficient water supplies to accommodate operation of the Project, which would result in a water demand of 5.01 million gallons per year (mgal/year). Given the smaller footprint and land use of the proposed Project, combined with compliance with water and energy efficiency guidelines, regulations and codes, the proposed Project would have less drain on utilities and service systems than the No Project alternative. Consequently, the No Project Alternative would result in *more severe* impacts compared to the Project.

5.3.2 ALTERNATIVE SITE LAYOUT ALTERNATIVE

Under the Alternative Site Layout, the footprint of the school buildings would be “flip-flopped,” or rotated along the north-south axis and shifted to the west, so that the multipurpose room and classrooms would abut the western property line. Under this Alternative, the administration building would be located at the western property line along Beach Park Blvd. and classrooms for the Annex and future enrollment would extend toward Shell Boulevard. The outdoor areas of the school would remain relative to the school buildings similarly as the proposed Project, yet located more on the eastern side of the Project site between the buildings and the parking and drop off-pick up and passing lanes.

5.3.2.1 AESTHETICS

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the positioning and layout of the school buildings. As discussed in Subchapter 4.1, Aesthetics, the proposed Project would have no aesthetic impacts based on scenic vistas or resources. However, under this alternative, the proposed classroom and multipurpose buildings would be located

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immediately east of homes just beyond the western property line of the site. Shifting the location on the site would also require constructing a fence around the outdoor area for student safety and security and additional lighting. The potential aesthetic, glare and shade/shadow impacts of this arrangement on homes immediately west of the Project site would be significant as would the potential aesthetic impacts from a fence running the length of the site along Shell Boulevard. Consequently, the Alternative Site Layout Alternative would result in *greater* impacts as compared to the Project.

5.3.2.2 AIR QUALITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the positioning and layout of the school buildings. As site layout would not impact school operations, construction phasing, or associated transportation impacts, it is not included in the quantification of air quality emissions. As such, this alternative would result in *similar* air quality impacts as compared to the proposed Project.

5.3.2.3 BIOLOGICAL RESOURCES

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the layout of the school buildings. As explained in Subchapter 4.3, Biological Resources, development of the site could result in impacts to protected bird species, an impact that would be mitigated with various protective measures. Because this alternative would result in the same degree and type of site development as the proposed Project, it would result in *similar* biological impacts as compared to the proposed Project.

5.3.2.4 CULTURAL RESOURCES

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the layout of the school buildings. As explained in Subchapter 4.4, Cultural Resources, excavation of the site could result in disturbance of cultural and paleontological resources, an impact that would be mitigated with various protective measures. Because this alternative would result in the same degree and type of site development as the proposed Project, it would result in *similar* cultural resource impacts as compared to the proposed Project.

5.3.2.5 GEOLOGY, SOILS, AND SEISMICITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the layout of the school buildings. As explained in Subchapter 4.5, Geology, Soils, and Seismicity, construction of the school on a site underlain with dynamic Bay Mud could result in soil compression and expansion, an impact that would be mitigated by site and foundation plans certified by licensed geotechnical engineer. Because this alternative would result in the same degree, type and location of development as the proposed Project, it would result in *similar* geological and soils impacts as compared to the proposed Project.

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5.3.2.6 GREENHOUSE GAS EMISSIONS

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the positioning and layout of the school buildings. As site layout would not impact school operations, construction phasing, or associated transportation impacts, it is not included in the quantification of GHG emissions. As such, this alternative would result in *similar* GHG impacts as compared to the proposed Project.

5.3.2.7 HAZARDS AND HAZARDOUS MATERIALS

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, including demolition of existing site buildings. As discussed in Subchapter 4.7, Hazards and Hazardous Materials, existing buildings contain hazardous materials that, if released during demolition, could result in a potentially significant impact. As stated, this impact would be mitigated by a systematic demolition and materials removal plan. Given that all demolition would still be performed under this alternative, it would result in *similar* hazardous materials impacts as compared to the proposed Project.

5.3.2.8 HYDROLOGY AND WATER QUALITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, including permeable surfaces, biofiltration areas and drainage management plans. This alternative would also have to comply with federal, state and local discharge permitting requirements. As stated in Subchapter 4.8, Hydrology and Water Quality, these elements would ensure that impacts of the proposed Project are less than significant. Given that each would be included in this alternative, it would result in *similar* hydrology impacts as compared to the proposed Project.

5.3.2.9 LAND USE AND PLANNING

This alternative would develop the same land use of the same intensity and size on the same Project site, as the proposed Project. Therefore, it would result in *similar* land use impacts as the proposed Project.

5.3.2.10 NOISE

Under this alternative, all characteristics and features of the proposed Project would remain the same, except that the footprint of the school buildings would be “flip-flopped” along the north-south axis and shifted to the west. The proposed classroom and multipurpose buildings would be located immediately east of homes just beyond the western property line of the site, which would require constructing a fence around the outdoor area for student safety and security. Under this Alternative, the administration building and classrooms for future enrollment would extend toward Shell Boulevard. The outdoor areas of the school would remain relative to the school buildings similarly as the proposed Project, yet located on the eastern side of the Project site. As explained Subchapter 4.10, Noise, the location of the outdoor play areas in the proposed Project would result in significant and unavoidable noise impacts to homes immediately west of the Project site. Under this alternative, the play area would be located on the east side of the property. It would be separated from residences to the west by the school building, and separated from residences to the east by the proposed parking lot, circulation area and Shell Boulevard. As such, noise impacts related to outdoor recreational activity to residences immediately west of the

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Project site would be reduced when compared to the proposed Project. However, the placement of school buildings alongside and immediately adjacent to a residential district would result in other, more consistent sources of potentially uncomfortable noise. Noise associated with the school's PA system and bells would be just feet away from existing residences. In addition, noise associated with rooftop mechanical equipment would constitute a source of potentially annoying sound that would be steadier than outdoor activity. As such, the sources of noise would change and increase under this Alternative, as would the overall adverse effect. The noise impact of this alternative would be slightly *more severe* than that of the proposed Project.

5.3.2.11 POPULATION AND HOUSING

As noted in Subchapter 4.11, Population and Housing, the development of a school on the site of a shopping center would not significantly displace persons or housing. Under this alternative, all characteristics and features of the proposed Project would remain the same, including type, location and size of the development. Only site layout would change. Thus, this alternative would result in *similar* population and housing-related impacts.

5.3.2.12 PUBLIC SERVICES AND RECREATION

As noted in Subchapter 4.12, Public Services and Recreation, the proposed development of the proposed Project would not significantly impact parks, schools, libraries or safety services in Foster City. Because the Alternative Site Layout Alternative would include result in a school of the same size, type, features, location and circulation elements, this alternative would result in *similar* public services and recreation impacts.

5.3.2.13 TRANSPORTATION AND TRAFFIC

As noted in Subchapter 4.13, Transportation and Traffic, the proposed development of the proposed Project would not result significant impacts related to transportation policy or plans or non-automobile related facilities. Because the Alternative Site Layout Alternative would include a school of the same size, type, features, location, site boundaries and circulation elements, this alternative would result in *similar* transportation and traffic impacts.

5.3.2.14 UTILITIES AND SERVICE SYSTEMS

Under the Alternative Site Layout Alternative, the Project site plan would differ in that the school buildings would be "flip-flopped", or rotated along the north-south axis. They would also be shifted to the west, so that the multipurpose room and classrooms would abut the western property line. Under this alternative, the land use, capacity, square footage, and energy-efficient characteristics of the proposed Project would remain. As such, this alternative would result in *similar* utilities and service systems impacts.

5.3.3 REDUCED FUTURE CAPACITY ALTERNATIVE

Under the Reduced Future Capacity Alternative, the proposed Project would not include the five classrooms for the Annex and future enrollment, and as such the school would accommodate a maximum of 430-470 students rather than 600. In the current design, the Annex and future enrollment classrooms

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would total approximately 4,800 square feet and extend to the west from the administration building. As would be the case with the other classrooms, they would surround an outdoor collaboration space. Under this Alternative, the outdoor collaboration space associated with the classrooms for future enrollment would be integrated into the larger outdoor recreational and learning area, and the bathrooms in this area of the proposed Project would not be developed. Under this Alternative, overcrowding at the three existing elementary schools in Foster City would not be fully addressed, future enrollment growth would remain unaddressed, and future Foster City students would remain in need of critical school facilities.

5.3.3.1 AESTHETICS

Under this alternative, the total square footage of the proposed Project would be reduced and east-west portion of the school buildings shortened. As discussed in Subchapter 4.1, Aesthetics, the proposed Project would have no aesthetic impacts based on scenic vistas or resources. Therefore, this alternative, with similar design, though slightly smaller physical footprint, would result in *similar* impacts as compared to the proposed Project.

5.3.3.2 AIR QUALITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As a result, construction activities and phasing would be reduced, the overall intensity of school operations would be reduced, and site-specific traffic-related air impacts would be reduced. However, with a reduction in future capacity, a greater number of students that live near the Project site would continue to be driven to and from one of three existing schools located at further distances. Therefore, despite the reduction in intensity associated with this Alternative, it would result in *similar*, less-than-significant air quality impacts as compared to the proposed Project.

5.3.3.3 BIOLOGICAL RESOURCES

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As explained in Subchapter 4.3, Biological Resources, development of the site could result in impacts to protected bird species, an impact that would be mitigated with various protective measures. Because this alternative would result in the same degree and type of site development as the proposed Project, it would result in *similar* biological impacts as compared to the proposed Project.

5.3.3.4 CULTURAL RESOURCES

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As explained in Subchapter 4.4, Cultural Resources, excavation of the site could result in disturbance of cultural and paleontological resources, an impact that would be mitigated with various protective measures. Because this alternative would result in the same degree and type of site development as the proposed Project, it would result in *similar* cultural resource impacts as compared to the proposed Project.

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5.3.3.5 GEOLOGY, SOILS, AND SEISMICITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As explained in Subchapter 4.5, Geology, Soils, and Seismicity, construction of the school on a site underlain with dynamic Bay Mud could result in soil compression and expansion, an impact that would be mitigated by site and foundation plans certified by licensed geotechnical engineer. Because this alternative would result in the same degree, type and location of development as the proposed Project, it would result in *similar* geological and soils impacts as compared to the proposed Project.

5.3.3.6 GREENHOUSE GAS EMISSIONS

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As a result, construction activities and length of the construction period would be reduced, the overall intensity of school operations would be reduced. However, with a reduction in future capacity, a greater number of students that live near the Project site would continue to be driven to and from one of three existing schools located at further distances. Therefore, despite the reduction in intensity associated with this Alternative, it would result in *similar*, less-than-significant GHG-related impacts as compared to the proposed Project.

5.3.3.7 HAZARDS AND HAZARDOUS MATERIALS

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, including demolition of all existing site buildings. As discussed in Subchapter 4.7, Hazards and Hazardous Materials, existing buildings contain hazardous materials that, if released during demolition, could result in a potentially significant impact. As stated, this impact would be mitigated by a systematic demolition and materials removal plan. Given that all demolition would still be performed under this alternative, it would result in *similar* hazardous materials impacts as compared to the proposed Project.

5.3.3.8 HYDROLOGY AND WATER QUALITY

Under this alternative, all characteristics, elements and statistics of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. The alternative would include permeable surfaces, biofiltration areas and drainage management plans. This alternative would also have to comply with federal, state and local discharge permitting requirements. As stated in Subchapter 4.8, Hydrology and Water Quality, these elements would ensure that impacts of the proposed Project are less than significant. Given that each would be included in this alternative, it would result in *similar* hydrology impacts as compared to the proposed Project.

5.3.3.9 LAND USE AND PLANNING

This alternative would develop the same land use of similar intensity and size on the same Project site, as the proposed Project. Therefore, it would result in *similar* land use impacts as the proposed Project.

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5.3.3.10 NOISE

Under this alternative, all characteristics and features of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As explained Subchapter 4.10, Noise, the location of the outdoor play areas in the proposed Project would result in significant and unavoidable noise impacts to homes immediately west of the Project site. Under this alternative, the play areas would be located in the same place. As such, noise impacts of this alternative would be *similar* to those of the proposed Project.

5.3.3.11 POPULATION AND HOUSING

As noted in Subchapter 4.11, Population and Housing, the development of a school on the site of a shopping center would not significantly displace persons or housing. Under this alternative, all characteristics and features of the proposed Project would remain the same, including type, location and size of the development. Only the total square footage and future capacity of the school would be slightly reduced. Thus, this alternative would result in *similar* population and housing-related impacts.

5.3.3.12 PUBLIC SERVICES AND RECREATION

As noted in Subchapter 4.12, Public Services and Recreation, the proposed development of the proposed Project would not significantly impact parks, schools, libraries or safety services in Foster City. Because the Reduced Future Capacity Alternative would include a slightly smaller school of the same type, features, location and circulation elements, this alternative would result in *similar* public services and recreation impacts.

5.3.3.13 TRANSPORTATION AND TRAFFIC

As noted in Subchapter 4.13, Transportation and Traffic, the proposed development of the proposed Project would not result in significant impacts related to transportation policy or plans or non-automobile related facilities. Because the Reduced Capacity Alternative would result in a school of the same size, type, features, location, site boundaries and circulation elements, this alternative would result in *similar* transportation and traffic impacts.

5.3.3.14 UTILITIES AND SERVICE SYSTEMS

Under this alternative, all characteristics and features of the proposed Project would remain the same, other than the total square footage and future capacity of the school buildings. As a result, construction activities and phasing would be reduced, the overall intensity of school operations would be reduced, and utilization of energy sources would decrease. While the analysis in Subchapter 4.14, Utilities and Service Systems, revealed that the proposed Project would not have significant utilities and services impacts, this alternative would result in *less severe* impacts.

5.3.4 ABILITY TO MEET PROJECT OBJECTIVES

This section describes how each alternative would meet the Project objectives, described in Chapter 3 of this Draft EIR and, and repeated above in Section 6.1.2.

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5.3.4.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the Project would not be implemented, and therefore this alternative would not meet any of the objectives

5.3.4.2 ALTERNATIVE SITE LAYOUT ALTERNATIVE

This alternative would not meet key Project objectives. It would address over-capacity challenges at three Foster City elementary schools by providing a fourth elementary school in Foster City. As such, it would fulfill SMFCSD's Measure X commitments related to new school capacity. It would also be in a location that would reduce traffic at existing schools and thus distribute traffic impacts more evenly across Foster City. However, as noted in Section 5.1.2, two objectives of the Project are to be a good neighbor to adjacent neighborhoods, and to provide a school that achieves SMFCSD standards one of which is to provide a safe and secure environment for students. Given the potential aesthetic and noise impacts to neighbors immediately adjacent to the site, and the fact that this Alternative would create a street-fronting outdoor area and small spaces behind buildings at the western property line that are difficult to monitor, this Alternative would not fulfill neighborly and safety objectives. .

5.3.4.3 REDUCED FUTURE CAPACITY ALTERNATIVE

While the Reduced Capacity Alternative would meet most Project Objectives, it would not provide classroom space for potential future enrolment. The reduction of capacity from 600 to a minimum of 430 students leaves little room for expansion to meet the already at capacity enrollment and projected increased enrollment addressed by Measure X.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the Project and the alternatives, Section 15126.6 of the State CEQA Guidelines requires that an "environmentally superior" alternative be identified. In general, the environmentally superior alternative is the alternative that would be expected to generate the least environmental impact. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets Project objectives.

As shown in Table 5-1, the Reduced Future Capacity Alternative would be the environmentally superior alternative.

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6. CEQA Mandated Sections

This chapter provides an overview of the impacts of the proposed Project based on the analyses presented in Chapters 4 through 5 of this Draft Environmental Impact Report (Draft EIR). The topics covered in this chapter include growth inducement, unavoidable significant impacts, and significant, irreversible changes. A more detailed analysis of the effects the proposed Project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Subchapters 4.1 through 4.14, of this Draft EIR.

6.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

California Environmental Quality Act (CEQA) Guidelines Section 15128 allows for no analysis of environmental issues for which there is no likelihood of significant impact. As explained in Chapter 4, Environmental Analysis, of this Draft EIR, the urban nature of the Project site, combined with past and current uses preclude environmental impacts associated with agricultural, forestry and mineral resources. No associated impacts would occur as a result of the proposed Project.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. As detailed in Chapter 4.10 of this Draft EIR, environmental impacts associated with the proposed Project were found to be significant and unavoidable. These impacts are described in Table 6-1, below.

TABLE 6-1 SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROPOSED PROJECT

Noise

Impact NOISE-1: Despite implementation of the proposed Mitigation Measure NOISE-1 identified in Chapter 4.10, Noise, of this Draft EIR, typical daytime student activities at the proposed school would create noise levels that exceed Foster City L_{max} and L_5 thresholds at sensitive receptors around the Project site.

Impact NOISE-2: Despite implementation of the proposed Mitigation Measure NOISE-2 identified in Chapter 4.10, Noise, of this Draft EIR, equipment used during Project construction would generate excessive groundborne vibration with severe, albeit temporary, effects on residential properties as close as 40 feet from the site of construction.

6.3 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or

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indirectly, in the surrounding environment. Typical growth inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development. This section evaluates the Project's potential to create such growth inducements. Not all aspects of growth inducement are negative; rather, negative impacts associated with growth inducement occur only where the project growth would cause adverse environmental impacts.

As discussed Population and Housing section of the Initial Study, the Project is not expected to directly induce growth because it does not include construction of housing. Teachers at the proposed school would be transferred from existing elementary schools in the District, rather than new teachers being hired into SMFCSD. Therefore, the Project would not provide additional employment over existing conditions.

The Project is not expected to result in indirect growth inducement because it is replacing existing commercial development on the site. Furthermore, there are no required infrastructure improvements that would increase capacity to the degree that additional development could occur elsewhere in the city.

Development of the Project would involve demolition and construction activities that would generate temporary construction jobs; however, it is unlikely that construction workers would permanently relocate to the City of Foster City as a result of the Project.

6.4 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the extent to which the Project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed below.

6.4.1 CHANGES IN LAND USE THAT COMMIT FUTURE GENERATIONS

The Project involves redevelopment of a fully developed six-acre site. The Project site currently contains a courtyard-style, neighborhood-serving open air shopping center. There are also two small kiosk structures and a playground on the northwestern quadrant of the site, as well as 250 surface parking spaces concentrated in lots on the northern and southern portions of the site, with a smaller group of spaces that line the eastern site boundary, along Shell Boulevard. The Project would redevelop the site with a single-story elementary school, including various classrooms, collaborative learning spaces, a multipurpose building, a library/resource center and administrative spaces. Outdoor elements would include play structures, hardcourts and a natural turf area. The proposed Project would also include internal, onsite parking areas for staff, parents and visitors as well as internal, onsite queuing lanes for student drop-off and pick-up. Because the Project site is already developed and is located in an urban area with existing commercial, office, and residential uses, the Project is not expected to result in any land use changes that would commit future generations to uses that are not already prevalent in the vicinity of the Project site.

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6.4.2 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Potential environmental accidents of concern include those that would have adverse effects on the environment or public health due to the nature or quantity of material released during an accident and the receptors exposed to that release. As detailed in Chapter 4.7, Hazards and Hazardous Materials demolition activities associated with development of the Project would involve some risk for environmental accidents. However, these activities would be monitored by State and federal agencies, would follow professional industry standards for safety and construction, and would have to adhere to the protocols of Mitigation Measure HAZ-1 established in this Draft EIR. Additionally, the land use proposed by the Project would not include any uses or activities that are likely to contribute to or be the cause of a significant environmental accident. As a result, the Project would not pose a substantial risk of environmental accidents.

6.4.3 LARGE COMMITMENT OF NONRENEWABLE RESOURCES

Consumption of nonrenewable resources includes issues related to increased energy consumption, conservation of agricultural lands, and lost access to mining reserves. The Project would require water, electric, and gas service, and resources for construction. The ongoing operation of the Project would involve the use of nonrenewable resources. Construction and ongoing maintenance of the Project would irreversibly commit some materials and nonrenewable energy resources. Materials and resources used would include, but are not limited to, nonrenewable and limited resources such as oil, gasoline, sand and gravel, asphalt, and steel. These materials and energy resources would be used for infrastructure development, transportation of people and goods, and utilities. During the operational phase of the Project (post-construction), energy sources including oil and gasoline would be used for lighting, heating, and cooling for the school, and transportation of people to and from the Project site.

However, as established in Chapter 4.14, Utilities and Service Systems, of this Draft EIR, the proposed Project would not commit a significantly larger quantity of nonrenewable resources than the existing land use. The Project would include several features that would offset or reduce the need for nonrenewable resources, such as the sustainable features described in Chapter 3, Project Description, of this Draft EIR. In addition, the Project would be required to comply with all current building and design requirements, including those set forth by Title 24 relating to energy conservation. In compliance with CALGreen, the State's Green Building Standards Code, the Project would be required to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. Additionally, the Project would include design features which include bike facilities and pedestrian improvements.

The Project site does not contain any agricultural land or a mining reserve, so it would not affect those natural resources.

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7. Organizations and Persons Consulted

This Draft EIR was prepared by the following consultants and individuals:

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