Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

e. *Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?*

☐ ☐ ☐ ☒

WHY? As discussed above, there is no farmland in the city; therefore the proposed project would not result in the conversion of farmland to a nonagricultural use. No impacts would occur.

5. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a. *Conflict with or obstruct implementation of the applicable air quality plan?*

☐ ☐ ☐ ☒

WHY? The city is within the South Coast Air Basin (SCAB), which is bounded by the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east and by the Pacific Ocean to the south and west. The air quality in the SCAB is managed by the South Coast Air Quality Management District (SCAQMD). The SCAB has a history of recorded air quality violations and is an area where both state and federal ambient air quality standards are exceeded. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The air quality in the SCAB does not meet the ambient air quality standards for ozone, coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), nitrogen oxide (NO_x), and lead, so it is therefore classified as a nonattainment area for these pollutants. Pursuant to the federal Clean Air Act, the SCAQMD is required to reduce emissions of the air pollutants for which the basin is in nonattainment.

In order to reduce emissions for which the SCAB is in nonattainment, the SCAQMD (2012) has adopted the 2012 Air Quality Management Plan (AQMP), which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2012 AQMP is a regional and multi-agency effort including the SCAQMD, the California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the US Environmental Protection Agency (EPA).

The AQMP addresses federal and state Clean Air Act requirements. The AQMP details goals, policies, and programs for improving air quality in the basin. In preparation of the AQMP, the SCAQMD and SCAG use land use designations contained in general plan documents to forecast, inventory, and allocate regional emissions from land use and development-related sources. For purposes of analyzing consistency with the AQMP, projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, since SCAG's regional growth forecasts are based on, among other things, land uses designated in city general plans, a project that is consistent with the land use designated in a city's general plan would also be consistent with SCAG's regional forecast projections, and thus also with the AQMP growth projections.

The project proposes to demolish 12 of the 13 existing buildings of various types and sizes at the Villa Esperanza Services campus and replace them with three new buildings totaling 42,300 square feet. As the project would only serve to upgrade the existing facilities on the campus, no change in land use would occur at the project site. The project site is currently designated as Medium Density Residential and Neighborhood Commercial in the City of Pasadena General Plan and is zoned RM-16 and CL. As indicated in Table 2-2 (Allowed Uses and Permit Requirements for Residential Zoning Districts) and Table 2-5

(Allowed Uses and Permit Requirements for Commercial and Industrial Zoning Districts) of the City's Zoning Code, public and private school uses are conditionally permitted uses in the RM-16 and CL zoning districts. Because the existing school at the project site is consistent with the designated land uses allowed in the City General Plan and the proposed project would only serve to upgrade the facilities at this existing land use, the project would not conflict with or obstruct implementation of the AQMP. No impact would occur.

b. *Violate any air quality standard or contribute to an existing or projected air quality violation?*

☐ ☐ ☒ ☐

WHY? As discussed above, the project site and the city are located in the SCAB, which is considered nonattainment for certain criteria pollutants. Because the project would involve grading and other construction activities, as well as result in more intensive uses of the project site, it would contribute to regional and localized pollutant emissions during construction (short term) and project occupancy (long term). The project's potential impacts from construction and operation to violate any air quality standard or contribute to an existing or project air quality violation have been evaluated as follows.

Construction Emissions

Construction activities associated with the project would generate pollutant emissions from the following construction activities: (1) demolition, site preparation, grading, and excavation; (2) construction workers traveling to and from the project site; (3) delivery and hauling of construction supplies to, and debris from, the project site; (4) fuel combustion by on-site construction equipment; and (5) building construction, application of architectural coatings, and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously at the time.

Construction activity is anticipated to occur in three sequential phases. Phase 1 would generally involve the demolition of the existing surface parking lot and food storage building at the western portion of the project site, followed by the placement of portable classrooms in that area for the temporary relocation of students from the existing classrooms in the southern portion of the site. The existing classrooms in the southern portion of the site would then be demolished and replaced with newly constructed classrooms where, upon completion, the students would be relocated. Phase 2 of construction would involve the demolition of the front buildings located in the northwestern portion of the project site and construction of a new campus complex building. Finally, Phase 3 of construction would involve the demolition of the existing structures located in the northeast portion of the site and the construction of a new campus building. Overall, Phase 1 construction activities are expected to last nine months, Phase 2 construction activities are expected to last 20 months and Phase 3 construction activities are expected to last 10 months.

The maximum daily construction emissions for the project during each year of construction were estimated by ESA (2014) using CalEEMod, which is designed to model construction emissions for land use development projects based on building size, land use and type, and disturbed acreage, and allows for input of project-specific information. Project-generated emissions of criteria air pollutants were modeled based on project-specific information as well as model defaults. It is mandatory for all construction projects in the SCAB to comply with SCAQMD Rule 403 (Fugitive Dust) for controlling fugitive dust. Incorporating Rule 403 into the project would reduce regional PM_{10} and $PM_{2.5}$ emissions from construction activities. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, and maintaining effective cover over exposed areas. Compliance with Rule 403 was accounted for in the construction emissions modeling.

The modeled worst-case daily emissions of criteria air pollutants associated with the project's construction activities are summarized in **Table 4** (refer to Appendix A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs).

TABLE 4
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS – MAXIMUM POUNDS PER DAY

Construction Activities	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})[a]	Fine Particulate Matter ($PM_{2.5}$)[a]
Phase 1 Construction						
2015	3.65	30.21	23.34	0.03	3.73	2.44
2016	34.40	20.76	15.35	0.02	1.45	1.34
SCAQMD Potentially Significant Impact Threshold	75 pounds/day	100 pounds/day	550 pounds/day	150 pounds/day	150 pounds/day	55 pounds/day
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Phase 2 Construction						
2016	34.40	79.05	60.25	0.16	7.41	3.77
SCAQMD Potentially Significant Impact Threshold	75 pounds/day	100 pounds/day	550 pounds/day	150 pounds/day	150 pounds/day	55 pounds/day
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Phase 3 Construction						
2017	34.25	27.36	22.22	0.03	3.59	2.31
SCAQMD Potentially Significant Impact Threshold	75 pounds/day	250 pounds/day	550 pounds/day	250 pounds/day	100 pounds/day	55 pounds/day
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: ESA 2014
Notes:
a. *Dust control measures required by SCAQMD Rule 403—Fugitive Dust were accounted for in the emissions.*

As shown in **Table 4**, the maximum daily construction emissions generated by the project over the course of the construction schedule would not exceed any of the SCAQMD's regional significance thresholds. Thus, air quality impacts from construction are considered to be less than significant.

Operational Emissions

Implementation of the project would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with area sources, such as natural gas consumption, landscaping, applications of architectural coatings, and consumer products, in addition to operational mobile emissions. The new buildings associated with the project would total 42,300 square feet, resulting in a net increase of approximately 12,218 square feet of development over the existing uses at the site. Operations emissions associated with the project were modeled by ESA (2014) using CalEEMod generated model defaults based on the size and type of the proposed land use. The operational emissions associated with the existing school uses at the project site were also generated to allow for the determination of the project's net increase in operational emissions. The project's net operational emissions are presented in **Table 5** (refer to Appendix A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs).

TABLE 5
LONG-TERM OPERATIONAL EMISSIONS – POUNDS PER DAY

Source	Emissions (pounds/day)

Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Proposed Project						
Area Source	1.11	0.00	0.00	0.00	0.00	0.00
Energy Use	0.01	0.12	0.10	0.00	0.01	0.01
Mobile Source	2.48	7.42	28.44	0.07	4.88	1.37
Total	**3.60**	**7.54**	**28.44**	**0.07**	**4.89**	**1.38**
Existing Uses						
Area Source	0.78	0.00	0.00	0.00	0.00	0.00
Energy Use	0.01	0.09	0.07	0.0	0.01	0.01
Mobile Source	1.76	5.26	20.09	0.05	3.46	0.97
Total	**2.55**	**5.35**	**20.16**	**0.05**	**3.47**	**0.98**
Net Project Emissions						
Total (Net) Project Emissions	**1.05**	**2.19**	**8.28**	**0.02**	**1.42**	**0.40**
SCAQMD Potentially Significant Impact Threshold	55 pounds/day	55 pounds/day	550 pounds/day	150 pounds/day	150 pounds/day	55 pounds/day
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: ESA 2014

As shown in **Table 5**, implementation of the project would result in a net increase in long-term regional emissions of criteria air pollutants and ozone precursors that is below the applicable SCAQMD's regional significance thresholds. Therefore, the project's net operational emissions would not result in or substantially contribute to emissions concentrations that exceed the national or California ambient air quality standards, and no mitigation would be required. Impacts associated with operational air pollutant emissions would be less than significant.

c. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*

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WHY? A cumulative impact occurs when two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

As the basin is currently classified as a state nonattainment area for ozone, NO_2, PM_{10}, and $PM_{2.5}$, cumulative development consisting of the project along with other reasonably foreseeable future projects in the SCAB as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. With respect to determining the significance of the project's contribution to regional emissions, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. According to the SCAQMD, if an individual project results in air emissions of criteria pollutants (reactive organic gases, carbon monoxide, NOx, sulfur dioxide, PM_{10}, and $PM_{2.5}$) that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the region is in nonattainment under an applicable federal or state ambient air quality standard. As

analyzed under Issue b) above, neither the project's construction nor operational emissions would exceed the SCAQMD's threshold of significance (see **Tables 4** and **5**). Therefore, the contribution of the project's construction and operational emissions to existing cumulative air quality impacts would be less than significant.

d. Expose sensitive receptors to substantial pollutant concentrations?

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WHY? Construction and operation of the project could potentially expose sensitive receptors located within and adjacent to the project site to carbon monoxide (CO) hotspots, localized air quality impacts from criteria pollutants, and toxic air contaminants (TACs) from on-site sources during project construction as well as TACs from operational sources. Separate discussions are provided below analyzing the potential for sensitive receptors to be exposed to these pollutant sources.

CO Hotspots

Carbon monoxide concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours and certain meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals. A CO hotspot is an area of localized carbon monoxide pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. According to the Transportation Project-Level Carbon Monoxide Protocol used by the California Department of Transportation (Caltrans), projects may worsen air quality if they increase the percentage of vehicles in cold start modes by 2 percent or more; significantly increase traffic volumes (by 5 percent or more) over existing volumes; or worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at level of service (LOS) E or F, or causing an intersection that would operate at LOS D or better without the project to operate at LOS E or F.

Implementation of the project would result in facilities improvements at the Villa Esperanza campus that would allow the school's enrollment to increase from 85 to 120 students. However, despite the increase in student enrollment, minimal increase in mobile source emissions are anticipated as a result of the project because the increase enrollment capacity would require up to three new vehicles to transport students to and from Villa Esperanza, generating six net new trips during the a.m. and p.m. peak hours. Additionally, the project is not expected to require any increase in school staff or employees that would result in a substantial new amount of vehicle trips over existing conditions (Transportation Summary; Appendix C). As such, the City did not deem it necessary that a traffic study be prepared for the project. In turn, because the operational mobile emissions associated with the project would be relatively similar to those occurring under existing conditions, no impacts related to CO hotspots at local roadway intersections would occur. Thus, this impact would be less than significant. No mitigation is required.

Localized Construction Air Quality Impacts – Criteria Air Pollutants

As part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality from construction activities. SCAQMD staff has developed localized significance threshold (LST) methodology that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts during construction. LSTs represent the maximum emissions from a project that will not cause or substantially contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA).

The pollutant emissions analyzed under the LST methodology are nitrogen dioxide (NO_2), CO, PM_{10}, and $PM_{2.5}$. LSTs for NO_2 and CO are derived by adding the incremental emission impacts from the project activity to the peak background NO_2 and CO concentrations and comparing the total concentration to the most stringent ambient air quality standards. The most stringent standard for NO_2 is the 1-hour state standard of 18 parts per hundred million and for CO is the 1-hour and 8-hour state standards of 9 parts per million (ppm) and 20 ppm, respectively. For PM_{10} and $PM_{2.5}$, the localized significance thresholds are derived using an air quality dispersion model to reverse-calculate the emissions that would be necessary to worsen an existing violation in the specific source receptor area, using the allowable change in concentration thresholds approved by the SCAQMD. For PM_{10} and $PM_{2.5}$, the approved 24-hour concentration thresholds for construction are 10.4 $\mu g/m^3$.[1]

The daily construction emissions generated on-site by the project were evaluated against the SCAQMD's screening-level localized significance thresholds for a 2-acre site to determine whether the emissions would cause or contribute to adverse localized air quality impacts. According to the SCAQMD's LST methodology, LSTs are only applicable to the on-site construction emissions that are generated by a project and do not apply to emissions generated off-site such as mobile emissions on roadways from worker, vendor, and haul truck trips. **Table 6** identifies daily localized on-site emissions that are estimated to occur during construction of the project.

TABLE 6
UNCONTROLLED CONSTRUCTION LOCAL SIGNIFICANCE THRESHOLD IMPACTS – POUNDS PER DAY

Emissions Source	Nitrogen Oxide	Carbon Monoxide	PM_{10}	$PM_{2.5}$[a]
Phase 1 Construction – 2015				
Demolition	30.07	22.25	1.98	1.76
Site Preparation (Parking Lot)	21.33	15.87	3.64	2.41
Building Construction (Parking Lot)[b]	21.85	15.15	1.49	1.43
Demolition (South Campus)	30.07	22.25	1.98	1.76
Site Preparation (South Campus)	21.33	15.87	3.64	2.41
Building Construction (South Campus)	21.85	15.15	1.49	1.43
Maximum 2015 Daily Construction Emissions	**30.07**	**22.25**	**3.64**	**2.41**
SCAQMD LST Screening Threshold[c]	**98**	**812**	**6**	**4**
Significant Impact?	**No**	**No**	**No**	**No**
Phase 1 Construction – 2016				
Building Construction (South Campus)	20.84	14.86	1.37	1.32
Paving	13.21	9.09	0.81	0.74
Architectural Coatings	2.37	1.88	0.20	0.20
Maximum 2016 Daily Construction Emissions	**20.84**	**14.86**	**1.37**	**1.32**
SCAQMD LST Screening Threshold[c]	**98**	**812**	**6**	**4**
Significant Impact?	**No**	**No**	**No**	**No**
Phase 2 Construction – 2016				
Demolition	28.65	21.69	1.97	1.67
Site Preparation	20.46	15.35	3.58	2.35
Grading	21.12	13.71	3.00	2.03

[1] $\mu g/m^3$ = microgram per cubic meter

Emissions Source	Nitrogen Oxide	Carbon Monoxide	PM_{10}	$PM_{2.5}$ [a]
Building Construction	20.84	14.86	1.37	1.32
Paving	13.21	9.09	0.81	0.74
Architectural Coatings	2.37	1.88	0.20	0.20
Maximum 2016 Daily Construction Emissions	**28.65**	**21.69**	**3.58**	**2.35**
SCAQMD LST Screening Threshold[c]	**98**	**812**	**6**	**4**
Significant Impact?	**No**	**No**	**No**	**No**
Phase 3 Construction – 2017				
Demolition	26.98	21.06	1.83	1.54
Site Preparation	19.36	14.77	3.50	2.29
Grading	19.87	13.22	3.87	1.95
Building Construction	19.40	14.46	1.23	1.18
Paving	12.10	9.03	0.73	0.68
Architectural Coatings	2.19	1.87	0.17	0.17
Maximum 2017 Daily Construction Emissions	**26.98**	**21.06**	**3.50**	**2.29**
SCAQMD LST Screening Threshold[c]	**98**	**812**	**6**	**4**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: ESA 2014
Notes:
a. *Dust control measures required by SCAQMD Rule 403—Fugitive Dust were accounted for in the emissions.*
b. *The construction emissions associated with this activity consists of the placement of temporary portable classrooms in the northwestern portion of the project site.*
c. *The localized thresholds for construction emissions at a receptor distance of 82 feet for a 2-acre site in SRA 8 (West San Gabriel Valley). Although some of the nearest off-site surrounding receptors to the project site, as well as the on-site receptors (i.e., student classrooms on campus), are closer than 82 feet of the construction areas, the SCAQMD's LST methodology states that projects with boundaries located closer than 82 feet (25 meters) to the nearest receptor should use the LSTs for receptors located at 82 feet.*

As shown in **Table 6**, the daily emissions generated by the proposed project on-site during all phases of construction would not exceed the established SCAQMD localized significance thresholds screening criteria for NOx (in the form of NO_2), CO, PM_{10}, or $PM_{2.5}$ for a 2-acre site in SRA 8. As such, it can be concluded that the project would not result in localized air quality impacts on the nearby surrounding land uses to the project site. Therefore, localized air quality impacts resulting from project construction would be less than significant.

Localized Construction Air Quality Impacts – TACs

Project construction would result in short-term emissions of diesel PM, which is a toxic air contaminant. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during site preparation (e.g., excavation and grading), paving, installation of utilities, materials transport and handling, building construction, and other miscellaneous activities. The SCAQMD has not adopted a methodology for analyzing such impacts and has not recommended that health risk assessments be completed for construction-related emissions of TACs.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., the potential exposure to TACs to be compared to applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period or duration of activities associated with the proposed project.

The estimated two-year construction period for the project would be much less than the 70-year period used for risk determination. Because off-road heavy-duty diesel equipment would be used only temporarily, project construction would not expose sensitive receptors to substantial emissions of TACs. This impact would be less than significant.

Localized Operational Air Quality Impacts –TACs

Because the project would only involve upgrading the existing building facilities at the Villa Esperanza campus, the development would not involve or introduce any new stationary sources of TACs, such as diesel-fueled backup generators that are more commonly associated with large commercial and industrial uses. Therefore, the project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

e. *Create objectionable odors affecting a substantial number of people?*

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WHY? According to the SCAQMD's (1993) CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As a school, the Villa Esperanza campus is not a land use identified by the SCAQMD as being associated with odors. Thus, operation of the project is not expected to result in objectionable odors that would affect the neighboring uses.

6. BIOLOGICAL RESOURCES. Would the project:

a. *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, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?*

☐ ☐ ☐ ☒

WHY? The project is in a developed urban area. Although trees are present on the project site, no known candidate, sensitive, or special-status species exist on or in the immediate vicinity of the site, per the California Natural Diversity Database (CDFW 2013). In addition, the project site and surrounding area do not provide suitable habitat for sensitive species and the project would not directly affect or modify the habitat of any identified sensitive species. No impacts would occur.

b. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?*

☐ ☐ ☐ ☒

WHY? There are no designated natural communities in the city. Natural habitat areas within the city's boundaries are largely limited to the upper and lower portions of the Arroyo Seco, the city's western hillside area, and Eaton Canyon. The project is not located near any of these natural habitat areas.

The project is located in a fully developed, urban area of Pasadena with manicured lawns and a mix of both native and non-native shrubs and trees. The landscape is mature, with a variety of tree species that create a diverse, mature canopy. No natural streams traverse the project site. The project site and surrounding area do

not include any vegetation that constitutes a natural or sensitive plant community. Therefore, the proposed project would have no impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations.

c. *Have a substantial adverse effect of 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?*

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WHY? Drainage courses with definable bed and bank and their adjacent wetlands are "waters of the United States" and fall under the jurisdiction of the US Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act. Jurisdictional wetlands, as defined by the USACE, are lands that, during normal conditions, possess hydric soils, are dominated by wetland vegetation, and are inundated with water for a portion of the growing season.

The project site does not include any discernible drainage courses, inundated areas, wetland vegetation, or hydric soils, and thus does not include USACE jurisdictional drainages or wetlands. Therefore, the proposed project would have no impact to federally protected wetlands as defined by Clean Water Act Section 404.

d. *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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WHY? The project is located in a developed urban area and does not involve the dispersal of wildlife, nor will the project result in a barrier to migration or movement. Therefore, the project will have no impact to wildlife movement.

e. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

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WHY? The City of Pasadena's Ordinance 6896, City Trees and Tree Protection Ordinance, as amended by Ordinance No. 7184, codified in Chapter 8.52 of the Pasadena Municipal Code, aims to protect the tree canopy in the city. The six types of trees protected by the City's Tree Protection Ordinance include public, landmark, landmark-eligible, specimen, mature and native trees. The project site contains 30 private trees, 27 of which would be removed to construct the project. Of the 27 trees to be removed, eight have been designated as "protected" trees by a professional arborist who surveyed the property (see **Appendix B**). **Figure B.1** shows the existing landscaping plan. Since protected trees will be removed, the ordinance requires remedy in the form of replacement trees or payment of compensatory fees up to 50 percent of the required number of replacement trees. As shown in **Figure B.2**, 8 new 15-gallon trees, 17 new 36-inch box trees, and 16 new 24-inch box trees would be on-site. **Figure B.3** illustrates the proposed plant types.

The applicant is required to submit a Court Planting Concept Plan (i.e., preliminary landscape plan), including proposed tree removals and replacement, for review and approval by the Director and the Design Commission. The project's Court Planting Concept Plan is required to conform to the replacement matrix of the City's Tree

Protection Ordinance in order to ensure that the number and species of replacement trees are sufficient to sustain the long-term tree canopy on the site.

Conformance with the replacement matrix of the City's Tree Protection Ordinance is determined through the Master Plan process by the Director and the Design Commission. Per the ordinance, the number of replacement trees is based on the diameter at breast height (DBH) of the removed trees. Replacement of the removed trees is required within a reasonable period of time (typically specified as within five years). Pursuant to Section 8.52.070.A of the City's Tree Protection Ordinance, the application for a discretionary approval for the proposed project is deemed to be an application for discretionary approval of a tree removal permit.

Because the project is required to comply with the City's Tree Protection Ordinance and is subject to Zoning Administrator and Design Commission approval of a tree removal permit, impacts would be less than significant.

f. Conflict with the provisions of an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan?

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WHY? Currently, there are no adopted habitat conservation or natural community conservation plans in Pasadena. There are also no approved local, regional, or state habitat conservation plans. Therefore, the proposed project would have no impact on any adopted conservation plans.

7. CULTURAL RESOURCES. Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

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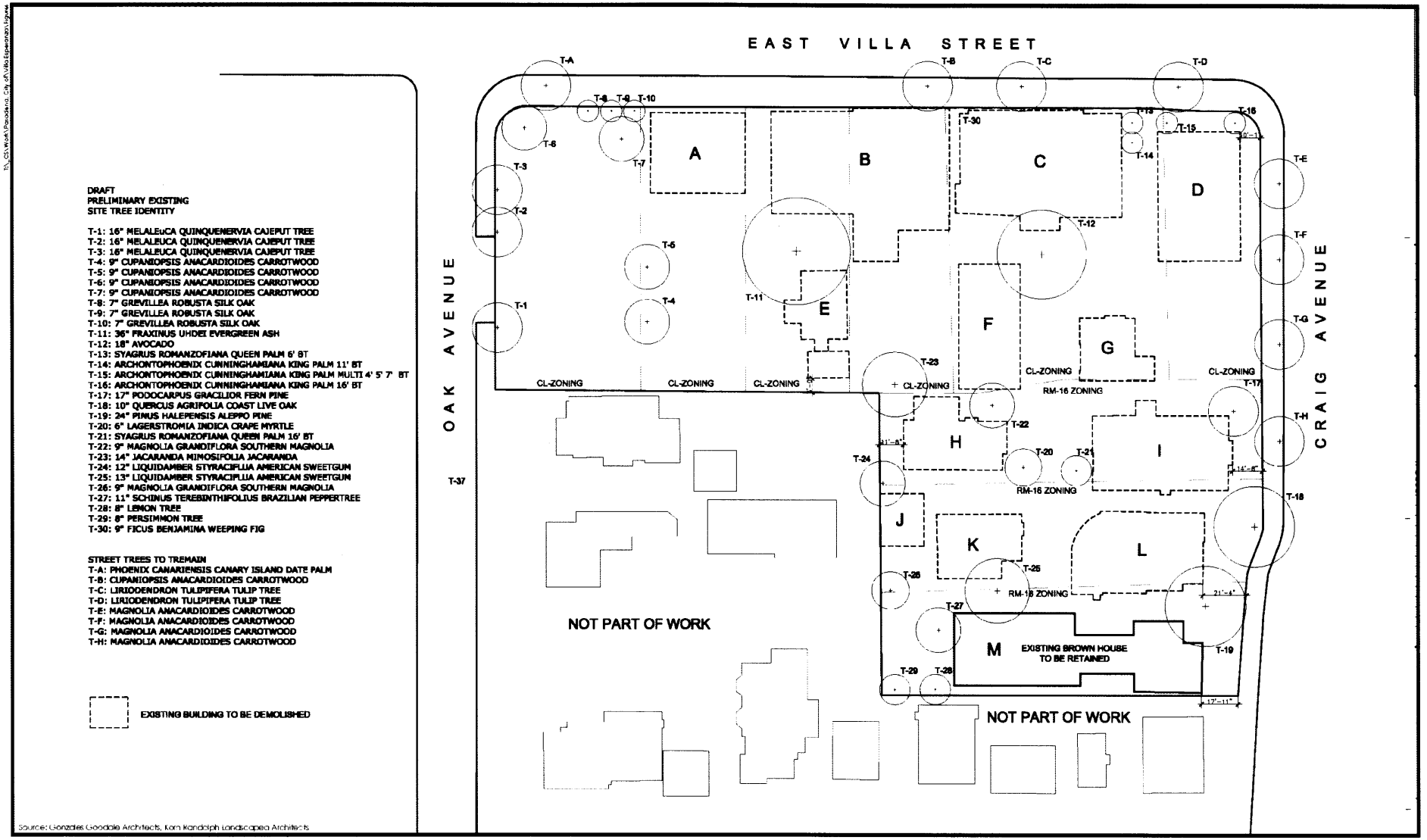
WHY? There are no known buildings, structures, natural features, works of art, or similar objects on the site having a significant historic value to the City which are to be demolished, relocated, removed, or significantly altered by the project. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource, and the project would have no related impacts.



Not to scale

N

Figure B.1
Existing Landscape Plan
PMC

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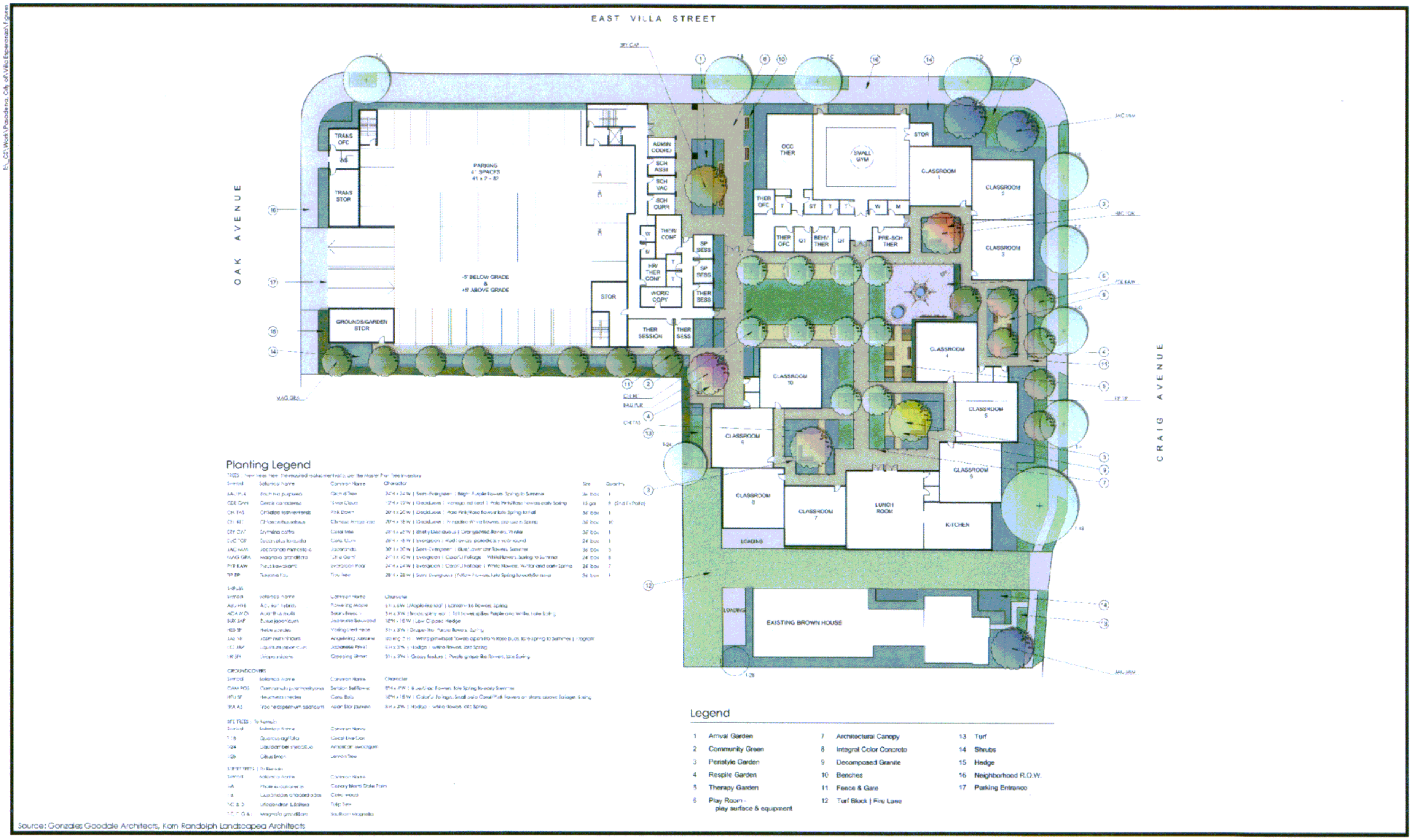

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Figure B.2
Proposed Landscape Master Plan

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Source: Gonzales Goodale Architects, Kam Randolph Landscapes Architects

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Figure B.3
Proposed Landscape Plant Images

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Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

☐ ☒ ☐ ☐

WHY? There are no known prehistoric or historic archeological sites on the project site and the site was previously graded and disturbed to support the existing development. However, the proposed project would require excavation related to the parking garage associated with the project. Thus, construction of the project has a remote potential to encounter previously undiscovered archeological resources, necessitating the following mitigation measure:

> **Mitigation Measure CULT-1:** If archaeological resources are encountered during project construction, all construction activities in the vicinity of the find shall halt until an archeologist certified by the Society of Professional Archeologists examines the site, identifies the archaeological significance of the find, and recommends a course of action. Construction shall not resume until the site archaeologist states in writing that the proposed construction activities will not damage significant archaeological resources.

Incorporation of Mitigation Measure CULT-1 would ensure the proposed project would not significantly impact archaeological resources.

c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

☐ ☒ ☐ ☐

WHY? The project site lies on the valley floor in an urbanized portion of the city. This portion of Pasadena does not contain any unique geologic features and is not known or expected to contain paleontological resources. However, the proposed project would require excavation related to utility installations and grading for the proposed parking garage. In the unlikely event that paleontological resources are encountered during grading or construction of the project, standard best practices would be implemented to avoid or properly excavate and record the find. The following standard mitigation measure will be included in the construction contract for the proposed project:

> **Mitigation Measure CULT-2:** If paleontological resources are encountered during project construction, all construction activities in the vicinity of the find shall halt until a paleontologist meeting the satisfaction of the Natural History Museum of Los Angeles County identifies the paleontological significance of the find and recommends a course of action. Construction shall not resume until the site paleontologist states in writing that the proposed construction activities will not damage significant paleontological resources.

With inclusion of Mitigation Measure CULT-2, potential impacts related to accidental discovery of paleontological and/or unique geologic resources would be less than significant.

d. *Disturb any human remains, including those interred outside of formal ceremonies?*

☐ ☐ ☒ ☐

WHY? There are no known human remains on the site. The project site is not part of a formal cemetery and is not known to have been used for disposal of historic or prehistoric human remains. Thus, human remains are not expected to be encountered during construction of the proposed project. In the unlikely event that human

remains are encountered during project construction, California Health and Safety Code Section 7050.5 requires the project to halt until the county coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. Compliance with these regulations would ensure the proposed project would not result in significant impacts due to disturbing human remains.

8. ENERGY. Would the project:

a. Conflict with adopted energy conservation plans?

☐ ☐ ☒ ☐

The proposed intensity of the project is within the intensity allowed by the Zoning Code and envisioned in the City's General Plan. Further, the project is required comply with the energy standards in the California Energy Code, Part 6 of the California Building Standards Code (Title 24). Measures to meet these performance standards may include high-efficiency heating, ventilation, and air conditioning (HVAC) and hot water storage tank equipment, lighting conservation features, higher than standard rated insulation, and double-glazed windows. Compliance with the Building Code is a statutory requirement to receive a building permit for construction.

In order to promote energy conservation, the City has adopted an amended California Green Building Standards Code (Pasadena Municipal Code Section 14.04.500). In conformance with the City's Building Code, the project would be designed to comply with the performance levels of the amended California Green Building Standards Code, which would reduce energy consumption compared to standard building practices. Therefore, impacts would be less than significant.

b. Use nonrenewable resources in a wasteful and inefficient manner?

☐ ☐ ☒ ☐

Oil-Based Products

The proposed project would not create sufficient energy demand to require development of new energy sources. Construction of the project would result in a short-term insignificant consumption of oil-based energy products. However, the additional amount of resources used would not cause a significant reduction in available supplies. Impacts due to the consumption of oil-based products would be less than significant.

Energy

The long-term impact from increased energy use by this project is not significant relative to the number of customers currently served by the electrical and gas utility companies. Supplies are available from existing mains, lines, and substations in the area. Occupation of the project could result in an insignificant increase in the consumption of natural gas. This consumption would be decreased through adherence to the performance standards of the California Energy Code, Part 6 of the California Building Standards Code, Title 24. The project's consumption would be reduced to an insignificant level by meeting these energy standards. Measures to meet these performance standards may include high efficiency heating, ventilation, and air conditioning (HVAC) and hot water storage tank equipment, lighting conservation features, higher than standard rated insulation, and double-glazed windows. The energy conservation measures are required to be prepared by the developer and shown on building plans. This plan must be submitted to Pasadena Water and Power (PWP) and to the Building Official for review and approval prior to the issuance of a building permit.

Installation of energy-saving features will be inspected by a building inspector prior to issuance of a certificate of occupancy. The existing service providers would be able to supply the resources, and the amount of resources consumed by the proposed project would result in a less than significant impact.

Water

This project would result in a minor increase in water consumption, which PWP has verified they can serve. During drought periods, the project's water consumption would be reduced by adhering to the Comprehensive Water Conservation Plan and the Water Shortage Procedure Ordinance, which restrict water consumption to 90 percent of expected consumption during each billing period. Installation of plumbing will be inspected by a building inspector prior to issuance of a certificate of occupancy.

Over the past several years, PWP has been impacted by several factors that have restricted local and regional water supply. The PWP's groundwater rights in the Raymond Basin have been curtailed in order to mitigate groundwater depletion experienced over the last half century. With respect to imported supplies, a decade-long drought has reduced the ability to replenish regional groundwater supplies, drought conditions in the American Southwest have reduced deliveries of water from the Colorado River, and legal and environmental issues have resulted in reduced water deliveries through the State Water Project. As a result, the Metropolitan Water District of Southern California (MWD) implemented its Water Supply Allocation Plan, which requires the PWP to reduce its total water consumption by approximately 10 percent effective July 1, 2009. The MWD will charge significant penalties if the PWP's total water use exceeds this allocation.

In September 2008, the City Council directed the PWP to develop a Comprehensive Water Conservation Plan (CWCP) with a variety of approaches and recommendations for achieving 10, 20, and 30 percent reductions in water consumption as well as an analysis of the financial impacts on the Water Fund if those conservation targets were achieved. On April 13, 2009, the City Council voted to approve the CWCP presented by the PWP and to replace the Water Shortage Procedure Ordinance with a new Water Waste Prohibition and Water Shortage Plan Ordinance (Pasadena Municipal Code Chapter 13.10). As a long-term goal, the CWCP presupposes an initial target of reducing per-capita potable water consumption 10 percent by 2015 and 20 percent by 2020.

The Water Waste Prohibitions and Water Supply Shortage Plan Ordinance became effective on July 4, 2009, and established 13 permanent mandatory restrictions on wasteful water use activities. In addition, statewide water demand reduction requirements began in 2009, as a result of the Governor's 20x2020 Water Conservation Plan from April 30, 2009 (20x2020) and the current work being done by the California Department of Water Resources, the State Water Resources Control Board, and other state agencies to implement the Governor's 20x2020 Water Conservation Initiative Program.

As a result, to meet these water policy goals, the proposed project must comply with the Water Conservation Plan and the Water Shortage Procedure Ordinance and the City's goal to meet the 20x2020 goals by submitting a water conservation plan limiting water consumption to 80 percent of its originally anticipated amount. With submission of this plan, the project would not have any individual or cumulative impacts on water supply. This plan is subject to review and approval by PWP and the Building Division before the issuance of a building permit. The applicant's irrigation and plumbing plans are also required to comply with the approved water conservation plan and the City's requirements for landscape irrigation.

The project is also required to adhere to the requirements of the Water Efficient Landscape Ordinance (Pasadena Municipal Code Chapter 13.22), which was adopted in 2010. This ordinance is a result of State Assembly Bill 1881 (AB 1881), which mandates that all local jurisdictions follow specific regulations for the efficient use of water in the irrigation of landscapes. The project must adhere to all applicable provisions in this ordinance, which are contained in Title 13 (Utilities and Services) of the Pasadena Municipal Code. The ordinance may require design features that include specific plant types, the use of recycled water for irrigation

and/or water features, etc. Adherence to the requirements will reduce the amount of water used in project landscaping and will aid the project in complying with all related water reduction provisions. The project would not have any individual or cumulative impacts on water supply. Impacts would be less than significant.

9. GEOLOGY AND SOILS. Would the project:

a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

☐ ☐ ☒ ☐

WHY? Fault rupture is caused by the actual breakage of the ground surface overlying a fault as a result of seismic activity. This can range in offsets from less than 1 inch to up to 20 feet, depending on the fault and the earthquake magnitude. Under the Alquist-Priolo Act, the California State Geologist identifies areas in the state that are at risk from surface fault rupture. The main purpose of the act is to prevent construction of buildings used for human occupancy where traces of active faults are evident on the earth's surface. These zones are known as Alquist-Priolo Earthquake Fault Zones. Impacts resulting from fault rupture generally occur in the immediate vicinity overlying the fault. The zones vary in width, but average about one-quarter mile across.

According to the Safety Element of the City of Pasadena General Plan, the San Andreas Fault is a "master" active fault and controls seismic hazard in Southern California. This fault is located approximately 21 miles north of Pasadena. Los Angeles County and Pasadena are both affected by Alquist-Priolo Earthquake Fault Zones. Pasadena is in four US Geological Survey (USGS) quadrants: Los Angeles, Mt. Wilson, Pasadena, and Condor Peak.

The Alquist-Priolo maps show only one fault zone in or adjacent to Pasadena, the Raymond (Hill) Fault Alquist-Priolo Earthquake Fault Zone. This fault is located primarily south of the city limits; however, the southernmost portions of the city lie within the fault's mapped fault zone. The Safety Element of the City's General Plan identifies the following three additional zones of potential fault rupture in the city:

- The Eagle Rock Fault Hazard Management Zone, which traverses the southwestern portion of the city.
- The Sierra Madre Fault Hazard Management Zone, which includes the Tujunga Fault, the North Sawpit Fault, and the South Branch of the San Gabriel Fault. This fault zone is primarily north of the city, and only the very northeast portion of the city and portions of the Upper Arroyo lie within the mapped fault zone.
- A Possible Active Strand of the Sierra Madre Fault, which appears to join a continuation of the Sycamore Canyon Fault. This fault area traverses the northern portion of the city and is identified as a Fault Hazard Management Zone for Critical Facilities Only.

While the project site is in the seismically active region of Southern California, according to the City's General Plan Safety Element, the project site is not in any of these potential fault rupture zones and does not lie within a designated Alquist-Priolo Earthquake Fault Zone. The closest mapped fault zone, the Sierra Madre Fault Zone, is 1.25 miles northeast of the project site. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects caused by the rupture of a known fault, and impacts would be less than significant.

	Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

ii. Strong seismic ground shaking?

☐ ☐ ☒ ☐

WHY? As with most locations in Southern California, the project site is susceptible to ground shaking emanating from causative faults during an earthquake. Seismic activity along the San Andreas, Raymond, Eagle Rock, or Sierra Madre faults, or any other of the numerous faults in the Southern California region, could affect the proposed project and would be considered during the design of the proposed project.

Since Pasadena is within a larger area traversed by active fault systems, such as the San Andreas and Newport-Inglewood faults, any major earthquake along these systems could cause seismic ground shaking in Pasadena. Much of the city is on sandy, stony, or gravelly loam formed on the alluvial fan adjacent to the San Gabriel Mountains. This soil is more porous and loosely compacted than bedrock, and thus subject to greater impacts from seismic ground shaking than bedrock.

The National Seismic Zone maps, published by the International Code Council in the California Building Code, divide the United States into four major seismic zones numbered from 1 through 4. Zone 1 has the lowest earthquake danger, while Zone 4 has the highest earthquake danger. According to this map, Pasadena is in Seismic Zone 4, which has the highest earthquake danger (California Seismic Safety Commission 2005, pp. 7 and 38). However, earthquake-resistant design and materials used in new construction or seismic retrofitting must meet or exceed the current seismic engineering standards of the Uniform Building Code, California Building Code Seismic Zone 4 requirements, and other applicable codes. Buildings constructed or retrofitted according to these standards would be protected against building collapse and major injury during a seismic event. Additionally, structures are also subject to inspection during construction to ensure compliance. As a result, impacts would be less than significant with conformance to these required standards.

iii. Seismic-related ground failure, including liquefaction as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of liquefaction?

☐ ☐ ☒ ☐

WHY? Liquefaction typically occurs when near-surface (usually upper 50 feet) saturated, clean, fine-grained loose sands are subject to intense ground shaking. The potential for liquefaction depends on the magnitude of ground shaking, groundwater conditions, the relative density of the soils, and the age of site-specific geologic units. Seismic-induced liquefaction occurs when a saturated, granular deposit of low relative density is subject to extreme shaking and loses strength or stiffness due to increased pore water pressure. The consequences of liquefaction are typically characterized by settlement, uplift on structures, and increases in the lateral pressure of buried structures. If building foundations are not designed properly, the effects of severe liquefaction during seismic conditions may result in structural failure, leading to substantial structural damage and injury or loss of life.

The project site is not within a Liquefaction Hazard Zone or Landslide Hazard Zone as shown on Plate P-1 of the City's General Plan Safety Element. This plate was developed considering the liquefaction areas identified on the State of California Seismic Hazard Zone maps for the city (California Department of Conservation, Division of Mines and Geology 1999). Therefore, the project would not result in seismic-related ground failure, including liquefaction, and impacts would be less than significant.

	Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

iv. Landslides as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of landslides?

☐ ☐ ☐ ☒

WHY? The proposed project site is effectively flat and located in an urbanized area of the city. In addition, the project site is not within a Landslide Hazard Zone as shown on Plate P-1 of the City's General Plan Safety Element. This plate was developed considering the earthquake-induced landslide areas identified on the State of California Seismic Hazard Zone maps for the city (California Department of Conservation, Division of Mines and Geology 1999). Therefore, no impacts from seismic-induced landslides would occur.

b. Result in substantial soil erosion or the loss of topsoil?

☐ ☐ ☒ ☐

WHY? Construction of the project would entail some earthwork. Construction activities would include clearing the site of debris and/or vegetation, soil excavation, grading, asphalt paving, building construction, and landscaping. The natural water erosion potential of soils in Pasadena is low, unless these soils are disturbed during the wet season. Both the Ramona and Hanford soils, which underlay much of the city, have high permeability, low surface runoff, and slight erosion hazard due to the gravelly surface layer and low topographic relief away from the steeper foothill areas of the San Gabriel Mountains.

The displacement of soil through cut and fill will be controlled by the City's Grading Ordinance, Chapter 33 of the 2001 California Building Code relating to grading and excavation, other applicable building regulations and standard construction techniques; therefore, there will be no significant impact.

In accordance with Clean Water Act and National Pollutant Discharge Elimination System (NPDES) requirements, water erosion during construction would be minimized by limiting certain construction activities to dry weather, covering exposed excavated dirt during periods of rain, and protecting excavated areas from flooding with temporary berms. In addition, site preparation would be conducted in compliance with the City's requirement for best management practices (BMPs) and state and local codes and requirements for erosion control, grading, and soil remediation.

Construction may also temporarily expose the soil to wind erosion. Fugitive dust would be controlled in compliance with SCAQMD Rules 403 and 1166. The following erosion control features associated with SCAQMD rules utilized during remedial activities would be employed: covering stockpile with plastic sheeting; covering loaded soils with secured tarps; prohibiting work during periods of high winds; and watering exposed soils during construction.

Should construction of the proposed project require more than 250 cubic yards of cut or fill, as is the case with this proposed project, the applicant will be required to submit an erosion and sediment transport control plan as part of the project grading plan. The grading plan is subject to review and approval by the Building Official and the Public Works Department prior to the issuance of any building permits.

With the implementation of these required erosion control features, potential impacts associated with erosion during project construction and operation would be less than significant.

Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

c. *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?*

☐ ☐ ☒ ☐

WHY? Pasadena rests primarily on an alluvial plain. To the north, the San Gabriel Mountains are relatively young in geological time. These mountains run generally east–west, with the San Andreas Fault on the north and the Sierra Madre Fault on the south. The action of these two faults, in conjunction with the north–south compression of the San Andreas tectonic plate, is pushing up the San Gabriel Mountains. This uplifting combined with erosion helped form the alluvial plain. As shown on Plate 2-4 of the Technical Background Report to the City's General Plan Safety Element, the majority of the city lies on the flat portion of the alluvial fan, which is expected to be stable.

Per Plates 2-2 and 2-4 of the Safety Element Technical Background Report, the proposed project is not located on known unstable soils or geologic units and therefore would be unlikely to cause on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Additionally, as indicated above, the project area is not known to be in an area susceptible to landslide or liquefaction. Soil excavation and grading activities associated with the project would be in compliance with the City's Grading Ordinance, Chapter 33 of the California Building Code related to grading and excavation, and other applicable building regulations and standard construction techniques. The displacement of soil through cut and fill will be controlled by Chapter 33 of the California Building Code related to grading and excavation. Modern engineering practices and compliance with established building standards, including the California Building Code, would ensure that potential impacts resulting from unstable geologic units or soils would be less than significant.

d. *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?*

☐ ☐ ☒ ☐

WHY? According to the Safety Element of the City's General Plan, the project site is underlain by alluvial material from the San Gabriel Mountains. This soil consists primarily of sand and gravel and is in the low to moderate range for expansion potential. Modern engineering practices and compliance with established building standards, including the California Building Code, will ensure the project would not cause any significant impacts from unstable geologic units or expansive soils.

e. *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?*

☐ ☐ ☐ ☒

WHY? The project will be required to connect to the existing sewer system. Therefore, soil suitability for septic tanks or alternative wastewater disposal systems is not applicable in this case, and the proposed project would have no associated impacts.

Potentially Significant Impact	Significant Unless Mitigation Is Incorporated	Less Than Significant Impact	No Impact

10. GREENHOUSE GAS EMISSIONS. Would the project:

a. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

☐ ☐ ☒ ☐

WHY? Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHG). The main components of GHG include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Greenhouse gases are emitted by both natural processes and human activities. In response to growing scientific and political concern with global climate change, California has adopted a series of laws to reduce emissions of GHGs to the atmosphere from commercial and private activities in the state. Construction and operation of the proposed project would generate GHG emissions. Overall, the following activities associated with the future residential development could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates greenhouse gases such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electric, and Water Use:** Natural gas use results in the emissions of two GHGs: CH_4 (the major component of natural gas) and CO_2 from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Estimates indicate that the total energy used to pump and treat this water exceeds 6.5 percent of the total electricity used in the state per year.
- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. Methane is 21 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

GHG emissions associated with the proposed project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related new vehicular trips and stationary source emissions, such as natural gas used for heating and electricity usage for lighting. Preliminary guidance from the Office of Planning and Research (OPR) and letters from the Attorney General critical of CEQA documents which have taken different approaches indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. The calculation presented below includes construction as well as long-term operational emissions in terms of annual carbon dioxide equivalents (CO_2e) associated with the anticipated operations of the proposed project. The resultant emissions of these activities were calculated by ESA (2014) using the CalEEMod air quality model (Appendix A). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for the use of government agencies, land use planners, and environmental professionals.

Thresholds of significance illustrate the extent of an impact and are a basis from which to apply mitigation measures. On September 28, 2010, the SCAQMD conducted Stakeholder Working Group Meeting #15, which resulted in a recommended screening threshold of 3,000 metric tons of CO_2e as a threshold for all land uses.

Therefore, for the purposes of this evaluation and in the absence of any other adopted significance thresholds, a threshold of 3,000 metric tons of CO_2e per year is used to assess the significance of GHG emissions.

Emissions resulting from implementation of the proposed project have been quantified and the quantified emissions are compared with the SCAQMD's GHG screening threshold. The anticipated GHG emissions during project construction and operation are shown in **Table 7**. In accordance with the SCAQMD guidance, projected GHGs from construction have been quantified and amortized over 30 years, which is the number of years considered to represent the life of the project. The amortized construction emissions are added to the annual average operational emissions. Per **Table 7**, GHG emissions projected to result from both construction (amortized over 30 years) and operation of the proposed project would not exceed the SCAQMD greenhouse gas threshold of 3,000 metric tons of CO_2e per year. The impact is therefore considered less than significant.

TABLE 7
CONSTRUCTION-RELATED AND OPERATIONAL GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)

Emission Type	CO_2e
Construction (amortized over 30 years)	25
Indirect Emissions from Energy Consumption	239
Water Demand	40
Waste Generation	25
Area Source (hearth, landscaping)	0
Mobile Source (vehicles)	710
Operations Total	**1,039**
SCAQMD Greenhouse Gas Threshold	*3,000*
Threshold Exceeded?	No

Source: ESA 2014

b. *Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

☐ ☐ ☒ ☐

WHY? California has adopted several policies and regulations for the purpose of reducing GHG emissions. Assembly Bill 32, the Global Warming Solutions Act (AB 32), was enacted in 2006 to reduce statewide GHG emissions to 1990 levels by 2020. As identified under Issue a) above, the proposed project would not surpass the SCAQMD's recommended GHG screening thresholds, which were prepared with the purpose of complying with the requirements of AB 32. As the proposed project would not conflict with AB 32, impacts would be less than significant.

11. HAZARDS AND HAZARDOUS MATERIALS. Would the project:

a. *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

☐ ☐ ☒ ☐

WHY? The proposed project includes the upgrade and expansion of the existing school campus and as such, construction activities associated with the proposed project could involve the use of hazardous substances

such as petroleum-based fuels or hydraulic fluid used for construction equipment. However, the level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures during any routine transport, use, or disposal of hazardous materials. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

Additionally, upon completion of construction, the school will not store or use any significant quantities of hazardous material, other than the small amounts of pesticides, fertilizers, and cleaning agents required for normal maintenance of the landscaping and buildings. The project must adhere to applicable zoning and fire regulations regarding the use and storage of any hazardous substances. Further, there is no evidence that the site has been used for underground storage of hazardous materials. Therefore, the proposed project would have a less than significant impact.

b. *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?*

☐ ☐ ☒ ☐

WHY? As discussed in 11a above, construction activities associated with the proposed project could release hazardous materials, such as petroleum-based fuels or hydraulic fluid used for construction equipment, into the environment through reasonably foreseeable upset and accident conditions. However, the level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

Upon completion of construction, the proposed project site would use the small amounts of pesticides, fertilizers, and cleaning agents required for normal maintenance of the landscaping and buildings. However, the project will adhere to applicable zoning and fire regulations regarding the use and storage of any hazardous substances to prevent the potential for emissions of any potentially hazardous materials. Therefore, the proposed project would have a less than significant impact since the potential for emission of hazardous materials during construction and operation is considered very unlikely.

c. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

☐ ☐ ☒ ☐

WHY? The only school within one-quarter mile of the site is the Villa Esperanza campus itself. Despite the presence of the school, the proposed project would not cause a significant impact related to the emission or handling of hazardous materials, substances or wastes. As discussed in 11a, construction activities associated with the expansion of the proposed project could release hazardous materials, such as petroleum-based fuels or hydraulic fluid used for construction equipment, into the environment. However, standard construction controls and safety procedures would be used to reduce the potential for accidental release of substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.