

ATTACHMENT 2
WESTRIDGE SCHOOL
MASTER DEVELOPMENT PLAN (MDPA2007)

Draft Environmental Initial Study

**CITY OF PASADENA
PLANNING DIVISION
HALE BUILDING
175 NORTH GARFIELD AVENUE
PASADENA, CA 91109-7215**

INITIAL STUDY

In accordance with the Environmental Policy Guidelines of the City of Pasadena, this analysis, the associated "Master Application Form," and/or Environmental Assessment Form (EAF) and supporting data constitute the Initial Study for the subject project. This Initial Study provides the assessment for a determination whether the project may have a significant effect on the environment.

SECTION I – PROJECT INFORMATION

1. Project Title: **Westridge School for Girls Master Development Plan Amendment 2007**
2. Lead Agency Name and Address: City of Pasadena, Planning and Development Department
175 North Garfield Avenue
Pasadena, CA 91101
3. Contact Person and Phone Number: LAURA DAHL
(626)744-6767
4. Project Location: 324 Madeline Drive, Pasadena, CA 91105 and
1066 South Orange Grove Boulevard, Pasadena, CA 91105
The project site is the campus of Westridge School for Girls and an adjacent lot, which total 9.54 acres of land located in the northeast corner of the intersection of Orange Grove Boulevard and State Street in the City of Pasadena, Los Angeles County, California.
5. Project Sponsor's Name and Address: Westridge School for Girls
c/o Brian Williams, Director of Facilities
324 Madeline Drive
Pasadena, CA 91105
6. General Plan Designation: 324 Madeline Drive: Institutional, and
1066 South Orange Grove Boulevard: Medium-Density Residential
(0-16 units per acre)
7. Zoning: PS (Public, Semi-Public) and
RM-16-1 (Multi-Family Residential, 14 units per acre)
8. Description of the Project: An amendment to the Westridge School Master Development Plan (MDP2002), which was last amended on December 9, 2002. Westridge School for Girls is an existing private school (4th through 12th grade) for girls located in the southwest part of the City of Pasadena. The school's original Master Development Plan, adopted in November 1993, was first amended on February 23, 1998, and again on December 9, 2002.

The projects included in the 2002 amendment have been completed to date. This current proposed amendment will maintain the student enrollment cap of 502 (current enrollment is 502) and the number of faculty and staff will remain at 105. The various components of this proposed MDP amendment are as follows:

- 8.1 Addition of a parcel to the campus (1066 South Orange Grove Boulevard)** – An adjacent parcel (17,300 square feet) to the north of the school site will be incorporated into the school campus. This parcel will require a zone change from RM16-1 (Multi-Family Residential, 14 units per acre to PS (Public, Semi-Public) and a General Plan Amendment from Medium Density Residential to Institutional.
- 8.2 Demolition of Existing House at 1066 South Orange Grove Boulevard** – The existing 4,900-square-foot single-family residence at this adjacent property is proposed to be demolished, where a new upper school science center will be built.
- 8.3 New Upper School Science Center** – A new one-story plus basement building with 19,730 square feet of floor area will be constructed to accommodate the upper school science program. Construction is projected to occur in Phase I of the Master Development Plan.
- 8.4 Demolition of Existing Gertrude Hall Lecture Building (SMUD) and Gertrude Hall Classroom Building** – These two buildings (1,896 + 1,155 = 3,051 square feet) are proposed to be demolished to allow for construction of the new middle school building.
- 8.5 New Middle School** – A new cluster of classrooms will be constructed to accommodate the middle school (21,040 square feet) building in Phase II. The buildings will be a combination of one and two-story structures with a basement in one of the structures.
- 8.6 Demolition of the Existing Ranney House and parking lot** – This two-story, 8,376-square foot classroom building is proposed to be demolished in Phase III to accommodate a new lower school building.
- 8.7 New Lower School and Underground Parking** – A new 17,436-square-foot lower school building complex will be constructed in the location of the existing State Street parking lot in Phase III. The one- and two-story buildings will be located on top of a new underground parking structure.

The 2002 Master Development Plan (MDP) Amendment approved a total of 114,458 square feet of building area within the campus. As built, after completing all the proposed construction, the total building floor area existing is 105,608 square feet (8850 square feet LESS than the maximum authorized under the 2002 MDP, and not including the 4,900-square foot residence at 1066 South Orange Grove). The proposed MDP amendment consists of phases starting with addition of the 17,388-square-foot residential parcel (1066 South Orange Grove Boulevard) to the campus. The proposed construction and demolitions are projected to occur in three phases, as follows:

- Phase I - Consolidation of 1066 South Orange Grove lot to the campus, demolition of the 4900-square foot residence, and construction of a new (19,730 square feet) Upper School Science Center on the site.
- Phase II - Demolition of existing Gertrude Hall Lecture (SMUD) Building (1,155 square feet) and Gertrude Hall Classroom building (1,896 square feet), and construction of the new Middle School (21,040 square feet); remodel of existing Library.
- Phase III - Demolition of the existing Ranney House (8,376 square feet) and State Street surface parking lot, and construction of the new Lower School (17,436 square feet) with underground parking (square footage not available at this time); minor alterations to the east side of Braun Science building.

The table below shows the building floor area anticipated to be completed at each phase of the proposed 2007 Master Development Plan Amendment:

	Existing Conditions	Phase I	Phase II	Phase III
Bldg footprint, sf	71,086	75,012	84,455	93,833
Bldg Floor Area, sf	105,608	125,338	143,327	152,387
Site Area, sf (ac)	398,409 (9.15 ac)	415,709 (9.54 ac)	415,709 (9.54 ac)	415,709 (9.54 ac)
Lot coverage	0.18	0.18	0.20	0.23
Floor Area Ratio	0.27	0.29	0.34	0.35

In particular, this amendment involves construction of 58,206 square feet of building floor area and demolition of 11,427 square feet, for a total net new development of 46,779 square feet.

At the same time, the campus size will increase from 398,409 square feet (9.15 acres) to 415,709 square feet (9.54 acres) as a result of the additional residential parcel at 1066 South Orange Grove Boulevard. With the proposed additions and removal of existing structures, lot coverage will be approximately 23% of the site after completion of Phase III.

9. **Surrounding Land Uses and Setting:** The Westridge School for Girls campus is surrounded by residential uses as described below:
 - North – single-family residences (RS4) and multi-family development (RM16-1) zoning districts,
 - East – single-family residences (RS4) and the 710 Freeway right-of-way,
 - South – single-family residences (RS4) and multi-family development (RM16-1) zoning districts, and
 - West – multi-family residences (RM16-1) and single-family residences (RS4-HD) zoning districts.

10. **Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement):**
 - The City Council, with recommendation from Planning Commission, must review and approve the proposed Master Development Plan Amendment, the zone change, and the amendment to the General Plan land use designation for the additional parcel located to the northwest of the campus, and adopt the environmental determination.
 - The Design Commission will provide advisory review of the proposed master plan amendment, including the demolition of the existing house at 1066 South Orange Grove Boulevard, the Gertrude Hall Lecture (SMUD) building, the Gertrude Hall Classroom building, and the Ranney House (two-story classroom building).
 - Director of Planning and Development will review new buildings over 5,000 square feet but below 25,000 square feet: New Upper School Science Center (19,730 square feet), New Middle School (21,040 square feet), and the New Lower School (17,436 square feet), subject to call for review by the Design Commission and/or City Council.
 - Building permits will be issued by the Building Division (Planning and Development Department) after the required plan review process.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Geology and Soils		Population and Housing
	Agricultural Resources		Hazards and Hazardous Materials		Public Services
	Air Quality		Hydrology and Water Quality		Recreation
	Biological Resources		Land Use and Planning		Transportation/Traffic
	Cultural Resources		Mineral Resources		Utilities and Service Systems
	Energy		Noise		Mandatory Findings of Significance

DETERMINATION: (to be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project DOES NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
I find that the proposed project MAY have a significant effect(s) on the environment. Analysis in the Initial Study shows that one or more impact areas will have a "Potentially Significant Impact" An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that were not analyzed in a previously approved EIR or Negative Declaration for the project at hand.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Annabella Attendido 9/13/07
 Prepared By/Date

Jennifer Paige-Saeki 9-17-2007
 Reviewed By/Date

ANNABELLA ATENDIDO
 Printed Name

for JENNIFER PAIGE-SAEKI
 Printed Name

Negative Declaration adopted on: _____

Adoption attested to by: _____
 Printed Name/ Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
 - 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
 - 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
 - 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 20, "Earlier Analysis," may be cross-referenced).
 - 5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. See CEQA Guidelines Section 15063(c)(3)(D). Earlier analyses are discussed in Section 20 at the end of the checklist.
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier documents and the extent to which address site-specific conditions for the project.
 - 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
 - 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
 - 8) The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significant
-

SECTION II - ENVIRONMENTAL CHECKLIST FORM

1. BACKGROUND.

Date checklist submitted: May 8, 2007
 Department requiring checklist: Planning and Development Department
 Planner assigned: Annabella Atendido

2. ENVIRONMENTAL IMPACTS. (explanations of all answers are required):

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
---	--	---	------------------

3. AESTHETICS. Would the project:

a. *Have a substantial adverse effect on a scenic vista?* ()

WHY? The Westridge School site is located in a residential area. The area contains structures ranging from one to two stories in height and trees, which do not obstruct any scenic views. However, the project does meet the height and mass limitations of the Zoning Code. The MDP Amendment will not impact an Official Scenic Highway, Los Angeles Recommended Scenic Highway or unofficial City Designated Scenic corridor.

The entire Master Development Plan will be subject to the Design Commission's advisory review. The Design Commission's comments will be forwarded to the Planning Commission. All three new buildings that are proposed in the Master Development Plan are subject to design review in accordance with the City of Pasadena Municipal Code, where construction over 5,000 square feet is reviewed by the Director of Planning and Development, subject to call for review by the Design Commission and/or City Council, and construction over 25,000 square feet is reviewed by the Commission, subject to call for review by the City Council: (1) a new one-story with basement Upper School Science Center building (19,730 square feet gross floor area), (2) a new two-story with basement (21,040 square feet) Middle School building, and (3) a new two-story Lower School (17,436 square feet) over an underground parking structure. Based on their location and heights, there is no potential obstruction of any scenic vista or view.

The project does not substantially impact any scenic vista as defined in the 1994 final EIR for the Land Use and Mobility Elements of the City of Pasadena General Plan.

b. *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?* ()

WHY? State Scenic Highway: The project site is located to the east of South Orange Grove Boulevard, which is unofficially a Los Angeles County recommended scenic highway, according to the *Scenic Highways Element of the General Plan, page IV-13*. The school campus is a slightly higher elevation than Orange Grove Boulevard. The existing and proposed new buildings on the project site will not have any substantial impact on South Orange Grove Boulevard.

The proposed MDP would not result in the destruction of any landmark eligible trees, stand of trees, rock outcropping or natural feature recognized as having significant aesthetic value.

Trees: The project site is surrounded by single-family and multi-family residential districts to the north, east and southeast. The project site consists of mild differences in grade, sloping down southward. An inventory of all existing trees within the project site and all the street (public) trees shows that there are a total of 33 public trees and 271 private trees on the project site. All public trees will be protected and will remain. At the time of inventory, there are seven Native trees, 23 Specimen trees and 241 Non-protected trees (total of 271 private trees).

Among the 271 private trees, 44 are proposed to be removed; one of these 44 is a Native specie (28-inch Coast Live Oak) and five Specimen trees consisting of: two Victorian Box (*Pittosporum undulatum*), two Jacaranda *mimosifolia* (Jacaranda) and one *Olea europaea* (Olive tree). Thirty-eight (38) other non-protected trees are proposed to be removed, consisting of non-protected species or protected species that have not reached their protected sizes. The proposed removal of each tree shall be evaluated according to the criteria provided by the City of Pasadena's Tree Protection ordinance. In this case, the Coast Live Oak tree proposed for removal is located along the south property line, the south side of the existing State Street parking lot, where the new Lower School building and underground parking are proposed. The site plans show the introduction of at least seventeen new trees in the three areas where new buildings are proposed. The Master Plan shall include a condition of approval that requires submittal of a landscaping plan at each phase of the master plan, specifying appropriate new trees that will result in a tree canopy coverage of greater significance than the tree canopy coverage being removed, within a reasonable time after completion of each phase. Each landscaping plan shall include a tree protection plan to ensure that the remaining trees in the vicinity of each construction site shall not be adversely affected by the demolition or construction. Therefore, the proposed removal of one native tree specie will not result in a significant impact on the scenic resources of the project site and its surrounding areas.

Moreover, the applicant shall submit landscape plans for review and approval by the Zoning Administrator, the Design and Historic Preservation staff and the Water Division of the Water and Power Department, and grading plans to the Building Official for review and approval prior to the issuance of any building permit. Based on review of the landscape and grading plans, and the required compliance with the Tree Protection Ordinance, there will be no significant aesthetic impacts related to trees.

Significant structures: The proposed Master Development Plan Amendment proposes demolition of four buildings. The Pasadena Municipal Code (Section 17.62.090) requires a Certificate of Appropriateness following the Category 3 process, which is staff-level review of un-surveyed properties that do not qualify for a historic designation. The following buildings are proposed to be demolished:

1. **Gertrude Hall (SMUD) Lecture Building:** This building is located approximately 150 feet east of South Orange Grove Boulevard on the south side of Madeline Drive (West) and is adjacent to the Administration Building. It is a one-story building with a large gable roof enclosing one principal space. It was designed to relate to the Tudor revival style of the administration/Classroom Building directly to the east. It was designed by George Vernon Russell in 1955, a notable architect whose works include the University Library, the University Commons and the Geophysics Building at the California Institute of Technology, and the University of California, Riverside campus. The building was named after Gertrude Hall who was an assistant to three headmistresses over her 25-year tenure at the school.
2. **Gertrude Hall Classroom Building:** Built in the same year as the SMUD Lecture Hall (1955), this building is its sister building, designed together by the same architect. It is located immediately to the south of the Gertrude Hall Building (SMUD) and the two form a concrete paved courtyard between them. The building is a single-story with a rectangle plan with a single large gabled roof. The interior is comprised of several classrooms and faculty offices. This pair of buildings was designed in a modern Tudor Revival style to provide a visual complement to the 1923 Administration by Marston Van Pelt and Maybury.
3. **Ranney Classroom Building:** Built in 1962, this two-story building was designed by noted architects Henry Eggers and Walter Wilkman. It is located immediately north of the existing parking lot on State

Street. The building is a long single-loaded row of classrooms, which are accessed directly from the exterior. The north side has a two-story porch that forms a colonnade on the ground floor and a covered porch on the second floor. An exterior stairway at one end of the building provides direct access to the second-floor classrooms from the outside. The use of exterior covered walkways was an example of the "California Style" school developed by Eggers and Wilkman and others in that era. Eggers and Wilkman designed numerous building in Pasadena, such as the Dreyfuss residence, the Library at the Polytechnic School, and the Elementary School buildings at Chandler School.

- 4. 1066 South Orange Grove Boulevard residence: This single-family residence was originally built in 1907 in the Arts and Crafts style. The architect and builder are unknown. Building Permits in the City's records indicate that the building has been significantly altered over the years, most significantly from 1953 to 1956 when the porch was rebuilt and a new garage and kitchen/service wing were constructed, and changes to the interior were made.

Based on the information on the Historical Survey of the four buildings, staff finds that none of them meet the eligibility criteria to be considered for designation for any level of historic or architectural significance. Therefore, the proposed demolitions do not have to be reviewed by the Historic Preservation Commission.

The Design Commission will provide advisory comments to the City Council on all proposed Master Development Plan Amendment. At its meeting on June 11, 2007, the Commission concurred with staff's recommendations that the new buildings will be subject to design review in accordance with the City's Municipal Code thresholds. The thresholds state that construction over 5,000 square feet is reviewed by the Director of Planning and Development, subject to call for review by the Commission and/or City Council, and construction over 25,000 square feet is reviewed by the Commission, subject to call for review by the City Council. The new 19,730-square-foot Upper School Science Center, the new two-story 21,040-square-foot Middle School and new two-story 17,436-square-foot Lower School building would therefore be reviewed at staff level. Staff advised the applicant at the Pre-Application Conference that the review procedure will consist of: (1) A preliminary meeting with the Design and Historic Preservation staff, and (2) a Consolidated Design Review, combining concept/schematic items with final review items such as: materials, finishes, landscaping, wall sections, elevation drawings (including massing and outline of adjacent buildings) to evaluate transition in scale. This review procedure will be further specified in the Master Development Plan Amendment document.

The applicable design guidelines are the City-wide Design Principles in the General Plan. Although not design guidelines, the Purposes of Design Review in the zoning code also provide measures for reviewing the project. The Design Commission will review any proposed changes to building style and this will be part of recommendations to the Planning Commission and City Council.

Therefore, based on the review and conditions of approval, if any, by the Historic Preservation Commission, by the Design Commission, and by the Design and Historic Preservation staff, the project will have a less than significant aesthetic impact.

- c. *Substantially degrade the existing visual character or quality of the site and its surroundings?* ()

WHY? The new buildings within the Master Development Plan Amendment are within the height and mass limitations of the Zoning Code. The applicant is also required to submit a landscape plan for review and approval by the Zoning Administrator and Design and Historic Preservation staff prior to the issuance of any building permits.

The Master Development Plan Amendment will be subject to advisory review by the Design Commission. New construction projects within the scope of the MDPA will be subject to either Commission or staff level review to ensure that there will be no potential significant impact on the existing visual character or quality of the site and its surroundings.

d. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* ()

WHY? The project will not have a significant impact on light and glare because it will be required to comply with the standards in the Zoning Code that regulate glare and outdoor lighting. Height and direction of any outdoor lighting and the screening of mechanical equipment must conform to Zoning Code requirements.

The Department of Public Works has not required the applicant to install any additional street lights on South Orange Grove Boulevard. In order to improve pedestrian and traffic safety, the Department of Public Works requires the applicant to replace the existing utilitarian lights with updated street lights on State Street where new building construction will occur. The project site is located in an older, developed area with streetlights in place. These lights are not sources of glare and are an aide to public safety.

Exterior and interior lights and reflective building materials may be potential sources of light and glare. Use of reflective materials shall conform to Zoning Code requirements and to evaluations of exterior cladding and materials through the City's Design Review process. However, most activity occurs during daylight hours; thus interior lights do not shine onto surrounding properties. The residential uses to the west, north, south and east may be affected by glare from any reflective building materials. The design of this project, including its finish, colors, and materials, will be reviewed for approval through the Design Review process, and any potential impacts will be reduced to less than significant level.

4. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

a. *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?* ()

WHY? The City of Pasadena is a developed urban area surrounded by hillsides to the north and northwest. The western portion of the City contains the Arroyo Seco, which runs from north to south through the City. It has commercial recreation, park, natural and open space. There is no prime farmland, unique farmland, or farmland of statewide importance, as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.

b. *Conflict with existing zoning for agricultural use, or a Williamson Act contract?* ()

WHY? The City of Pasadena has no land zoned for agricultural use other than commercial growing areas. Commercial Growing Areas/Grounds is permitted in the CG (General Commercial), CL (Limited Commercial), and IG (General Industrial) zones and conditionally in the RS (Residential Single-Family) and RM (Residential Multi-Family) districts. The use is also permitted within certain specific plan areas.

c. *Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?* ()

WHY? There is no known farmland in the City of Pasadena; therefore the proposed Master Development Plan Amendment would not result in the conversion of farmland to a non-agricultural use.

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 of Pasadena 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 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. Because of the violations of the California Ambient Air Quality Standards (CAAQS), the California Clean Air Act requires triennial preparation of an Air Quality Management Plan (AQMP). The AQMP analyzes air quality on a regional level and identifies region-wide attenuation methods to achieve the air quality standards. These region-wide attenuation methods include regulations for stationary-source pollutants; facilitation of new transportation technologies, such as low-emission vehicles; and capital improvements, such as park-and-ride facilities and public transit improvements.

The most recently adopted plan is the 2003 AQMP, adopted on August 1, 2003. This plan is the South Coast Air Basin's portion of the State Implementation Plan (SIP). This plan is designed to achieve the five percent annual reduction goal of the California Clean Air Act.

The SCAQMD understands that southern California is growing. As such, the AQMP accommodates population growth and transportation projections based on the predictions made by the Southern California Association of Governments (SCAG). Thus, projects that are consistent with employment and population forecasts are consistent with the AQMD.

In addition to the region-wide AQMP, the City of Pasadena participates in a sub-regional air quality plan – the West San Gabriel Valley Air Quality Plan. This plan, prepared in 1992, is intended to be a guide for the 16 participating cities, and identifies methods of improving air quality while accommodating expected growth.

The proposed Master Development Plan Amendment includes the demolition of four structures and the construction of three new buildings for school use and an underground parking structure, resulting in a net increase of 46,779 square feet of building floor area. However, current enrollment (502 students) and number of faculty and staff (105) shall remain.

As a result, the proposed Master Development Plan Amendment is consistent with the growth expectations for the region. The proposed project is therefore consistent with the AQMP and the West San Gabriel Valley Air Quality Plan, and would have no associated impacts.

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

WHY? Due to its geographical location and the prevailing off shore daytime winds, Pasadena receives smog from downtown Los Angeles and other areas in the Los Angeles basin. The prevailing winds, from the southwest, carry smog from wide areas of Los Angeles and adjacent cities, to the San Fernando Valley and to Pasadena in the San Gabriel Valley where it is trapped against the foothills. For these reasons the potential for adverse air quality in Pasadena is high.

Pasadena is located in a non-attainment area, an area that frequently exceeds national ambient air quality standards. However, the project itself does (or does not) meet the South Coast Air Quality Management District's (SCAQMD) land use threshold for significant air emissions, according to the 1993 updated SCAQMD's CEQA Air Quality Handbook.

The traffic study prepared for this project states that the project currently generates 1,245 vehicle trips per day, based on the current enrollment of 502 students. The proposed Master Development Plan Amendment involves the removal of one single-family residence and will maintain the current enrollment level at 502 students and 105 faculty and staff. Therefore, the proposed project is forecast to generate a net decrease of ten daily trip ends during a typical weekday (5 fewer inbound trips and 5 fewer outbound trips).

CONSTRUCTION EMISSIONS: Demolitions and construction of new buildings are proposed to occur in three phases over a period of ten or more years.

Phase I involves demolition of 4,900 square feet of single-family residence at 1066 South Orange Grove Boulevard, and construction of 19,730 square feet of Science Center. This phase is projected to occur over a 15-month period commencing in fall 2008 with completion in late 2009. The Air Quality Model results show that the emissions are insignificant compared to the AQMD thresholds of all air emission parameters (e.g., ROG, NOx, CO, SO2, PM10).

Project Air Emissions/AQMD Threshold Comparison Matrix			
Phase I: Demolish 4,900-sf residence, construct new 19,730-sf Upper School Science Center. Net new gross floor area = 14,830 sf	Daily Construction Emission Threshold (max lbs/day)	Project's Construction Emissions (max lbs/day) 2008	Project's Construction Emissions (max lbs/day) 2009
ROG*	75	4.52	23.11
NO _x	100	47.36	26.30
CO	550	31.30	32.16
SO ₂	150	0.08	0.00
PM ₁₀	150	3.36	1.05
*ROG (Reactive Organic Gas) through a series of chemical reactions with NOx forms ground level ozone.			

Phase II involves demolition of two school buildings (3,051 square feet) at interior of campus, and construction of 21,040 square feet of new Middle School building. This phase is projected to occur over a 21-month period commencing in fall 2012 with completion in spring 2014. The Air Quality Model results show that the emissions are insignificant compared to the AQMD thresholds of all air emission parameters (e.g., ROG, NOx, CO, SO2, PM10).

Project Air Emissions/AQMD Threshold Comparison Matrix				
Phase II: Demolish Gertrude Hall Classroom bldg & SMUD Lecture Bldg (1,896 +1,155 sf = 3,051 sf), construct new 21,040-sf Middle School bldg. Net new gross floor area = 17,989 sf	Daily Construction Emission Threshold (max lbs/day)	Project's Construction Emissions (max lbs/day) 2012	Project's Construction Emissions (max lbs/day) 2013	Project's Construction Emissions (max lbs/day) 2014
ROG*	75	4.40	1.46	15.62
NO _x	100	38.53	8.80	8.82
CO	550	32.12	12.39	12.77
SO ₂	150	0.06	0.00	0.00
PM ₁₀	150	3.14	0.30	0.31

*ROG (Reactive Organic Gas) through a series of chemical reactions with NOx forms ground level ozone.

Phase III involves demolition of 8,376 square feet of school building and parking lot, and construction of 17,436 square feet of new Lower School building and one level of underground parking structure in the south portion of the campus. This phase is projected to occur over a 25-moth period commencing in fall 2017 with completion in fall 2019. The Air Quality Model results show that the emissions are insignificant compared to the AQMD thresholds of all air emission parameters (e.g., ROG, NOx, CO, SO2, PM10).

Project Air Emissions/AQMD Threshold Comparison Matrix				
Phase III: Demolish 8,376-sf Ranney House, construct new 17,436-sf Lower School bldg. Net new gross floor area = 9,060 sf	Daily Construction Emission Threshold (max lbs/day)	Project's Construction Emissions (max lbs/day) 2017	Project's Construction Emissions (max lbs/day) 2018	Project's Construction Emissions (max lbs/day) 2019
ROG*	75	4.68	4.36	32.97
NO _x	100	38.26	25.54	25.55
CO	550	37.64	37.64	37.84
SO ₂	150	0.11	0.00	0.00
PM ₁₀	150	3.35	0.77	0.78

*ROG (Reactive Organic Gas) through a series of chemical reactions with NOx forms ground level ozone.

According to the 1993 updated SCAQMD's CEQA Air Quality Handbook Table 9-1 project emissions during construction will not exceed the district threshold for construction emissions. Therefore, the project will not violate any air quality standard or contribute to an existing or projected air quality violation.

MOBILE EMISSIONS: Using the 1993 updated SCAQMD's CEQA Air Quality Handbook Table 9-7 for Estimating Mobile, Energy and PM10 Emissions, the project's mobile emissions will not exceed the district's threshold for air emissions.

c. *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)? ()*

WHY? The City of Pasadena is within the South Coast Air Basin (SCAB). This basin is a non-attainment area for Nitrogen Dioxide (NO₂) and fine particulates matter (PM₁₀). Projects that contribute to a significant cumulative increase in NO₂ or PM₁₀ will be considered to be significant and require the consideration of mitigation measures. This project will not cause a cumulatively considerable increase in NO₂ and/or PM₁₀ during construction and/or operation. The school's projected total net new gross floor area of 41,879 square feet falls below the threshold for potential significant daily emissions for construction and for operations.

Project Air Emissions/AQMD Threshold Comparison Matrix		
Phase II: Demolish Gertrude Hall Classroom bldg & SMUD Lecture Bldg (1,896 +1,155 sf = 3,051 sf), construct new 21,040-sf Middle School bldg. Net new gross floor area = 17,989 sf	Area Plus Operational Emission Threshold (max lbs/day)	Project's Area and Operational Emissions (max lbs/day)
ROG*	55	2.66
NO _x	55	2.82
CO	550	29.08
SO ₂	150	0.02
PM ₁₀	150	2.23
Phase II: Demolish Gertrude Hall Classroom bldg & SMUD Lecture Bldg (1,896 +1,155 sf = 3,051 sf), construct new 21,040-sf Middle School bldg. Net new gross floor area = 17,989 sf		
ROG*	55	3.23
NO _x	55	3.55
CO	550	36.95
SO ₂	150	0.03
PM ₁₀	150	2.84
Phase III: Demolish 8,376-sf Ranney House, construct new 17,436-sf Lower School bldg. Net new gross floor area = 9,060 sf		
ROG*	55	2.74
NO _x	55	3.01
CO	550	31.56
SO ₂	150	0.03
PM ₁₀	150	2.42
*ROG (Reactive Organic Gas) through a series of chemical reactions with NO _x forms ground level ozone.		

d. Expose sensitive receptors to substantial pollutant concentrations? ()

WHY? According to Figure 5-1 and Table 5-1 of the 1993 updated SCAQMD's CEQA Air Quality Handbook the project (school) is located near sensitive receptors (residences), but is not likely to generate any significant toxic air emissions.

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

WHY? This type of use (school) is not shown on the 1993 updated SCAQMD's CEQA Air Quality Handbook Figure 5-5 "Land Uses Associated with Odor Complaints." Therefore, the proposed Master Development Plan Amendment would not create objectionable odors, and would have no associated impacts.

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 Game or U.S. Fish and Wildlife Service?*
()

WHY? The project is in a developed urban area, and is within a Public, Semi-Public (PS) and Multi-Family Residential (RM16-1) zoning districts, and is outside any natural habitat area in the City of Pasadena. There are no known unique, rare or endangered plant or animal species or habitats on or near the site. A Hillside Development Overlay Zoning District (RS4-HD is located to the far west (beyond 500 feet) of the project site. However, the development projects within the scope of the proposed Master Development Plan Amendment will not remove or disturb any significant vegetation on the site as to impact any habitat that may exist in the surrounding Hillside Development Overlay District.

- 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 Game or U.S. Fish and Wildlife Service?* ()

WHY? There are no designated natural communities in the City. The Final EIR for the 1994 Land Use and Mobility Elements contains the best available City-wide documented biological resources. This EIR identifies the natural habitat areas within the City's boundaries to be 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. There are no known existing riparian habitat or other sensitive natural plant communities on or near the site.

- 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?* ()

WHY? The project site does not include any discernable 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 Section 404 of the Clean Water Act. Furthermore, the project site is located in a developed urban area. There is no known naturally occurring wetland habitat within or near the project site.

See also the response to 3.b

- 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?* ()

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. However, the project does require the removal of 44 trees (6 protected and 38 non-protected). The project is required to comply with Federal Migratory Bird Species Act. In addition, the following mitigation is required:

Mitigation Measure BIO 1: Construction of the project shall comply with the provisions of the Federal Migratory Bird Act and disturbance or removal of existing vegetation shall take place outside of the breeding bird season of March 1 to September 1 to avoid killing or taking of migratory birds (including disturbances which would cause abandonment of active nests containing eggs and/or young). If the project cannot avoid the breeding season, nest surveys shall be conducted by a qualified biologist and active nests shall be avoided and provided with buffer. The applicant shall record the results of the recommended protective measures to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

Therefore, with mitigation measure BIO 1, the project will have less than significant impacts to wildlife migration or movement.

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

WHY? The tree inventory of the project site accounts for 33 public trees, 7 Native trees and 23 Specimen trees, a total of 63 trees that are protected by the City of Pasadena's Ordinance No. 6896 "City Trees and Tree Protection Ordinance."

The proposed Master Development Plan Amendment includes removal of one Native tree (28-inch Coast Live Oak) and five Specimen trees: two Victorian Box (*Pittosporum undulatum*), two Jacaranda (*Jacaranda mimosifolia*) and one Olive tree (*Olea europaea*). A comprehensive campus-wide landscape plan is part of the project application in concert with the incorporation of an adjacent residential parcel. The Tree Protection Ordinance allows removal of a protected tree if the proposed project includes a landscape design that will result in a tree canopy coverage of greater significance than that being removed within a reasonable time after completion of the project. A condition of approval will require the applicant to submit a landscaping plan for each phase of the master plan amendment for the review and approval of the Director of Planning and Development prior to issuance of any demolition or construction permit, specifying appropriate new trees that will result in a tree canopy coverage of greater significance than the tree canopy being removed for the new construction.

The landscaping plan for Phase II shall include a relocation plan for tree #191 (14-inch Olive (*Olea europaea*)). The landscaping plan for Phase III shall include an arborist's evaluation on the feasibility of retaining tree #264 (28-inch Coast Live Oak (*Quercus agrifolia*)), limiting root pruning to minimize the risk of losing the tree's integrity. Each phase's landscaping shall include tree protection plans for six Native and 18 Specimen trees that will remain in the campus.

The application also proposes removal of 38 trees, which are not protected by the Tree Protection Ordinance, but nonetheless, will be replaced by new trees and landscaping that will exceed the tree canopy being removed. Based on the protection of existing trees and phase-specific landscaping plans resulting in a greater tree canopy, there will be no conflict with the city's tree preservation policy.

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? ()

WHY? Currently, there are no adopted Habitat Conservation or Natural Community Conservation Plans within the City of Pasadena. There are also no approved local, regional or state habitat 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?* ()

WHY? The proposed Master Development Plan Amendment includes demolition of four structures. These buildings and structures have been preliminarily reviewed by Design and Historic Preservation staff through the Pre-Application Conference process resulting in the following analysis and findings:

1. Gertrude Hall Lecture Building (SMUD) and Gertrude Hall Classroom Building: Completed in 1955, these two buildings were designed by a notable architect George Vernon Russell in a modern Tudor Revival style to provide a visual complement to the 1923 Administration Building by Marston, Van Pelt and Maybury. Russell was noted for his works that include the University of California, Riverside campus and certain buildings in the California Institute of Technology in Pasadena.
2. Ranney House: The Ranney classroom building was designed by noted architects Henry Eggers and Walter Wilkman and was completed in 1962. Like the Gertrude Hall Building (SMUD) and Gertrude Hall Classroom Building, this structure was designed in a modern Tudor vernacular to complement the Administration building on campus. Eggers and Wilkman designed numerous buildings around Pasadena, including the Library at the Polytechnic School and the Elementary School buildings at the Chandler School.
3. 1066 South Orange Grove boulevard: The single-family residence at this address was built in 1907 in the Arts and Crafts style. The architect and/or builder was unknown. According to the City's permit records, the building has been significantly altered over the years, most significantly from 1953 to 1956 when the porch was rebuilt and a new garage and kitchen/service wing was constructed. Significant changes to the interior have occurred as well.

The City allows demolition of buildings prior to issuance of a building permit for a replacement project subject to approval of a Certificate of Appropriateness. Staff may approve the application to demolish based on findings that the buildings do not qualify as landmarks, that the demolition does not result in the loss of habitable dwelling units on a property zoned for residential use, and that the demolition would not disrupt a continuous grouping of significant buildings or create an inappropriate void in the character of the area, or a single finding that the demolition serves an overriding public benefit and will not be detrimental to surrounding property(ies). Staff may deny the demolition application if these findings cannot be met, and decisions on these applications may be appealed to or called for review by the City Council. The City's Historic Resources Inventory forms for these buildings indicate no architectural characteristic or historic significance that will meet any of the criteria to be eligible for any level architectural or historic significance. Based on survey information and permit records available, staff has determined that these four structures do not meet the threshold or criteria that would qualify them for any level of significance.

Moreover, any future development that is not included in the proposed Master Development Plan Amendment will be subject to review and approval through either a Conditional Use Permit or an amendment to the approved master plan. Both processes are open to public review and involve environmental impact review. Therefore, based on the review and conditions of approval imposed by all the advisory bodies and decision-making body, future proposals will have a less than significant impact on historic resources.

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. However, the project involves grading into previously undisturbed soils and the project site itself has not been surveyed for archeological resources. Thus, construction of the project could encounter previously undiscovered archeological resources. In the unlikely event that archeological resources are encountered during grading or construction of the project, Mitigation Measure CR1 requires all project grading and construction efforts, to halt until an archeologist examines the site, identifies the archaeological significance of the find, and recommends a course of action. Incorporation of Mitigation Measure CR1 would ensure the proposed project would not significantly impact archaeological resources.

Mitigation Measure CR1: 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 archeologist states in writing that the proposed construction activities will not significantly damage archaeological resources.

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

WHY? There are no known prehistoric or historic archeological sites on the project site. However, the project involves grading into previously undisturbed soils and the project site itself has not been surveyed for archeological resource. Thus, construction of the project could encounter previously undiscovered archeological resources. In the unlikely event that archeological resources are encountered during grading or construction of the project, Mitigation Measure CR1 requires all project grading and construction efforts, to halt until an archeologist examines the site, identifies the archaeological significance of the find, and recommends a course of action. Incorporation of Mitigation Measure CR1 would ensure the proposed project would not significantly impact archaeological resources.

Mitigation Measure CR1: 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 archeologist states in writing that the proposed construction activities will not significantly damage archaeological resources.

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.

8. ENERGY. Would the proposal:

a. Conflict with adopted energy conservation plans? ()

WHY? The proposed Master Development Plan Amendment does not conflict with the 1983 adopted Energy Element of the General Plan. The proposed demolitions and construction of new buildings are within

the intensity allowed by the Zoning Code and envisioned in the City's approved General Plan. Further, future improvements in the site will 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 required rated insulation and double-glazed windows.

b. *Use non-renewable resources in a wasteful and inefficient manner?* ()

Why? (*Oil-based products.*) The proposed Master Development Plan Amendment (MDPA) will not create a high enough demand for energy to require development of new energy sources. The proposed MDPA involves construction of new buildings in the school campus resulting in a net new floor area of 46,779 square feet over a period of ten years from date of approval, but will not increase the number of students and employees. Construction of the project will result in a short-term insignificant consumption of oil-based energy products. However, the additional amount of resources used will not cause a significant reduction in available supplies.

The long-term impact from increased energy use by this project is not significant in relationship 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 new buildings will result in a net increase in the consumption of natural gas by 4,462 cubic feet per day. This consumption will be lessened by adherence to the performance standards of California Energy Code, Part 6 of the California Building Standards Code Title 24.

At completion of proposed new buildings, this project will result in the increased consumption of 628 net kilowatt-hours per day of electrical energy due to increased building gross floor area. However, there will be no increase in the number of students and employees. This increased consumption will be reduced to an insignificant level by meeting the above referenced 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 required rated insulation and double-glazed windows. The energy conservation measures will be prepared by the developer and shown on building plans. This plan will be submitted to the Water and Power Department and Building Official for review and approval prior to the issuance of a building permit. Installation of energy-saving features will be inspected by a City Inspector prior to issuance of a Certificate of Occupancy.

(Water) This project will result in a net increase of approximately 4,678 gallons per day in water consumption due to the increase in building gross floor area. However, there will be no increase in the number of students and employees. The current use consumes approximately 10,561 gallons of water per day. However, this increased water consumption will be mitigated during drought periods by the applicant adhering to the Water Shortage Procedures Ordinance, which restricts water consumption to 90% of expected consumption during each billing period. Installation of plumbing will be inspected by a Building Division Code Inspector prior to issuance of a Certificate of Occupancy. The Water Division has reviewed the proposed MDPA during the Pre-Application Conference (PAC) process and indicated that water service can be served to this project.

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? According to the 2002 adopted Safety Element of the City of Pasadena's 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.

The County of Los Angeles and the City of Pasadena are both affected by Alquist-Priolo Earthquake Fault Zones. Pasadena is in four USGS Quadrants, the Los Angeles, and the Mt. Wilson quadrants were mapped for earthquake fault zones under the Alquist-Priolo Act in 1977. The Pasadena and Condor Peak USGS Quadrangles have not yet been mapped per the Alquist-Priolo Act.

Adjacent to and partially in the City of Pasadena are two faults, considered active, the Sierra Madre primarily north of the City and the Raymond Fault primarily south of the City. The 2002 Safety Element of the General Plan considers the Sierra Madre Fault to be in a Fault Hazard Management Zone and the Raymond Fault to be in an Alquist-Priolo Earthquake Fault Zone. Within the south west of the City, the Eagle Rock Fault is considered potentially active. The project site is within a half mile south of the Eagle Rock Fault and its Fault Hazard Management Zone. The project site is also within one mile north of the Raymond (Hill) Fault, approximately five miles south of the Sierra Madre Fault, and more than three miles south of a potentially active strand of the Sierra Madre Fault.

The 2002 Safety Element in program S1-1 requires geological studies, such as fault trenching, of the defined traces of the Sierra Madre and the Raymond fault traces shown in Plate P-1 for projects of 5,000 square feet or more if located within 50 feet in any direction of these traces. The project site is more than 50 feet from any direction of these traces. Thus, geological studies for the proposed new 19,730-square foot Upper School Science Center, 21,040-square-foot Middle School building and 17,436-square-foot Lower School building will not be required.

The potential exists for people and property to be exposed to the hazards of seismic activity in most of California. This project will not increase the potential occurrence of earthquakes. The risk of earthquake damage is minimized because the proposed new structures shall be built according to the Uniform Building Code and other applicable codes, and is subject to inspection during construction. Structures for human habitation must be designed to meet or exceed California Uniform Building Code standards for Seismic Zone 4.

ii. Strong seismic ground shaking? ()

WHY? See 9.a.i.

Since the City of Pasadena is within a larger area traversed by active fault systems, such as the San Andreas and Newport-Inglewood, any major earthquake along these systems will cause seismic ground shaking in Pasadena. At a minimum the earthquake-resistant design and materials of new projects must meet or exceed the current seismic engineering standards of the California Uniform Building Code Seismic Zone 4 requirements. 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.

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? The 2002 adopted Safety Element of the General Plan Plate P-1 shows that the Lower Arroyo Seco area is within a Liquefaction Hazard Zone. The project site is located approximately half a mile east of a portion of the Lower Arroyo Seco streambed area. The 9.5-acre project site gently slopes down southward and is surrounded to the north, east, south and west by multi-family and single-family residences. Existing City Municipal Code and Building Code regulations will control any slope instability; therefore there will be no impact. Due to these codes and inspections there will be no increased exposure to seismic ground failure including liquefaction.

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? According to the Summary of Hazards Map (I) (Plate P-1) of the adopted 2002 Safety Element of the General Plan, the project site is located outside and far from any Landslide Hazard Zone in the city, which consists mostly of the upper reaches of the Hahamongna Watershed at the foot of the Angeles National Forest. According to these same sources there is no known historic evidence of landslides on the project site or adjacent properties. Existing City regulations will control any slope instability; therefore there will be no impact. In addition, the Seismic Hazard map does not show this project to be located in an area where there is geologic evidence of past landslides.

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

WHY? (*Excavation and Grading*) The project includes the construction of three new buildings to occur in three phases over more than ten years after approval of the master plan:

Phase I involves the demolition of an existing residence at 1066 South Orange Grove Boulevard and construction of a new Science Center with 19,730 square feet. This phase is estimated to occur over a 16-month period, commencing in the fall of 2008. Site grading could entail no soil import and approximately 6,500 cubic yards of soil export.

Phase II involves demolition of two small school buildings in the interior of the campus and construction of a two-story plus basement 21,040-square-foot Middle School building. This phase is projected to occur over more than 20 months beginning in the fall of 2012. Site grading would require no importation of soil, but would export approximately 4,000 cubic yards.

Phase III involves demolition of a two-story classroom building (Ranney House) and surface parking lot, and construction of a new two-story 17,436-square-foot Lower School building above an underground parking structure. This phase is estimated to occur over more than 24 months, commencing in the fall of 2017. Soil to be imported is estimated at 5,000 cubic yards, and to export 30,000 cubic yards.

The subterranean component of this third new building will be subject to review and approval of a grading plan, or a separate Grading Permit, depending on the volume of cut and fill. The City's Building Division plan reviewer advised the project applicant at the Pre-Application review that a Soil report and survey are required in addition to the structural and energy calculations. The displacement of soil through cut and fill will be controlled by Appendix Chapter 33 of the 2001 California Building Code relating to grading and excavation, therefore there will be no impact.

At its built-out state (Phase III), the total building footprint and paved areas (parking lots) will cover approximately 38% of the site as compared to the present use, which occupies 31% of the site. The existing building regulations and property site inspections ensure that construction activities do not create unstable earth conditions.

The displacement of soil through cut and fill will be controlled by the City's grading ordinance, Appendix 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 impact.

(Erosion) According to the Final Environmental Impact Report certified for the adoption of the 1994 Land Use and Mobility Elements, 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 associations, 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.

Water erosion during construction will be minimized by limiting construction to dry weather, covering exposed excavated dirt during periods of rain and protecting excavated areas from flooding with temporary berms.

Soil erosion after construction will be controlled by implementation of an approved landscape and irrigation plan. This plan shall be submitted to the Design and Historic Preservation staff and to the Zoning Administrator for review and approval prior to the issuance of a building permit.

The project site is outside the Hillside Development Overlay district. However, construction may temporarily expose the soil to wind and/or water erosion. This erosion will be controlled by proper grading techniques as specified in the grading ordinance, a grading plan submitted to the Building Official and the Department of Public Works for review and approval prior to the issuance of a building permit and by city inspections and condition monitoring after the issuance of a building permit. Furthermore, construction practices are required to comply with South Coast Air Quality Management District (SCAQMD) Rule 403 and the National Pollutant Discharge Elimination System (NPDES), which require the utilization of best available control measures and best management practices to limit wind and water erosion, respectively.

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? The City of Pasadena rests primarily on an alluvial plain. To the north the San Gabriel Mountains are relatively new in geological time. These mountains run generally east-west and have the San Andreas Fault on the north and the Sierra Madre Fault to 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 has helped form the alluvial plain. Some of the geologic units in the Pasadena area have fine-grained components that are moderately to highly expansive. These units are generally present in the southern San Rafael Hills (south of Colorado Boulevard) and in the southern part of the City, where fine-grained sequences within the alluvial fans are more likely to be present. These fine-grained units may not be present at the surface but may be exposed during grading.

The project site is several miles south of identified Landslide Hazard Zone that cover most the Hahamongna Watershed area (at the far northwest reaches of the City's boundaries), and more than a mile east of a much smaller Landslide Hazard Zone along the south portion of the Arroyo Seco streambed. At the same time, the project site is located approximately half a mile to the east of the Lower Arroyo park area, which is identified in the 2002 Safety Element as one of several Liquefaction Hazard Zones in the City.

The Building Code plan reviewer advised the applicant at the Pre-Application Conference that a Soil Report and survey shall be required in addition to structural and energy calculations and that shoring, slot cutting and/or excavation plans may be required for review by the Building Code plan reviewer based on proposed construction methods for the three proposed new buildings prior to issuance of any building permit. Based on code-required review, there will be no impact.

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 2002 adopted Safety Element of the City's General Plan, some of the geologic units in Pasadena area have fine-grained components that are moderately to highly expansive, and that these units are generally in the southern San Rafael Hills (south of Colorado Boulevard) and in the southern part of the City, where fine-grained sequences within the alluvial fans are more likely to be present. These fine-grained units may not be present at the surface but may be exposed during grading. The Building Code plan reviewer advised the applicant that, in accordance with the Building Code, a soil report and survey will be required, in addition to structural and energy calculations, and that shoring, slot cutting and/or excavation plans may be required for review based on proposed construction methods for the three proposed new buildings (a one-story plus basement 19,730-square-foot Upper School Science Center, a two-story plus basement 21,040-square-foot Middle School building and a two-story, 17,436-square-foot Lower School over an underground parking structure), in order to address any potential risk to life or property due to soil instability. Based on code-required review, there will be no impact.

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 City of Pasadena allows septic tanks to be used for only specified areas in the hillsides per regulations found in Ordinances 3881 and 4170 and codified in Pasadena Municipal Code. The City's Sewer Map indicates that the project site and surrounding residential properties are connected to the public sewer system, thus, there is no need to use any septic tanks or alternative wastewater disposal system. The proposed new construction must be hooked up to a sewer if it is available. If the sewer is at a higher elevation than the project, the sewage is to be pumped up to the sewer.

10. 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 project does not involve the use or storage of hazardous substances other than the small amounts of pesticides, fertilizers and cleaning agents required for normal maintenance of the school buildings and landscaping. 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.

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? The proposed MDPA does not involve hazardous materials therefore there is no significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions, which could release hazardous material.