Draft

Environmental Impact Report

for the

Sacred Heart Schools Master Plan EIR

State Clearinghouse #2009112052

Lead Agency:

The Town of Atherton
91 Ashfield Road
Atherton, CA 94027

Attn: Neal J. Martin, Town Planner

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Environmental Planning and Research

April 2010

SACRED HEART SCHOOLS MASTER PLAN PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

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April 2010
SCH#2009112052

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I. INTRODUCTION

A. INTRODUCTION

The subject of this Draft Environmental Impact Report (Draft EIR) is the Sacred Heart Schools Master Plan. The Sacred Heart Schools Master Plan is not a Town of Atherton regulatory land use plan, but is a Master Plan as conceived by Sacred Heart Schools to guide construction and maintenance of their campus and educational facilities to meet their educational goals.

The Sacred Heart Schools Master Plan (Project) proposes demolition, construction, renovation, and site improvements on the Project site to accommodate an additional 114 students on the campus, from the current 1,082 students to a maximum enrollment of approximately 1,196 students. The Project would include relocation of the St. Joseph's Campus and construction of new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance.

The lead agency for this Project is the Town of Atherton, California, located at 91 Ashfield Road, Atherton, CA 94027. A detailed description of the proposed Project is contained in Section III (Project Description) of this Draft EIR.

Because the implementation of the proposed Project will require approval of certain discretionary actions by the Town and potentially other governmental agencies, the proposed Project is subject to the California Environmental Quality Act (CEQA). The Town determined that the proposed Project may have a significant effect on the environment and that an EIR should be prepared.

B. PURPOSE OF THE DRAFT EIR

The Town has prepared this Draft EIR for the following purposes:

- To satisfy the requirements of CEQA (Public Resources Code, Sections 21000–21178) and the CEQA Guidelines (California Code of Regulations, Title 4, Chapter 14, Sections 15000–15387).
- To inform the general public, the local community, and responsible and interested public agencies of the nature of the Sacred Heart Schools Master Plan, its possible environmental effects, possible measures to mitigate those effects, and alternatives to the proposed Project.
- To enable the Town to consider environmental consequences when deciding whether to approve projects associated with the Sacred Heart Schools Master Plan.

- To serve as a source document for information needed by several regulatory agencies to issue permits and approvals for projects associated with the proposed Sacred Heart Schools Master Plan.
- To provide a basis for preparation of future environmental documents, if necessary.

The determination that the Town of Atherton is the "lead agency" is made in accordance with Sections 15051 and 15367 of the CEQA Guidelines, which define the lead agency as the public agency that has the principal responsibility for carrying out or approving a project. This Draft EIR reflects the independent judgment of the Town regarding the potential environmental impacts, the level of significance of the impacts both before and after mitigation, and the mitigation measures proposed to reduce impacts.

As described in CEQA and the *CEQA Guidelines*, public agencies are charged with the duty to avoid or substantially lessen significant environmental impacts, where feasible. In discharging this duty, a public agency has an obligation to balance the project's significant impacts on the environment with other conditions, including economic, social, technological, legal and other benefits. This Draft EIR is an informational document, the purpose of which is to identify the potentially significant impacts of the proposed Project on the environment and to indicate the manner in which those significant impacts can be avoided or significantly lessened; to identify any significant and unavoidable adverse impacts that cannot be mitigated; and to identify reasonable and feasible alternatives to the proposed Project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

The lead agency is required to consider the information in the EIR, along with any other relevant information, in making its decision on whether to approve projects associated with the Sacred Heart Schools Master Plan. Although the EIR does not determine the ultimate decision that will be made regarding implementation of the Project, CEQA requires the Town to consider the information in the EIR and make findings regarding each significant effect in the EIR.

The Town will certify the EIR for the Sacred Heart Schools Master Plan. Private schools in Atherton are requested to submit Campus Master Plans to the Town for public informational purposes. These Master Plans are to be reviewed annually. Conditional Use Permits are required for new construction, relocated buildings, facility changes, and improvements on private school campus. Any proposed improvements are required to be consistent with the submitted Master Plan.[1] Once certified, the EIR will serve as the base environmental document for the Sacred Heart Schools Master Plan. All applications for permits on the SHS Campus would be reviewed against both the SHS Master Plan as submitted and the analysis within this EIR to ensure consistency with both. Other agencies may also use this EIR in their review and approval process. Generally, as stated under Public Resources Code 21166, no new subsequent or supplemental EIR would be required for the Project unless substantial changes are proposed in the

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[1] *Town of Atherton General Plan,1.550 Schools, Page LU-6 and Town of Atherton Municipal Code, 17.36.030.*

Project, there is a change in the circumstances under which the Project would be undertaken, or new information which was not known or could not have been known at the time of the Project becomes available.

This Draft EIR was prepared in accordance with Section 15151 of the CEQA Guidelines which defines the standards for EIR adequacy:

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

C. TYPE OF EIR

The Sacred Heart Schools Master Plan (Project) proposes demolition, construction, renovation, and site improvements on the Project site, including relocation of the St. Joseph's Campus and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Details for the St. Joseph's Campus improvements are available at this point, while details for some other improvements on the campus are more conceptual in nature. Therefore, this Sacred Heart Schools Master Plan EIR is a both a Project and Program EIR that evaluates the effects of the St. Joseph's Campus construction at a project-level, and the entire Sacred Heart Schools Master Plan at a program-level.

Section 15168(a) of the CEQA Guidelines defines a Program EIR as an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: 1) geographically; 2) as logical parts in the chain of contemplated actions; 3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or 4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Section 15168(b) of the CEQA Guidelines indicates that use of a Program EIR can provide the following advantages. The Program EIR can:

1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;

2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis;

3) Avoid duplicative reconsideration of basic policy considerations;

4) Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and

5) Allow reduction in paperwork.

As stated earlier, this EIR is also a Project EIR that evaluates the St. Joseph's Campus proposed for implementation as part of the Sacred Heart Schools Master Plan. As required by CEQA and the *CEQA Guidelines*, the Project EIR examines all phases of the St. Joseph's Campus including planning, construction, operation, and reasonably foreseeable phases.

D. DRAFT EIR REVIEW PROCESS

A Notice of Preparation (NOP) was prepared and distributed to the State Clearinghouse, trustee agencies, responsible agencies, and other interested parties on November 16th, 2009. Distribution of the NOP established a 30-day review period for the public and agencies to identify environmental issues that should be addressed in the Draft EIR. A scoping meeting was held for the Project on December 3rd, 2009.

Pursuant to CEQA Guidelines Section 15205(b)(2), the Draft EIR will be submitted to the State Clearinghouse for distribution to state agencies. Submittal of the DEIR to the State Clearinghouse will also commence the 45-day public review period. This Draft EIR is being circulated for review and comment to the public and other interested parties, agencies, and organizations for a 45-day review period. During the review period, copies of the Draft EIR will be available for review at the Town of Atherton and at the Atherton Library during normal business hours. The following are the addresses for the Town of Atherton and the Atherton Library:

Town of Atherton
91 Ashfield Road
Atherton, CA 94027

Town of Atherton Permit Center
83 Dinkelspiel (Station) Lane
Atherton, CA 94027

Atherton Library
2 Dinkelspiel (Station) Lane
Atherton, CA 94027

The Draft EIR will also be available on the Town's website at http://www.ci.atherton.ca.us.Written comments on the Draft EIR may be sent via U.S. mail and addressed to the following:

Neal Martin, Planner
Town of Atherton
91 Ashfield Road
Atherton, CA 94027

Following the public hearing and after the close of the written public comment period on the Draft EIR, responses to written and recorded comments will be prepared and published. The Final EIR, which will consist of the Draft EIR, comments on the Draft EIR, written responses to those comments, and the Mitigation Monitoring Program (MMP), will then be forwarded to the Town for its consideration.

To consider approval of the proposed Project, Section 15090 of the CEQA Guidelines requires the Town to certify that:

- The Final EIR has been completed in compliance with CEQA
- The Final EIR was presented to the Town, and that the Town reviewed and considered the information contained in the Final EIR prior to approving the Project
- The Final EIR reflects the Town's independent judgment and analysis

In conjunction with their certification of the Final EIR, the Town must also adopt written findings that address each significant environmental effect identified in the Final EIR, consistent with Section 15091 of the CEQA Guidelines. The Town must also adopt the MMP to ensure implementation of mitigation measures that have been incorporated into the Project to reduce or avoid significant effects during construction and/or implementation.

If feasible mitigations are not available to reduce significant environmental impacts to a less-than significant level, those impacts are considered significant and unavoidable. If the Town elects to approve the proposed Project, and the proposed Project would have significant unavoidable impacts, the Town will also be required to identify the specific reasons for approving the Project, based on the Final EIR and any other information in the public record. This "Statement of Overriding Considerations" would be incorporated into the Findings and would explain the specific reasons why the benefits of implementation of the proposed Project override the unavoidable environmental effects that would result from implementation.

E. INTENDED USES OF THE EIR

This document provides relevant information concerning the potential environmental effects associated with the construction and operation of the proposed Project. As defined by CEQA, a Lead Agency is the public agency with the principal responsibility for carrying out or approving a project. The Town of

Atherton is the Lead Agency for approval of the Project. Upon completion of the EIR process, the Town will certify the Final EIR.

F. ORGANIZATION OF THE DRAFT EIR

This Draft EIR is organized into eight sections as follows:

Section I (Introduction): This section provides an introduction and a description of the intended uses of the EIR and the review and certification process.

Section II (Executive Summary): This section includes a summary of the project description, environmental impacts that would result from implementation of the proposed Project, proposed mitigation measures, and the level of significance of the impact before and after mitigation.

Section III (Project Description): This section presents a complete description of the proposed Project including Project location, Project characteristics, and Project objectives. This section also provides an overview of the study area's environmental setting including a description of existing and surrounding land uses, history and background of the Project and Project site, and a discussion of related projects to be analyzed in the EIR.

Section IV (Environmental Impact Analysis): This section is the primary focus of this Draft EIR. Each environmental issue contains a discussion of existing conditions for the Project area including the regulatory setting, analysis methodology, thresholds of significance, and an assessment and discussion of the significance of impacts associated with the proposed Project.

The impact analysis is further broken down to describe Project impacts, cumulative impacts, mitigation measures, and level of significance of all impacts after mitigation. For significant impacts, mitigation measures to reduce or eliminate impacts are referenced by number in the impact discussion.

Section V (General Impact Categories): This section provides a discussion of the potential growth inducement of the proposed Project as well as a summary of any significant unavoidable impacts associated with the proposed Project.

Section VI (Alternatives to the Proposed Project): This section includes an analysis of a range of reasonable alternatives to the proposed Project to provide informed decision making in accordance with Section 15126(f) of the CEQA Guidelines. The range of alternatives selected is based on their ability to feasibly attain most of the basic objectives of the Project and avoid or substantially lessen any of the significant effects of the Project.

Section VII (Preparers of the EIR and Persons Consulted): This section presents a list of lead agency, other agencies and consultant team members that contributed to the preparation of the Draft EIR. This section also identifies persons consulted during preparation of the Draft EIR.

Section VIII (References): This section provides full references of sources cited in the Draft EIR.

G. LEVELS OF SIGNIFICANCE

This EIR uses a variety of terms to describe the levels of significance of adverse impacts identified during the course of the environmental analysis. The following are definitions of terms used in this EIR:

- **No Impact:** There is no impact that would apply based on the project as described or based on project-specific standards or general standards.
- **Less Than Significant Impact:** Impacts that are adverse, but that do not exceed the specified standards of significance.
- **Potentially Significant Impact:** Significant impacts that may ultimately be determined to be less than significant; the level of significance may be reduced in the future through further definition of the project detail. Potentially significant impacts may also be impacts about which there is not enough information to draw a final conclusion; however, for the purpose of this EIR, they are considered significant. Such impacts are equivalent to significant impacts and require the identification of feasible mitigation measures.
- **Significant Impact:** Impacts that exceed the defined standards of significance and that can be eliminated or reduced to a less than significant level through the implementation of feasible mitigation measures.
- **Significant and Unavoidable Impact:** Impacts that exceed the defined standards of significance and that cannot be eliminated or reduced to a less than significant level through the implementation of feasible mitigation measures.

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II. EXECUTIVE SUMMARY

A. INTRODUCTION

This summary is intended to highlight the major areas of importance in the environmental analysis for the proposed Project as required by Section 15123 of the CEQA Guidelines. The summary includes a brief description of the Project, the Project objectives, areas of controversy/issues to be resolved, and a summary of alternatives to the proposed Project. In addition, this section provides a table summarizing: (1) potential environmental impacts that would occur as a result of the proposed Project; (2) the level of significance of the environmental impacts prior to implementation of any applicable mitigation measures; (3) the recommended mitigation measures and/or project requirements that avoid or reduce significant environmental impacts; and (4) the level of significance after mitigation measures are implemented (refer to Table II-1, Summary of Impacts/Mitigation Measures at the end of this section).

B. PROPOSED PROJECT

The Sacred Heart Schools Master Plan is not a Town of Atherton regulatory land use plan, but is a Master Plan as conceived by Sacred Heart Schools to guide construction and maintenance of their campus and educational facilities to meet their educational goals. The 2009 Sacred Heart Schools Master Plan Update (Project) proposes demolition, construction, renovation, and site improvements on the Project site to accommodate an additional 114 students on the campus, from the current 1,082 students to a maximum enrollment of approximately 1,196 students. This enrollment would be accommodated incrementally in the Elementary, Middle, and Sacred Heart Preparatory schools, with the bulk of the new enrollment potentially occurring in the Middle School and Sacred Heart Preparatory. These new facilities and improvements would provide the flexibility for the school to increase its enrollment. For the purposes of analyzing the most aggressive foreseeable growth scenario in the EIR, a maximum enrollment number of 1,196 students is being used with a planning horizon of five years; however, please note that SHS does not foresee the enrollment reaching 1,196 in the next five years.

The Project would include relocation of the St. Joseph's Campus and construction of new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance.

C. PROJECT OBJECTIVES

The overall goal of the Sacred Heart Master Plan is the orderly and systematic expansion of the existing Sacred Heart Campus at the elementary and high school facilities.

The objectives of the Project, as stated by Sacred Heart Schools, are as follows:

Sacred Heart Master Plan

- Preserve the beauty of the campus environment.
- Create a safe and secure environment for campus students, faculty and visitors.
- Construct new facilities and improvements that will provide the flexibility for the school to increase its enrollment in accordance with projected enrollment demand for Sacred Heart, both in the short-term and long-term.
- Enhance the pedestrian friendly environment within the campus.
- Effectively disperse traffic on and off campus with as minimal impact on neighboring streets as possible.
- Realign SHP playing fields to minimize the potential for hazards associated with dangerous overlap of fields and impact on aquatic center spectators.
- Improve the safety of vehicular entrances/exits.

St. Joseph's School

- Plan and develop the campus to facilitate faculty-student interaction, encourage collaboration within groups and across grade levels for ease and enjoyment of use of academic and other school facilities, and create an environment conducive to learning.
- Create an environment that will deliver the best possible student experience through a campus design that will provide space for all school assemblies, courtyards with seating, playgrounds, fields and two outdoor basketball courts.
- Provide consistent classroom sizes and an adequate number of classrooms to integrate 21st Century technology, learning and flexibility.
- Model environmental stewardship by improving energy efficiency and sustainability of school facilities.
- Provide a designated "sacred space" or small chapel area for quiet reflection on the St. Joseph's campus.
- Reduce project-generated vehicle trips on Emilie Avenue.
- Improve lighting and ventilation in classrooms.
- Provide state-of-the-art structurally safe and fire code compliant classrooms.

- Provide ADA compliant restrooms.

- Provide for upgraded and adequate utilities.

D. SIGNIFICANT EFFECTS

CEQA requires a discussion of potentially significant environmental changes that could result from the Project. The Project would result in significant impacts to air quality, biology, noise, and traffic. However, all of these impacts would be mitigated to less than significant upon implementation of mitigation measures. . See Table II-1 for a summary of Project impacts and mitigation measures.

E. AREAS OF CONTROVERSY

Areas of controversy for the project include traffic/circulation and aesthetics.

F. ALTERNATIVES

Three alternatives were analyzed that would feasibly attain most of the basic project objectives, but would avoid or substantially lessen some of the significant effects of the Project. These alternatives include the following:

- **Alternative 1: No Project/Buildout under the Existing Master Plan Alternative** Under Alternative 1: No Project/Buildout under the Existing Master Plan Alternative, the April 2008 SHS Master Plan would remain in effect. The April 2008 SHS Master Plan includes projects that have been completed (Science and Student Life Center (SSLC), Sigall Building renovations, formal entry to the football, tennis, and track area) and many projects that were not completed and were carried over and included in the proposed Project. Under Alternative 1, these projects would be completed and (similar to the Project) would include demolition and reconstruction of the St. Joseph's campus in approximately the same location as the existing school buildings, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Under Alternative 1, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

- **Alternative 2: No Project/No Build Alternative.** Alternative 2 assumes that the project site would remain in its current condition and would not be subject to development. Per *CEQA Guidelines* 15126.6(e), the No Project/No Build Alternative is considered to compare the impacts of approving the proposed project to not approving the project. Under Alternative 2, there would be no construction of the St. Joseph's Campus, St. Joseph's Campus parking lot, or extension of the Elena Avenue parking lot, or sports field realignments. Additionally, there would be no pedestrian or vehicular improvements or any other changes to the SHS Campus. Under Alternative 2, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

- **Alternative 3: Revised Site Plan Alternative.** Alternative 3, the Revised Site Plan Alternative would include all the SHS Master Plan improvements, but with a revised site plan for the St. Joseph's reconstruction. St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane. Under Alternative 3, the increase in students would be the same as under the Project (1,196 students).
- **Alternative 4: Reduced Enrollment Alternative.** Under Alternative 4, all SHS Master Plan improvements would be constructed. St. Joseph's Campus would be relocated and reconstructed with new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, the new parking lot to serve St. Joseph's would be constructed, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance would occur. However, enrollment increases would be limited to 57 students, which represents an approximately 50 percent reduction in the maximum projected enrollment. These students would be spread throughout the Lower, Middle, and Sacred Heart Preparatory School for a total maximum enrollment of 1,139.

G. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table II-1 summarizes the various environmental impacts associated with the Project; includes the mitigation measures recommended to reduce or avoid the environmental impacts; and identifies the level of impact significance after mitigation.

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
AESTHETICS			
Impact AES-:1 Implementation of the proposed Project would not have a substantial adverse effect on a scenic vista.	No Impact	None Required	No Impact
Impact AES-2: Implementation of the proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less Than Significant	None Required	Less Than Significant
Impact AES-3: Implementation of the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings.	Less Than Significant	None Required	Less Than Significant
Impact AES-4: Implementation of the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less Than Significant	None Required	Less Than Significant
AIR QUALITY			
Impact AQ-1: Implementation of the proposed Project would not conflict with the applicable air quality plan.	Less Than Significant	None Required	Less Than Significant
Impact AQ-2: Implementation of the proposed Project would not violate an air quality standard.	Significant	Implementation of the following measures would reduce airborne dust by reducing and controlling loose soils in areas subject to dust creating activity. As a condition of the construction contracts, the Project sponsors shall require that construction contractors follow these construction practices: a. Water all active construction areas at least twice daily. b. Cover all trucks hauling soil, sand, and other	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		loose materials or require all trucks to maintain at least two feet of freeboard. c. Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction sites. d. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction sites. e. Sweep public streets adjacent to construction sites daily (with water sweepers) if visible soil material is carried onto the streets. f. Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.). h. Limit traffic speeds on unpaved roads to 15 miles per hour. i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. j. Replant vegetation in disturbed areas as soon as possible. k. Wash off the tires or tracks of all trucks and equipment leaving the construction site. l. Install wind breaks at the windward sides of the construction areas	

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		m. Suspend excavation and grading activities when wind (as instantaneous gusts) exceeds 25 miles per hour.	
Impact AQ-3: Implementation of the proposed Project would not expose sensitive receptors to substantial pollutants.	Less Than Significant	None Required	Less Than Significant
Impact AQ-4: Implementation of the proposed Project would not create objectionable odors.	Less Than Significant	None Required	Less Than Significant
Impact AQ-5: Implementation of the proposed Project is not inconsistent with applicable guidance documents issued in furtherance of AB 32 to date, including the 2006 CAT Report and the ARB Scoping Plan.	Less Than Significant	None Required	Less Than Significant
BIOLOGICAL RESOURCES			
Impact BIO-1: Implementation of the proposed Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species.	Significant	**Mitigation Measure BIO-1:** In order to reduce impacts to nesting birds, the following mitigation measures shall be implemented: • Any active raptor or other nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for raptor nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following: a) If grading is scheduled during the active nesting period (March through August), a qualified	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		wildlife biologist shall conduct a pre-construction nesting survey no more than 14 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity. b) If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with CDFG and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet shall be established for raptors and 100 feet for other birds within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated (e.g. high visibility fencing, staking or flagging), and construction personnel restricted from the area. c) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Town of Atherton and CDFG prior to initiation of grading in the nest-setback zone.	
Impact BIO-2: Implementation of the proposed Project would not have a substantial adverse effect on any	No Impact	None Required	No Impact

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
riparian habitat or other sensitive natural community.			
Impact BIO-3: Implementation of the proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.	No Impact	None Required	No Impact
Impact BIO-4: Implementation of the proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site.	No Impact	None Required	No Impact
Impact BIO-5: Implementation of the proposed Project would conflict with any local policies or ordinances protecting biological resources.	Significant	Mitigation Measure BIO-5: In order to reduce impacts to Heritage trees, the following mitigation measures shall be implemented: The following mitigation measures represent a summary of the requirements of The Town of Atherton Tree Preservation Guidelines, Standards and Specifications (The Guide) as well as information provided in the Tree Reports and Tree Protection and Preservation Plans prepared for the Project areas and are recommended to avoid or minimize impacts to trees that may be affected by Project development. The complete Guide can be found in Appendix G and should be followed by the applicant and applicant's consultants and construction contractors. Avoidance and Minimization of Impacts • The Project arborist shall follow or accompany the survey crews no less than three days prior to the commencement of grading in order to	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		confirm impacts to trees scheduled to be removed and to confirm avoidance of trees schedule for preservation. Should any adjustments to the total impact figures be necessary, the Project arborist shall immediately notify the Project proponent and the Project developer, which shall notify the Town of the revision. • The Project arborist shall identify and clearly mark the tree's Tree Protection Zone (TPZ) in the field. • The Project arborist shall ensure that protective fencing is installed around the perimeter of the tree's TPZ. The fence shall be a chain link fence with 6 foot high, minimum 12 gauge chain link fence. Fences are to be mounted on a 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing (See detail in Appendix III of The Guide). The Project arborist shall identify all trees requiring temporary fencing and shall verify that the fences are in place prior to commencement of grading operations within 20 feet of the dripline of any tree not scheduled for removal in the permit issued by the Town. • Tree fencing shall remain in place until the Town Arborist approves the removal • A warning sign shall be prominently displayed on each fence (See Appendix IV of The Guide). Signs are available at the Building Department. • Construction contract specifications shall require that no stockpiled soils, building material,	

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		parked equipment or vehicles shall be stored within the fenced TPZ areas. • Construction contract specifications shall include provision for temporary irrigation/watering and feeding of these trees, as recommended by a qualified arborist. • The Project's arborist shall ensure the placement of four-inches of wood-chip mulch over the ground surface within the TPZ, leaving the trunk clear of mulch. • When areas within the TPZ cannot be fenced, a Root Buffer is required and shall cover the root zone. • Should any protected tree's branches overlap the outer edge of the Project Grading Area and require pruning in order to allow grading to proceed, the pruning shall be performed or supervised by the Project arborist or certified arborist. • If trenching or pipe installation has been approved within the TPZ, then the trench shall be either cut by hand, air spade, or by mechanically boring the tunnel under the roots with a horizontal directional drill and hydraulic or pneumatic air excavation technology. In all cases, install the utility pipe, immediately backfill with soil and soak within the same day. • Any damage or injury to trees shall be reported within 6 hours to the Project Arborist and Town Arborist so that mitigation can take place. All mechanical or chemical injury to branches, trunk or to	

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		roots over 20inches in diameter shall be reported in the Monthly Inspection Report (refer to Section 2.05 of The Guide). • A mitigation program is required if the approved development will cause drought stress, dust accumulation or soil compaction to trees that are to be saved. Injury Mitigation guidelines shall be strictly adhered to in order to reduce impacts (refer to Section 2.04 of The Guide). • No other onsite trees to be preserved shall be encroached upon within their TPZ other than what is being described in the Tree Protection and Removal Plan unless approved by the Town Arborist. • No landscape, irrigation lines, utility lines and/or grade changes shall be designed and/or installed within the TPZ of any trees to be preserved, unless approved by the Town Arborist. • Weed Control – the use of soil sterilizers shall be prohibited under and around any trees to be preserved. Sterilizers may leach into the root system and kill the tree. Use of pre-emergent weed killers shall be prohibited within 100 feet of any individual trees to be preserved. • All work to this Project's Heritage trees shall be in accordance with the Town of Atherton's Heritage Tree Ordinance and specific treatment for Heritage Trees set forth in The Guide. • Examination of the trees to be preserved shall be performed monthly by a qualified arborist to insure	

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		that they are being adequately protected and maintained. Prior to the completion of the proposed Project, a qualified arborist shall certify that all concerned tree policies have been adhered to. • Copies of the proposed Project's Tree Report and the Town of Atherton Tree Preservation Guidelines Standards and Specifications shall be maintained onsite during all Project construction. **Mitigation Planting Program** In addition to the above listed mitigations, Project landscape architects have developed a Mitigation Planting Program to mitigate the loss of site trees due to implementation of the Project as follows: The St. Joseph's portion of the Project is proposing 47 replacement trees for impacts to 21 Heritage trees. All Heritage oaks shall be replaced with 48" boxed coast live oak (Quercus agrifolia) at a 1:1 replacement ratio. All other species of Heritage trees shall be replaced with 15 gallon Q. agrifolia at a 3:1 replacement ratio in accordance with the Town of Atherton Heritage Tree Ordinance (Chapter 8.10). For the 41 additional ornamental trees that shall be impacted, 101 replacement plantings are planned (see Planting plans for sizes, species and locations). The West Fields portion of the Project is proposing no impacts to Heritage trees. For the 58 ornamental trees that will be impacted, 17 24" box California sycamore (Platanus racemosa) and 2 valley oak (Quercus lobata) replacement plantings are planned. In addition, 5	

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		mature fruiting olive (Olea europaea) would be relocated (see Planting plans for sized, species and locations). As discussed above, prior to mitigation, the proposed impact to as many as 21 Heritage trees and 101 ornamentals site wide would constitute a potentially significant impact. Over the long-term (i.e., 10 years), the implementation of the conceptual Mitigation Planting Program would be sufficient to mitigate the proposed Project impacts on Heritage trees and other site trees. Over a period of 10 years, the growth of the replacement oaks and sycamores would be sufficient to provide seed production and nesting opportunities in the replacement tree stock to compensate fully for the loss of the mature trees proposed for removal. However, over the short-term, it is anticipated that, even with the implementation of the conceptual Mitigation Planting Program, the impact to Heritage trees would remain significant due to the loss of canopy coverage, seed production and nesting opportunities. As discussed in the preceding paragraph, this near-term significant impact should be mitigated to a less than significant level within 10 years following the completion of the conceptual Mitigation Planting Program.	
Impact BIO-6: Implementation of the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional,	No Impact	None Required	No Impact

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
or state habitat conservation plan.			
LAND USE AND PLANNING			
Impact LU-1: Implementation of the proposed Project would not physically divide an established community.	No Impact	None Required	No Impact
Impact LU-2: Implementation of the proposed Project would not conflict with any applicable land use policy.	No Impact	None Required	No Impact
Impact LU-3: Conflict with any Applicable Habitat Conservation Plan or Natural Community Plan.	No Impact	None Required	No Impact
NOISE			
Impact NOISE-1: Implementation of the proposed Project would result in construction noise that would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Significant	Mitigation Measure NOISE-1: In order to reduce noise impacts, the following mitigation measures shall be implemented: • Notify neighboring residences of the schedule for heavy construction activities (such as demolition, grading and foundations). • To the extent practical, schedule the noisiest phases of construction (demolition, grading and foundations) during periods when students will not be occupying the closest classrooms to the construction areas (e.g. summer and seasonal breaks). • If it is not practical to schedule the heavy construction and demolition activities during summer months, work with the Town to evaluate the acceptability of working on some weekends, particularly for noisy activities that will occur close to classrooms. At these locations, equipment will be relatively far from homes and the noise would be	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		further reduced by the acoustical shielding provided by the classroom buildings. • To the extent feasible, erect 8-foot tall continuous plywood barriers between the occupied school classrooms and the heavy construction activities. • Schedule construction, as feasible, so that the new structures can be partially finished for use as a noise buffer. • Ensure that mufflers in good condition are installed on internal combustion engine-equipment; • Locate stationary equipment such as generators and compressors away from nearby sensitive land uses (i.e., residences and classrooms). • Perform noisy procedures at an off-site location, as practicable. • Designate a site noise disturbance coordinator whose name will be prominently displayed in signage on the site. The coordinator will be responsible to address neighborhood and school concerns regarding noise and take appropriate actions, where feasible, to reduce noise levels.	
Impact NOISE-2: Implementation of the proposed Project would not result in exposure of persons to or generation of noise in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Less Than Significant	None Required	Less Than Significant
Impact NOISE-3: Implementation of the proposed	Less Than	None Required	Less Than

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
Project would not cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels without the Project.	Significant		Significant
Impact NOISE-4: Implementation of the proposed Project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	Less Than Significant	None Required	Less Than Significant
TRANSPORTATION/TRAFFIC			
Impact TRAF-1: 2014 Intersection Level of Service Impacts 1A. Valparaiso Avenue/Emilie Avenue	Significant	Mitigation Measure TRAF-1A: (Valparaiso Avenue/Emilie Avenue Level of Service and Delay Impact) ALTERNATIVE A. Add a second lane on the Emilie Avenue intersection approach. Stripe the approach for one left and one right turn lane. (Reduces impact to level of insignificance,) ALTERNATIVE B. Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Emilie Avenue. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than Alternative A.) ALTERNATIVE C. Combine Alternatives A&B. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than A or B individually.)	Less Than Significant
Impact TRAF-1: 2014 Intersection Level of Service Impacts	Significant	ALTERNATIVE A. Add a second lane on the Elena Avenue intersection approach. Stripe the approach for	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
1B. Valparaiso Avenue/Elena Avenue		one left and one right turn lane. (Reduces impact to level of insignificance). ALTERNATIVE B. Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Elena Avenue. (Reduces impact to level of insignificance. Provides a greater improvement in traffic flow than Alternative A.) ALTERNATIVE C. Combine Alternatives A&B. (Reduces impact to level of insignificance. Provides a greater improvement in traffic flow than A or B individually.) ALTERNATIVE D. Signalize the intersection and provide a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach. (Reduces impact to level of insignificance. Does not require Alt. A or C; requires the “left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach” portion of B.	
Impact TRAF-1: 2014 Intersection Level of Service Impacts 1C. Valparaiso Avenue/Johnson Street	Significant	ALTERNATIVE A. Widen the Johnson Street intersection approach to provide room for a right turning vehicle to separate from a left turning vehicle. (Reduces impact to level of insignificance.) ALTERNATIVE B. Add a refuge area in the median area of Valparaiso Avenue just west of the intersection to assist left turns from Johnson Street (Reduces impact to level of insignificance. Provides a greater improvement in traffic flow than Alternative A.)	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact TRAF-2: 2014 Intersection Signal Warrant Impacts 2A. Valparaiso Avenue/Emilie Avenue	Less Than Significant		None Required
Impact TRAF-2: 2014 Intersection Signal Warrant Impacts 2B. Valparaiso Avenue/Elena Avenue	Significant	Mitigation Measure 1B is the recommended mitigation. (Alternative A or B or a combination of A&B if remaining unsignalized and Alternative D if signalized.) ALTERNATIVE A. Add a second lane on the Elena Avenue intersection approach. ALTERNATIVE B. Add a left turn deceleration lane on the eastbound Valparaiso Avenue approach as well as a refuge area in the median of Valparaiso Avenue just east of the intersection to assist left turns from Elena Avenue. ALTERNATIVE C. Combine Alternatives A & B. ALTERNATIVE D. Signalize and add a left turn deceleration lane on the Valparaiso Avenue eastbound approach.	Less Than Significant
Impact TRAF-3: 2014 Local Road Impacts 3A. Emilie Avenue – North of Park Lane 3B. Elena Avenue – North of Valparaiso Avenue 3C. Elena Avenue – North of Park Lane	Significant	Mitigation Measures TRAF-3A to 3C: (Emilie Avenue and Elena Avenue Local Street Impacts) Mitigation Measures 1A and 1B (Valparaiso Avenue/Emilie Avenue and Valparaiso Avenue/Elena Avenue intersections) would provide acceptable mitigation for Project traffic impacts to Emilie Avenue and Elena Avenue.	Less Than Significant
Impact TRAF-3: 2014 Local Road Impacts 3D. Park Lane – Between Emilie & Elena Avenues	Significant	Mitigation Measures TRAF-3D & 3E (Park Lane Local Street Impacts) The Town of Atherton has directed based upon General	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
3E. Park Lane – West of Elena Avenue		Plan Circulation Element direction that no widening be considered for Park Lane. However, improvements to Park Lane intersections would be acceptable mitigation. Add a second lane to the southbound Elena Avenue approach to the Park Lane all-way stop intersection.	
Impact TRAF-4: 2030 Intersection Level of Service Impacts 4A. Valparaiso Avenue/Emilie Avenue	Significant	Mitigation Measure TRAF-4A: (Valparaiso Avenue/Emilie Avenue Level of Service and Delay Impact) ALTERNATIVE A. Add a second lane on the Emilie Avenue intersection approach. Stripe the approach for one left and one right turn lane. (Reduces impact to level of insignificance,) ALTERNATIVE B. Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Emilie Avenue. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than Alternative A.) ALTERNATIVE C. Combine Alternatives A&B. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than A or B individually.)	Less Than Significant
Impact TRAF-4: 2030 Intersection Level of Service Impacts 4B. Valparaiso Avenue/Elena Avenue	Significant	Mitigation Measure 4B (Valparaiso Avenue/Elena Avenue Level of Service & Delay Impact) ALTERNATIVE A. Add a second lane on the Elena Avenue stop sign controlled approach. Stripe the	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		approach for one left and one right turn lane. ALTERNATIVE B. Add a left turn deceleration lane on the Valparaiso Avenue eastbound intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Elena Avenue. ALTERNATIVE C. Combine Alternatives A & B.	
Impact TRAF-4: 2030 Intersection Level of Service Impacts 4C. Park Lane/Elena Avenue	Significant	Add a second lane to the southbound Elena Avenue intersection approach. (Reduces impact to level of insignificance.	Less Than Significant
Impact TRAF-4: 2030 Intersection Level of Service Impacts 4D. Valparaiso Avenue/Johnson Street	Significant	Mitigation Measure 4C (Valparaiso Avenue/Johnson Street Level of Service & Delay Impact) ALTERNATIVE A. Widen the Johnson Street intersection approach to provide room for a right-turning vehicle to separate from a left-turning vehicle. ALTERNATIVE B. Add a refuge area in the median of Valparaiso Avenue just west of the intersection to assist left turns from Johnson Street.	Less Than Significant
Impact TRAF-5:2030 Intersection Signal Warrant Impacts 5A. Valparaiso Avenue/Emilie Avenue	Less Than Significant	None Required	Less Than Significant
Impact TRAF-5:2030 Intersection Signal Warrant Impacts 5B. Valparaiso Avenue/Elena Avenue	Significant	Mitigation Measure 5B (Valparaiso Avenue/Elena Avenue Signal Warrant Impact) Mitigation Measure 4B is the recommended mitigation. (Alternative A or B or a combination of A&B if remaining unsignalized and Alternative D if signalized.)	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		ALTERNATIVE A. Add a second lane on the Elena Avenue intersection approach. ALTERNATIVE B. Add a left turn deceleration lane on the eastbound Valparaiso Avenue approach as well as a refuge area in the median of Valparaiso Avenue just east of the intersection to assist left turns from Elena Avenue. ALTERNATIVE C. Combine Alternative A & B. ALTERNATIVE D. Signalize and add a left turn deceleration lane on the eastbound Valparaiso Avenue approach.	
Impact TRAF- 6: 2030 Local Road Impacts 6A. Emilie Avenue – North of Park Lane 6B. Elena Avenue – North of Valparaiso Avenue 6C. Elena Avenue – North of Park Lane	Significant	The Town of Atherton has directed that no widening be considered for either Elena Avenue or Emilie Avenue. However, they have also directed that intersection improvements along each roadway that would reduce delay and improve level of service would be considered adequate mitigation for any Project volume increases along local streets where Base Case daily volumes would already be greater than 1,000 vehicles. Mitigation Measures 4A and 4B (Valparaiso Avenue/Emilie Avenue and Valparaiso Avenue/Elena Avenue intersections) would provide acceptable mitigation for Project traffic impacts to Emilie Avenue and Elena Avenue.	Less Than Significant
Impact TRAF- 6: 2030 Local Road Impacts 6D. Park Lane – Between Emilie & Elena Avenues 6E. Park Lane – West of Elena Avenue	Significant	Mitigation Measure 6D to 6E (Park Lane Local Street Impacts) The Town of Atherton has directed that no widening be considered for Park Lane. However, improvements to Park Lane intersections would be acceptable	Less Than Significant

Table II-1
Summary of Impacts/Mitigation Measures

Environmental Impacts	Level of Significance Prior Mitigation	Mitigation Measures	Level of Significance After Mitigation
		mitigation. Add a second lane to the southbound Elena Avenue approach to the Park Lane all-way stop intersection.	
Impact TRAF-7: Construction Traffic Impacts	Significant	Mitigation Measure 7: Construction Traffic Impacts The applicant shall develop and get approval from the Town of Atherton Public Works Department for a construction/demolition traffic management plan before inception of any work. Project truck traffic or oversize vehicle activity shall be limited to the hours between 8:30 AM and 3:00 PM. The Town of Atherton Public Works Department and the school shall document pavement conditions on Park Lane and Elena Avenue before and after the Project. The applicant shall be responsible for repair of any pavement degradation due to Project truck activity.	Less Than Significant
Impact TRAF-8: Substantially Increase Hazards due to a Design Feature	Less Than Significant	None Required	Less Than Significant
Impact TRAF-9: Result in Inadequate Emergency Access	Less Than Significant	None Required	Less Than Significant
Impact TRAF-10: Result in a Change in Air Traffic Pattern	Less Than Significant	None Required	Less Than Significant
Source: Sacred Heart Schools Master Plan EIR, 2010.			

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III. PROJECT DESCRIPTION

A. OVERVIEW OF ENVIRONMENTAL SETTING

This section of the Draft EIR provides a brief overview of the Project site's existing regional and local setting. Additional descriptions of the environmental setting as it relates to each of the environmental issues analyzed in Section IV (Environmental Impact Analysis) of this EIR are included in the environmental setting discussions contained within Sections IV.B through IV.G.

Regional and Local Setting

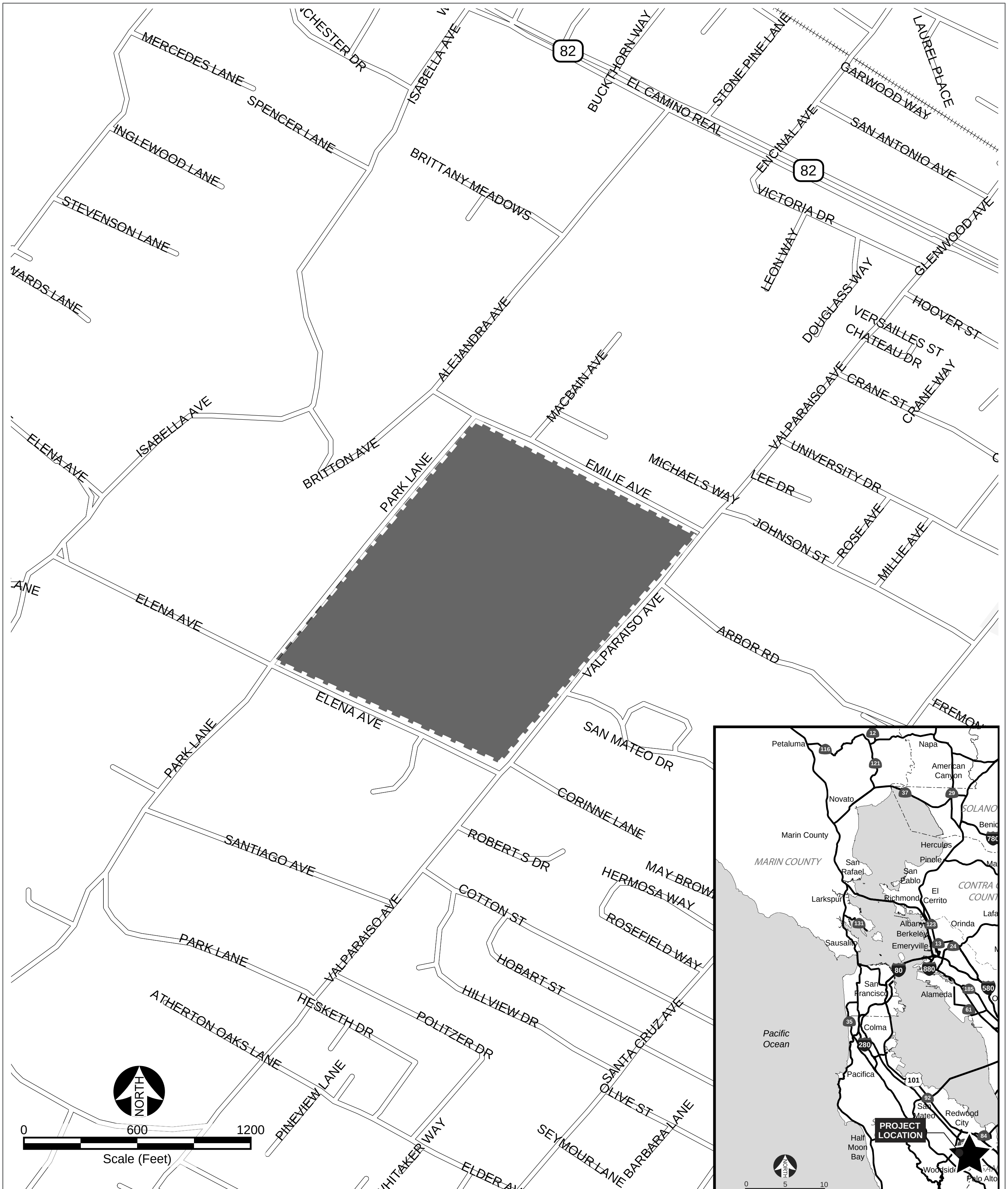
The Sacred Heart Schools campus (Project site) is located in the Town of Atherton in San Mateo County, approximately thirty miles south of San Francisco and twenty miles north of downtown San Jose, on the San Francisco peninsula. The Sacred Heart Schools (SHS) has as its origins a 40-acre boarding school founded, by members of the Society of the Sacred Heart of Jesus, in 1898 in what is now Atherton. The SHS included a college division in the 1920s and currently is a coeducational day school for preschool through 12th grade students.

The Project site is located 2 miles south of U.S. Route 101 and 2 miles north of Interstate-280 (I-280) and is bounded by Valparaiso Avenue to the southeast, Emilie Avenue to the northeast, Park Lane to the northwest, and Elena Avenue to the southwest. Local access is currently provided from Valparaiso, Emilie, and Elena Avenues, as well Park Lane. Regional access is provided from U.S. 101 and I-280. Figure III-1 illustrates the regional and Project site location. A map of the Project site is shown in Figure III-2.

Project Site

The Sacred Heart Schools campus includes the St. Joseph's School of the Sacred Heart, consisting of the Montessori, Lower and Middle Schools, and the Sacred Heart Preparatory, consisting of the High School. The entire Project site is developed with school buildings, parking lots, interior roadways, pedestrian and bicycle facilities, a pool, athletic fields, and landscaping. Some residential buildings are located near the middle of the site that house retired nuns. The Project site is comprised of approximately 64 acres. Existing instructional buildings for the Montessori, Lower, and Middle School (grades preschool through 8) are located primarily in the northern part of the campus. The high school division, Sacred Heart Preparatory, is located in the central part of the campus.

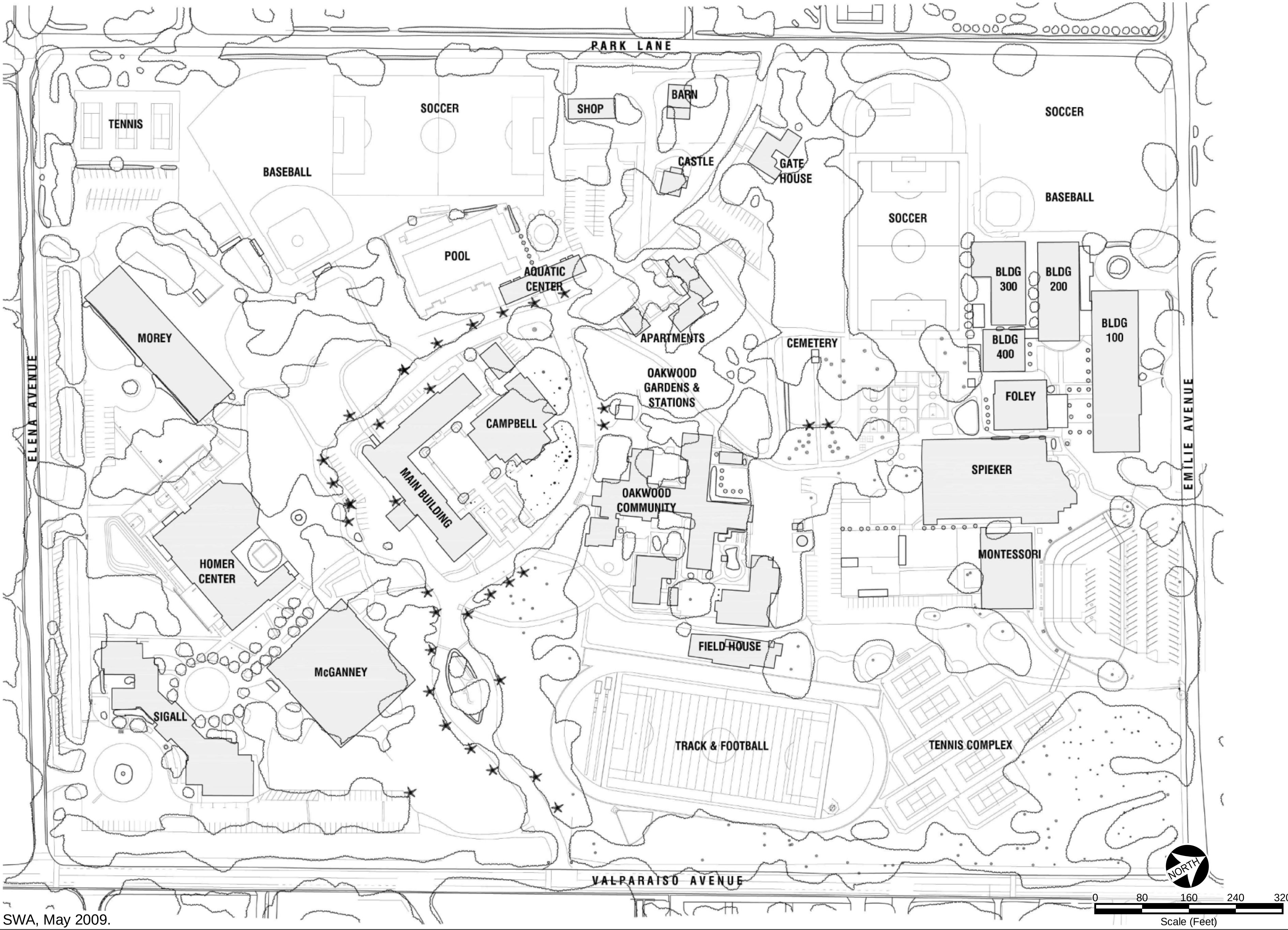
Instructional facilities are surrounded by landscaping, heritage trees, a Performing Arts Center, and various athletic fields. Physical education facilities are located on the outer portions of the campus and include five athletic fields, an Olympic-size swimming pool, an all-weather track, a tennis complex, and two gymnasiums. The home for the elderly religious known as Oakwood is located near the center of the campus.



Source: Tele Atlas, Christopher A. Joseph & Associates, October 2009.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure 1
Regional and Project Site Location



Source: SWA, May 2009.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure III-2
Existing Sacred Heart Schools Campus Map

The Project site is designated as Public Facilities and Schools in the Town of Atherton General Plan and zoned as Public Facilities and Schools (PFS). Views of the Project site and a corresponding photo location map are shown in Figure III-3 through Figure III-8.

Surrounding Land Uses

The Project site is located in a predominately suburban residential area. The property is bounded by Valparaiso Avenue and the Church of Latter Day Saints to the south, single-family residential properties to the east and west, and the Menlo Circus Club (a country club and equestrian facility) and single family residential to the north.

B. SACRED HEART SCHOOLS 2009 MASTER PLAN UPDATE

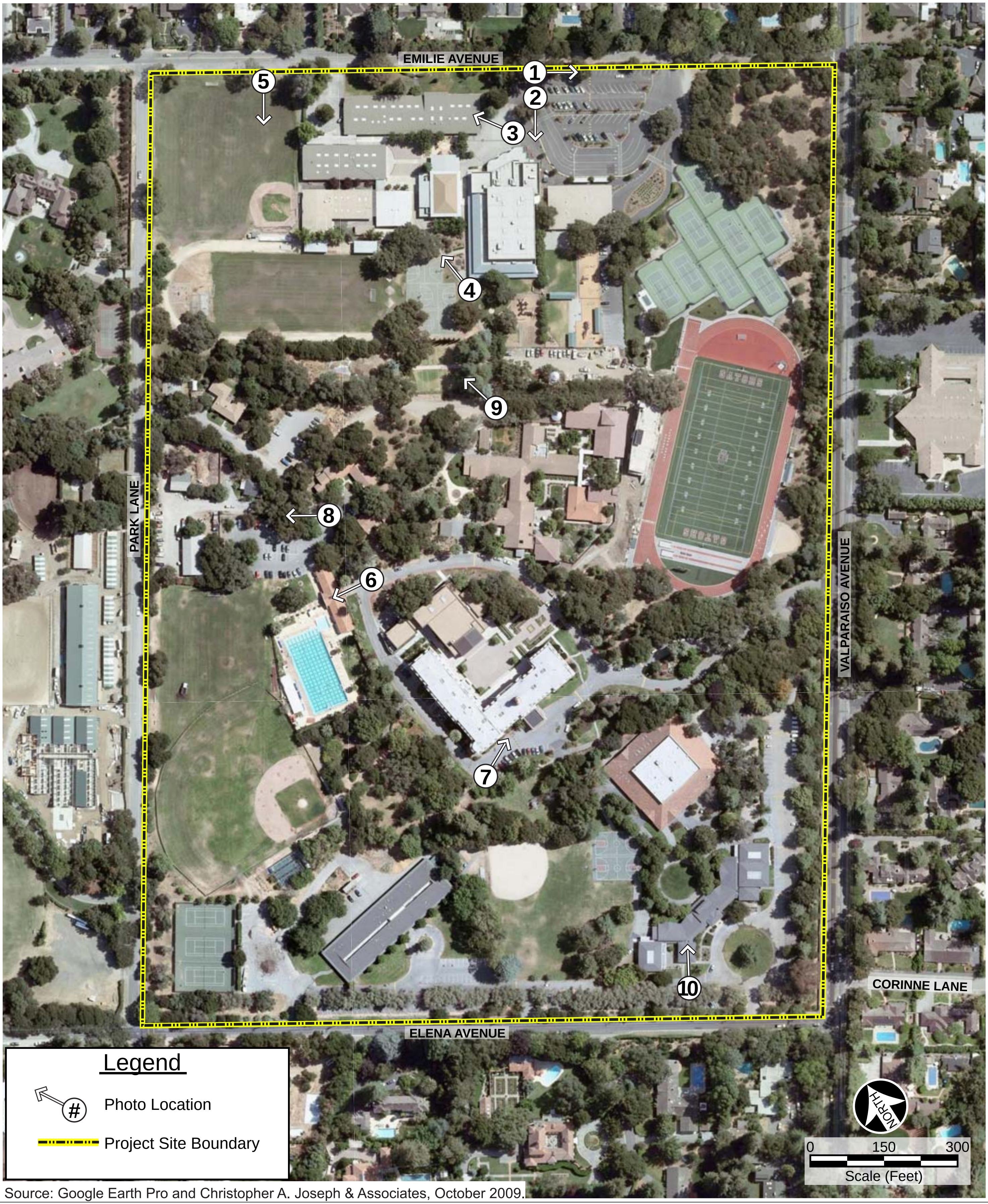
Sacred Heart Schools prepared a Master Plan Update in Fall 2009 as part of an assessment of improvements to their facilities. The Master Plan Update is based on research of the existing condition of SHS facilities and summarizes projects accomplished to date. The Master Plan Update describes the various projects needed to meet the instructional needs of SHS and maintain the campus facilities, including maintaining the health of campus trees, enhancing overall campus safety and security by improving campus entryways, improving pedestrian and vehicular pathways, mitigating traffic flow problems and replacing the lower and middle school buildings, relocating parking, improving storage facilities, and other campus improvements.

Planning Background

The Sacred Heart Schools Master Plan is not a Town of Atherton regulatory land use plan, but is a Master Plan as conceived by Sacred Heart Schools to guide construction and maintenance of their campus and educational facilities to meet their educational goals. Private schools in Atherton are requested to submit Campus Master Plans to the Town for public informational purposes.[1] Therefore, the Master Plan would not become part of the Town's General Plan or land use planning policy.

Sacred Heart Schools prepared a Master Plan in April 2008. The April 2008 SHS Master Plan included projects to accommodate a maximum enrollment of 1,250 students. The April 2008 SHS Master Plan included projects that have been completed (Science and Student Life Center (SSLC), Sigall Building renovations, formal entry to the football, tennis, and track area) and many projects that were not completed and were carried over to the proposed Project.

[1] *Town of Atherton General Plan,1.550 Schools, Page LU-6 and Town of Atherton Municipal Code, 17.36.030.*



Source: Google Earth Pro and Christopher A. Joseph & Associates, October 2009.

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Figure III-3
Photograph Location Map

View 1: St. Joseph's Campus Entry and Surrounding Area, Looking East on Emilie Avenue.

View 2: St. Joseph's Drop-Off Area and Pre-School School Entry.

Source: Christopher A. Joseph & Associates, 2010.

View 3: St. Joseph's Campus, Building 100.

View 4: Looking Towards St. Joseph's Campus from Center of Campus.

Source: Christopher A. Joseph & Associates, 2010.

View 5: Playfields at Emilie Avenue and Park Lane, Looking West.

View 6: Aquatic Center Entry.

Source: Christopher A. Joseph & Associates, 2010.

View 7: Main Building Entry.

View 8: Main Drive, Center of Campus Looking West Towards Park Lane.

Source: Christopher A. Joseph & Associates, 2010.

Figure III-7
Views 7 and 8

View 9: Cemetery, Near Center of Campus Looking Northwest.

View 10: View of Sigall Hall from Elena Avenue Parking Area.

Source: Christopher A. Joseph & Associates, 2010.

An Initial Study/Mitigated Negative Declaration (IS/MND) was certified for the Science and Student Life Building Project on January 2, 2008. The IS/MND also analyzed the impacts of the demolition of the Morey Building; Quadrangle landscaping improvements; renovations to the Sigall Building and McGanney Sports Center; relocation of the Preparatory School Athletic Field; and new and updated sewer, water, and other utility lines.

C. PROJECT CHARACTERISTICS

The 2009 Sacred Heart Schools Master Plan Update (Project) proposes demolition, construction, renovation, and site improvements on the Project site to accommodate an additional 114 students on the campus, from the current 1,082 students to a maximum enrollment of approximately 1,196 students. This enrollment would be accommodated incrementally in the Elementary, Middle, and Sacred Heart Preparatory schools, with the bulk of the new enrollment potentially occurring in the Middle School and Sacred Heart Preparatory. These new facilities and improvements would provide the flexibility for the school to increase its enrollment. For the purposes of analyzing the most aggressive foreseeable growth scenario in the EIR, a maximum enrollment number of 1,196 students is being used with a planning horizon of five years; however, please note that SHS does not foresee the enrollment reaching 1,196 in the next five years.

The Project would include relocation of the St. Joseph's Campus and construction of new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, a new parking lot to serve the St. Joseph's campus, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian, bicycle, and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance.

The Project does not propose any changes to the number of events or games, use of the school facilities by outside groups, or changes in hours or duration of school times or sessions.

The Project would include the following components:

- **Building Demolition.** The Project would include the demolition of the existing four single-story Lower and Middle School buildings (Buildings 100 and 200 of the Lower School [grades 1 through 5], Buildings 300 and 400 of the Middle School [grades 6 through 8], and Foley Center). Demolition of the 42,850 square feet Lower and Middle School buildings and Foley Center would occur during the summer break and would take approximately two to four weeks (Building 100 and 200 would be demolished once the new Lower School building is completed).

  Two residences, the two-bedroom Castle and the six-bedroom Gatehouse would be demolished, with the Gatehouse being relocated to another part of the campus. McGanney Sports Center would be demolished within the next five years and replaced with another gymnasium. All demolished building materials would be recycled in compliance with Town of Atherton

Municipal Ordinance Chapter 15.52. Building demolition on the SHS Campus would total approximately 92,000 square feet.

- **Building Construction.** The Project proposes the construction of an approximately 21,400 square-foot two-story Lower School and an approximately 30,850 square-foot two-story Middle School (including a one-story addition for administrative offices and Chapel) for the St. Joseph's campus. The St. Joseph's campus would be relocated from its existing location along Emilie Avenue and moved closer to Park Lane and closer to the middle of the campus. A new approximately6,360 square-foot Library, 21,900 square-foot St. Joseph's Assembly Hall and Performing Arts classrooms, Graduation Court, and Entry Court would be constructed as part of this complex. These buildings would all be one story. Building square footage constructed on the St. Joseph's campus would total approximately 99,000 square feet.

  The primary use of the St. Joseph's Assembly Hall and Performing Arts classrooms would be for day to day activities such as band, chorus, music, drama, or dance classes. The Assembly Hall would be equipped with moveable seating allowing the area to be set up for an all school liturgy (St. Joseph's students, faculty, and staff totaling 600 people) or for a grade level production with attendance of 200 to 350. The St. Joseph's Assembly Hall would also be used by parent groups for meetings and other annual events such as hosting a guest speaker for other local schools, community meetings, or annual auction.

  The McGanney Sports Center would be rebuilt in the same general area; however, the building footprint would be increased to include a practice gym and the Sports Center would be approximately 40, 000 square feet in size.

  A replacement residential building (The Gatehouse) would be constructed closer to Oakwood to house six nuns and would include a full size kitchen, a smaller kitchen, six bedrooms, and three to four bathrooms. No other changes are proposed to residential units on the Project site. New building construction on the SHS campus would total approximately 127,000 square feet for an overall increase in square footage on the Project site of approximately 35,000 square feet.

- **Sports Field Realignments.** Sports fields on the St. Joseph's campus would be realigned to accommodate the new St. Joseph's buildings. The existing track, soccer, and baseball fields would be removed and the baseball and soccer fields would be located parallel along Emilie Avenue extending from the corner of Park Lane towards Valparaiso Avenue. The three tennis courts located at the corner of Park Lane and Elena Avenue would be removed. Smaller mini courts would be added to the existing tennis courts. The location of the new courts would be between the existing courts and the Montessori playground. A softball, baseball, and soccer field located in the western part of the SHS campus would be realigned. . No lighting is proposed for any of the SHS campus sports fields. All sports fields would be covered with synthetic turf.

- **Roadway and Entry Improvements.** The Project would include improved entries at all entrances to the school, particularly the main gate at Valparaiso Avenue and an improved entry way (including separate entrance and exit) from Park Lane to the St. Joseph's campus, Sacred Heart Preparatory, the Aquatic Center, Oakwood, and the Main Building. The Project would widen the main entrance at Valparaiso Avenue and install a new gate. Additionally, the Project would remove the small circle lot along Emilie Avenue.

  Drop off and pick up for Preschool through 3rd grade students would be from the Emilie Avenue lot and drop off and pick up for 4th through 8th grade students would be relocated to the newly designed Park Lane lot. These drop-off areas would be designed to keep the majority of queued cars on the SHS grounds and off of neighboring streets.

  The drive from the main Valparaiso Avenue entry to the Sigall drop-of area near the corner of Elena and Valparaiso avenues would be realigned slightly towards the center of the campus. An existing entry to the Elena Avenue parking lot closest to Park Lane would be permanently closed. Lastly, a driveway would be constructed to access the Gatehouse from the new St. Joseph's parking lot.

- **Parking Facilities.** The St. Joseph's faculty parking would remain in the Emilie Avenue lot, which would continue to be accessed from Emilie Avenue near the existing Montessori School. A 90 to100 space parking lot for the Lower and Middle Schools would be located in front of the new St. Joseph's campus and would be accessed via Park Lane. This lot would also be used for visitor parking, Campbell Theatre parking, and overflow parking for Aquatic Center events. The existing parking lot along Emilie Avenue would be reduced by approximately 20 spaces to add a planted buffer along the lane closest to Emilie Avenue. The existing "Circle Lot" currently accessed from Emilie Avenue would be removed.

  The parking lot on Elena Avenue would be expanded closer to the corner of Elena Avenue and Park Lane. This expansion would occur following removal of the tennis courts. No new entrances are proposed and, as described above, one of the existing entrances on Elena Avenue that is closest to Park Lane would be closed. A total of 525 spaces (60 new) would be provided on the campus. Parking spaces provided per lot are shown in Table III-2.

- **Landscaping, Pedestrian, and Bicycle Improvements.** The Project would include ongoing maintenance of existing trees on the campus. Landscaping would be installed along Emilie Avenue to screen the existing parking lot and new sports fields. Some trees would need to be removed over the campus to accommodate proposed building and parking lots.

  The Project would include landscaping and hardscape improvements and pedestrian pathways on campus to provide sufficient, well-lit and identified pedestrian pathways. Any additional pathway, parking lot, or site lighting would be the same as current lighting installed on the site.

Lighting would be LEED rated for energy efficiency and appropriate for education campuses with a light level typically used for pathways.

Bicycle and pedestrian pathways would be added on the campus allowing access from the area near Park Lane and Elena Avenue between the extended parking area and realigned playfields, and near Park Lane and Emilie Avenue connecting to the St. Joseph's Campus. Fencing would be maintained in a similar style to existing fencing, although there would be some changes and upgrades to fencing in areas such as the Main Entrance and Park Lane entrance.

- **Miscellaneous Improvements.** A small (approximately 3,000 square foot) facility with changing areas/restrooms/concession stand and storage would be built centrally located to the west of the existing aquatic center.

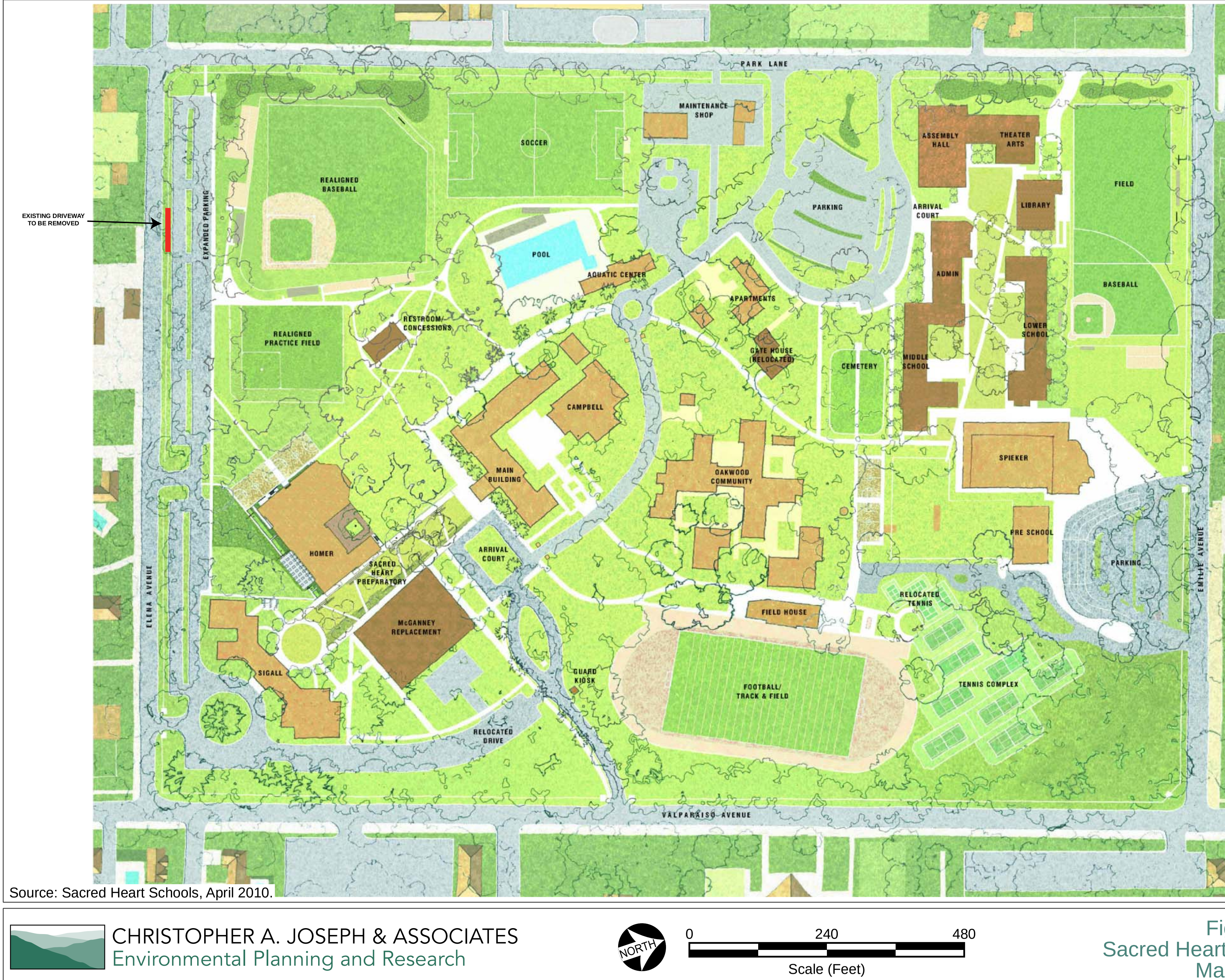
Existing and proposed building square footages for the SHS Master Plan are shown in Table III-1. Table III-2 shows other project components.

The SHS Master Plan is shown in Figure III-9. Figure III-10 illustrates the St. Joseph's site plan.

Utilities and Grading

The Project would require site preparation and grading for new buildings and installation of up to 25 portable classrooms on the current soccer and baseball field to house students for the duration of construction of St. Joseph's. A base rock foundation would be installed where the new parking lot would eventually be constructed. This site would serve as the staging area for construction. All deliveries and truck traffic would be routed along Valparaiso Avenue, then to Elena Avenue, then to Park Lane and onto campus. The Project would include various utility improvements for older sewers on the site and for new buildings including water, sewer, electrical, gas, and telecommunications.

Stormwater retention devices, including the use of bioswales and underground retention tanks, would be installed throughout the campus. Impervious sufaces on the site currently total 33 areas or approximately 46 percent of the Project site. Impervious surface area at Project completion, including 8 acres of synthetic turf playfields would total 45 acres or 70 percent of the Project site.



Source: Sacred Heart Schools, April 2010.

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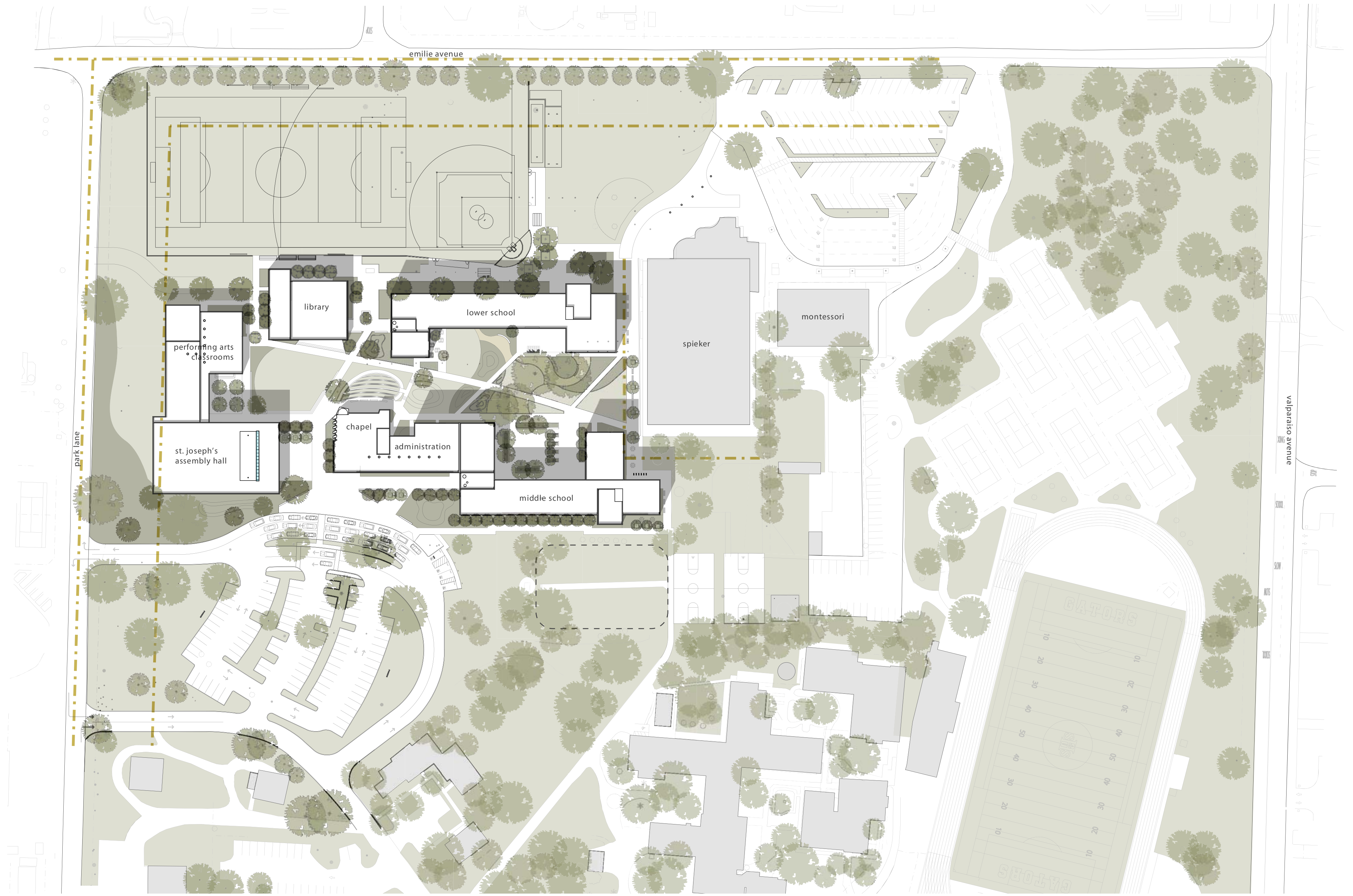
Environmental Planning and Research

Figure III-9
Sacred Heart Schools
Master Plan



Source: WRNS Studio 2010.

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Environmental Planning and Research

Figure III-10
St. Joseph's School
Site Plan

Table III-1
Sacred Heart Schools Campus
Existing and Proposed Square Footage

Building	Existing (SF)	Demolished (SF)	New Construction (SF))	Proposed (SF)
Main	68,008	—		68,008
Gym - McGanney	27,840	27,840	40,000[1]	40,000
Sigall	21,00	—		21,00
Morey	17,950	17,950[2]		—
Gate House	2,600	2,600	3,500[3]	3,500
The Castle	1,000	1,00		—
Maintenance	1,000	—		1,000
Barn–Grounds Shop	2,400	—		2,400
Montessori	7,480	—		7,480
Foley Center	5,840	5,840		—
St. Joseph's #400	4,225	4,225		—
St. Joseph's #300	7,796	7,796		—
St. Joseph's #100	17,028	17,028		—
St. Joseph's #200	7,955	7,955		—
Speiker Pavilion	31,465	—		31,465
Campbell Center	28,000	—		28,000
Aquatic Center	2,000	—		2,000
Field House	7,700	—		7,700
Science & Student Life	44,100	—		44,100
St. Joseph's Lower	—	—	21,424	21,424
St. Joseph's Middle	—	—	30,853	30,853
Library	—	—	6,363	6,363
St. Joseph's Lower Assembly Hall/Performing Arts	—	—	21,915	21,915
Concession/Restrooms	—	—	3,000	3,000
Total	**305,387**	**64,394**	**99,215**	**340,208**

[a] *Footnote:*
[1] 12,610 square feet of new constructino.
[2] Morey Hall demolition previously analyzed in Science and Student Life Building IS/MND, January 2, 2008.
[3] 900 square feet of new construction.

Source: Sacred Heart Schools, 2010.

Table III-2
Summary of Key SHS Project Components

Component	Relevant Information
Demolition on Campus	92,234 Square Feet
Construction on Campus	127,055 Square Feet
Playfields	
• St. Joseph's	Realignment of 2 Fields
• SHS Prep	Realignment of 3 Fields
Playfields Materials	Synthetic Turf
Classrooms	98 Total, Provided as Shown
• St. Joseph's Lower and Middle School	48 Classrooms (9 new)
• SHS Preparatory	50 Classrooms (0 new)
Parking Spaces	525 Total, Provided as Shown
• Park Lane Lot	90 Spaces
• Elena Avenue Lot	190 Spaces
• Emilie Avenue Lot	58 Spaces
• Aquatic Lot	40 Spaces
• Montessori Lot	35 spaces
• Main Lot	30 Spaces
• Sigall/McGanney Lot	67 Spaces
• Sigall Lot	15 spaces
Source: Sacred Heart Schools, 2010.	

Project Phasing

The Project would be constructed in two phases. Phase One would occur from 2010 through 2012 and would include the St. Joseph's campus improvements, realignment of sports fields, roadway and entry improvements, parking facilities, and landscaping and pedestrian improvements. The St. Joseph's campus improvements would be constructed in a single phase over approximately 15 to 18 months. Buildings 300 and 400 and Foley Center would be demolished at the start of the St. Joseph's phase of the Project. The 100 and 200 building will be demolished once the new Lower School building is completed. Temporary classrooms will be used during the building phase.

Phase Two would occur from 2012 to 2014 and would include the construction of the McGanney Sports Center replacement (including a Practice Gym), the changing areas/restrooms/concession stand and storage, and renovations to the maintenance shop area. Renovations to the maintenance shop area would be to create a new central delivery point and would include a new access roadway.

D. PROJECT OBJECTIVES

The overall goal of the Sacred Heart Master Plan is the orderly and systematic expansion of the existing Sacred Heart Campus at the elementary and high school facilities.

The objectives of the Project, as stated by Sacred Heart Schools are as follows:

Sacred Heart Master Plan

- Preserve the beauty of the campus environment.
- Create a safe and secure environment for campus students, faculty and visitors.
- Construct new facilities and improvements that will provide the flexibility for the school to increase its enrollment in accordance with projected enrollment demand for Sacred Heart, both in the short-term and long-term.
- Enhance the pedestrian friendly environment within the campus.
- Effectively disperse traffic on and off campus with as minimal impact on neighboring streets as possible.
- Realign SHP playing fields to minimize the potential for hazards associated with dangerous overlap of fields and impact on aquatic center spectators.
- Improve the safety of vehicular entrances/exits.

St. Joseph's School

- Plan and develop the campus to facilitate faculty-student interaction, encourage collaboration within groups and across grade levels for ease and enjoyment of use of academic and other school facilities, and create an environment conducive to learning.
- Create an environment that will deliver the best possible student experience through a campus design that will provide space for all school assemblies, courtyards with seating, playgrounds, fields and two outdoor basketball courts.
- Provide consistent classroom sizes and an adequate number of classrooms to integrate 21st Century technology, learning and flexibility.
- Model environmental stewardship by improving energy efficiency and sustainability of school facilities.

- Provide a designated “sacred space” or small chapel area for quiet reflection on the St. Joseph’s campus.
- Reduce project-generated vehicle trips on Emilie Avenue.
- Improve lighting and ventilation in classrooms.
- Provide state-of-the-art structurally safe and fire code compliant classrooms.
- Provide ADA compliant restrooms.
- Provide for upgraded and adequate utilities.

E. DISCRETIONARY ACTIONS

As defined by CEQA, a Lead Agency is the public agency with the principal responsibility for carrying out or approving a project. The Town of Atherton is the Lead Agency for approval of the Project. The Town held public hearings when the Master Plan was presented and accepted for filing. The Sacred Heart Schools Master Plan is not a Town of Atherton regulatory land use plan, but is a Master Plan as conceived by Sacred Heart Schools to guide construction and maintenance of their campus and educational facilities to meet their educational goals. Private schools in Atherton are requested to submit Campus Master Plans to the Town for public informational purposes. These Master Plans are to be reviewed annually. Conditional Use Permits are required for new construction, relocated buildings, facility changes, and improvements on private school campus. Any proposed improvements are required to be consistent with the submitted Master Plan.[2] Upon completion of the EIR process, the Town will certify the Final EIR for the SHS Master Plan. Once certified, the EIR will serve as the base environmental document for the Sacred Heart Schools Master Plan. All applications for permits on the SHS Campus would be reviewed against both the SHS Master Plan as submitted and the analysis within this EIR to ensure consistency with both.

A list of the required discretionary permits and approvals that may be required is shown in Table III-3.

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[2] *Town of Atherton General Plan,1.550 Schools, Page LU-6 and Town of Atherton Municipal Code, 17.36.030.*

Table III-3
Project Approvals

Agency/Provider	Permit/Approval
Town of Atherton	• Certify EIR
Town of Atherton	• Approval of Conditional Use Permits • Approval of grading and building plans, handicap accessibility, fire, and life safety • Traffic mitigation measures, if required
West Bay Sanitary District	• Approval for sewer hook-ups
Menlo Park Fire District	• Approval of fire suppression systems
CalWater	• Water Supply
City of Menlo Park	• Traffic mitigation measures, if required
Regional Water Quality Control Board	• Approval of National Pollutant Discharge Elimination System (NPDES) General Permit
	• Storm Water Pollution Prevention Plan (SWPP)
Source: Town of Atherton, 2010.	

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IV. ENVIRONMENTAL IMPACT ANALYSIS
A. IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

INTRODUCTION

Section 15128 of the *CEQA Guidelines* states:

> *"An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."*

As discussed below, it has been determined that there is no substantial evidence that the Project would cause significant environmental effects in the following areas: Agricultural Resources, Cultural Resources, Geology/Soils, Hazards/Hazardous Materials, Hydrology/Water Quality, Mineral Resources, Population/Housing, Public Services, Recreation, and Utilities/Service Systems. Therefore, no further environmental review of these issues is necessary.

It was determined that some issues may have potential adverse impacts on the environment, including: Aesthetics, Air Quality, Biological Resources, Land Use/Planning, Noise, and Transportation/Traffic. Analyses of these issues are not included below, as each issue is analyzed in greater depth in other sections of Section IV (Environmental Impact Analysis) of this Draft EIR.

1. AGRICULTURE AND FOREST RESOURCES

The Project would not result in the conversion of state-designated agricultural land from agricultural use to another non-agricultural use. According to the Farmland Mapping and Monitoring Program (FMMP), the Project site is designated as urban or built-up land and does not contain prime farmland, unique farmland, or farmland of statewide importance.[1] Therefore, development of the proposed Project would not result in any impacts related to the conversion of important farmland. No significant impact would occur and no further analysis of this issue is required.

The Project would not result in the conversion of land zoned for agricultural use or under a Williamson Act contract from agricultural use to non-agricultural use. The Project site is designated as Public Facilities and Schools in the Town of Atherton General Plan and zoned as Public Facilities and Schools (PFS). No lands on the Project site are zoned for agricultural use nor is the site subject to a Williamson Act Contract. Therefore, development of the proposed Project would not conflict with zoning for agricultural use or a Williamson Act contract. No significant impacts would occur and no further analysis of this issue is required.

[1] *California Division of Land Resource Protection, Farmland Mapping and Monitoring Program Overview, website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/smt08.pdf, Accessed November 16, 2009.*

The Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). As stated above, the Project site is designated as Public Facilities and Schools in the Town of Atherton General Plan and zoned as Public Facilities and Schools (PFS). No lands on the Project site are zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). Therefore, development of the proposed Project would not conflict with zoning forest land, timberland, or Timberland Production. No significant impacts would occur and no further analysis of this issue is required.

The Project would not result in the loss of forest land or conversion of forest land to non-forest use. As stated above, development of the proposed Project would not convert any forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) to a non-agricultural use. Moreover, the Project site is surrounded by highly developed land also designated as urban or built-up land. Therefore, development of the proposed Project would not result in any impacts to forest or timberland resources as related to conversion to non-agricultural use. No significant impacts would occur and no further analysis of this issue is required.

The Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. As stated above, development of the proposed Project would not convert any Prime Farmland, Unique Farmland or Farmland of Statewide Importance or any forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) to a non-agricultural or non-forest use. Moreover, the Project site is surrounded by developed land also designated as urban or built-up land. Therefore, development of the proposed Project would not result in any impacts to agricultural, forest, or timberland resources as related to conversion of farmland to non-agricultural use. No significant impacts would occur and no further analysis of this issue is required.

2. CULTURAL RESOURCES

The Project would not cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5. The SHS campus contains a mixture of buildings constructed over the life of the school (see Appendix C for a list of SHS campus buildings, year built, and architect of record). The Main Building was constructed in 1898 and 1915. The Main Building, a building that houses school administrative functions, Chapel, Sacred Heart Preparatory classrooms, computer labs, and the library, appears to be eligible for listing as a historic structure.[2] However, it is not listed on the National Register of Historic Places, California Register, or any, local registers. Other buildings on campus consist of typical school/institutional buildings predominately constructed in the 1950s and 1960s. Buildings on the St. Joseph's campus were constructed at various intervals from 1956 to 1998. St. Joseph's Campus buildings are constructed of cinderblock with sloping roofs, in a style typical of many elementary and middle schools around the country. These buildings have not been assessed fro historic significance and it is not likely they would be eligible due to their common design and lack of distinction. The Project would result in the construction of buildings on the St. Joseph's Campus, construction of parking areas, sports field realignments, and various site improvements. Construction of the St. Joseph's component of the Project would require demolition of the Lower and Middle School buildings and Foley Center. However, these buildings are not historic structures and the Project would not result in a substantial adverse change in the significance of a historical resource as defined in § 15064.5. Although the Main Building is eligible for listing as a historic structure, no changes are proposed for the Main Building. Therefore, implementation of the proposed Project would not result in any impacts related to a change in the significance of an architecturally historic resource or result in a substantial adverse change in the significance of a historical resource as defined in § 15064.5.. No significant impacts would occur and no further analysis of this issue is required.

The Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5. There are no known archaeological resources on the Project site. The Project site has been developed with and is presently developed with school land uses. However, as with any project that requires earthmoving or grading activities, there is the possibility that buried archaeological deposits could be present and accidental discovery could occur during Project construction activities. As required under *CEQA Guidelines* § 15064.5(2)(4) and (e), measures have been incorporated into the Project in the event that archaeological remains are uncovered or in the event that human remains are discovered. Specifically, the Project would incorporate the following measures as a condition of approval including:

CR-1: In the event that additional subsurface archaeological resources are encountered during the course of grading and/or excavation, all development shall temporarily cease in these areas until the Town's Planning Department is contacted and agrees upon a qualified archaeologist to be brought onto the Project site to properly assess the resources and make recommendations for their disposition. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include:

[2] *Page & Turnbull, Regarding the Historic Status of the Sacred Heart Main Building, Memorandum, September 9, 2008.*

fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps). Construction activities could continue in other areas. If any findings are determined to be significant by the archeologist, they shall be subject to scientific analysis; duration/disposition of archaeological specimens as agreed to by the Native American community, land owner, and the Town; and a report prepared according to current professional standards.

CR-2: If human remains are encountered, excavation or disturbance of the location shall be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission. The Native American Heritage Commission shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent shall make recommendations regarding the treatment of the remains with appropriate dignity.

These measures would protect any potential archaeological resources. Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. There are no known paleontological resources or unique geological features on the Project site. The Project site is presently developed for school land use. Therefore, implementation of the proposed Project would not result in any impacts related the destruction of a unique paleontological resource or geologic feature. No significant impacts would occur and no further analysis of this issue is required.

The Project would not disturb any human remains, including those interred outside of formal cemeteries. The Project site is presently developed for school land use. There is a small private cemetery on the SHS campus. All known human remains are buried within the confines of the cemetery and there no known human remains outside the cemetery. However, there is the possibility that buried human remains could be present and accidental discovery could occur during Project activities. As stated above, measure CR-2 prescribes actions in the event that human remains are discovered. No significant impacts would occur and no further analysis of this issue is required.

3. GEOLOGY/SOILS

The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault; strong seismic ground shaking; or seismic-related ground failure, including liquefaction; or landslides.

According to the Town of Atherton General Plan and the Geotechnical Report[3] prepared for the St. Joseph's School buildings, the Project site is not located within an Alquist-Priolo[4] Earthquake Fault Zone. The Project site is located 2.5 miles west of the San Andreas Fault. However, there are no known active or potentially active faults within the Town. Therefore, implementation of the proposed Project would not result in any impacts related to rupture of a known earthquake fault.

Similar to all other cities in the San Francisco Bay Area, the Town is subject to periodic, strong seismic groundshaking. Due to its close proximity, the San Andreas Fault presents the highest potential for severe ground shaking, though earthquakes along several active faults in the region could cause moderate to strong ground shaking at the Project site. The intensity of earthquake ground motion would depend on the characteristics of the generating fault, distance to the fault and rupture zone, earthquake magnitude, earthquake duration and site specific geologic conditions. A Geotechnical Report was prepared for the St. Joseph's School buildings and would be prepared for any future structures on the Project site. The Geotechnical Report included detailed information on geologic conditions on the St. Joseph's site and included recommendations for grading, building foundation, and structural design measures to be incorporated into grading and building plans. A Geotechnical Report would be prepared for all future facilities and structures constructed for the Project. Project design and construction techniques would be required to comply with the California Building Code's requirements for public school facilities, which are more stringent than those for general structures and which would reduce potential impacts to a less-than-significant level. Therefore, implementation of the proposed Project would not result in any impacts related to strong seismic groundshaking.

Liquefaction refers to the sudden, temporary loss of soil strength during strong ground shaking. This phenomenon can occur where there are saturated, loose, granular (sandy) deposits subjected to seismic shaking. Liquefaction-related phenomena include seismically-induced settlement, flow failure, and lateral spreading. According to the Geotechnical Report, the Project site is not located in a liquefaction zone as identified in the California Geotechnical Survey Hazard Zone Report No. 111 (2006).[5] However, based on historic groundwater elevation and data collection, there is the potential for liquefaction on the site. The Geotechnical Report prepared for St. Joseph's School buildings includes measures that have been incorporated into the St. Joseph's building designs that would reduce potential impacts from liquefaction to a less-than-significant level. Therefore, implementation of the proposed Project would not result in any impacts related to seismic-related ground failure, including liquefaction.

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[3] *Geotechnical Study/Soil and Foundation Investigation, Proposed Improvements at Saint Joseph School, Library and Class Room Buildings, One and Two-Story Above-Grade Structures, 50 Emilie Street, Atherton, California. AST Geotechnical and Environmental Consulting Engineers, March 2009.*

[4] *The Alquist Priolo Earthquake Fault Zoning Act prohibits placing most structures for human occupancy across traces of active faults. These fault zones are shown on maps issued by the Department of Conservation's Division of Mines and Geology.*

[5] *Geotechnical Study/Soil and Foundation Investigation, Proposed Improvements at Saint Joseph School, Library and Class Room Buildings, One and Two-Story Above-Grade Structures, 50 Emilie Street, Atherton, California. AST Geotechnical and Environmental Consulting Engineers, March 2009.*

Landslides are not considered a hazard because the surface topography of the Project site is relatively flat. Therefore, implementation of the proposed Project would not result in any impacts related to landslides.

Implementation of the proposed Project would not result in any impacts related to rupture of a known earthquake fault, strong seismic groundshaking, liquefaction, or landslides. No significant impacts would occur and no further analysis of this issue is required.

The Project would not result in substantial soil erosion or the loss of topsoil. Sandy soils on moderate slopes or clayey soils on steep slopes are susceptible to erosion when exposed to surface water flows. The Project areas are relatively flat and the potential for erosion is low. All grading activities on the Project site shall be conducted in accordance with the requirements outlined in the Geotechnical Report(s) prepared for the St. Joseph's campus improvements and all future improvements on the Project site. With implementation of these measures, it is not anticipated that any impacts related to substantial soils erosion or the loss of topsoil would result. No significant impacts would occur and no further analysis of this issue is required.

The Project would not 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. A Geotechnical Report has been prepared for the St. Joseph's campus improvements investigating the potential for landslide, lateral spreading, subsidence, liquefaction or collapse. As stated above, the Project is located in a flat area and there is no potential for landslides. As stated in the Geotechnical Report, the potential for lateral spreading, subsidence, liquefaction or collapse on the St. Joseph's campus is low. Additionally, the Geotechnical Report prepared for St. Joseph's includes measures that have been incorporated into the St. Joseph's building designs that would reduce potential impacts from lateral spreading, subsidence, liquefaction or collapse to a less-than-significant level. A Geotechnical Report would be prepared for all future improvements on the Project site. No significant impacts would occur and no further analysis of this issue is required.

The Project would not be located on expansive soil, creating substantial risks to life or property. According to the Geotechnical Report, soils on the St. Joseph's campus have a moderate to high expansion potential when subject to fluctuations in moisture content. The Geotechnical Report prepared for St. Joseph's School buildings includes measures that have been incorporated into the St. Joseph's building designs that would reduce potential impacts from expansive soil to a less-than-significant level. Geotechnical reports investigating the potential for expansive soil and recommending design features to reduce impacts from expansive soils, would be required for any future improvements on the Project site. Therefore, implementation of the proposed Project would not result in any impacts related to substantial risks to life or property due to expansive soil. No significant impacts would occur and no further analysis of this issue is required.

The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. No septic tanks or alternative wastewater disposal systems are proposed at the site. The proposed Project would connect to existing wastewater treatment and disposal facilities. Therefore, implementation of the proposed Project would not result in any impacts related to septic tanks or alternative wastewater disposal systems. No significant impacts would occur and no further analysis of this issue is required.

4. HAZARDS/HAZARDOUS MATERIALS

The Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials as part of its routine operations. A significant impact may also occur if the Project would potentially pose a hazard to nearby sensitive receptors by releasing hazardous materials into the environment through accident or upset conditions. The Project would utilize limited quantities of hazardous materials such as common cleaning and maintenance materials, which will be stored, used and disposed of in accordance with applicable regulations. In addition, chemicals will be used in small amounts in science classes. These chemicals would be used for educational purposes, would be used in small quantities, and under the supervision of an instructor trained in the proper use, storage, and disposal of these chemicals. SHS is subject to and would continue to follow County, State, and federal requirements to minimize exposure and ensure safe use, storage, and disposal of any chemicals, including common cleaning and maintenance materials, and chemicals used in science classes. Based on the amount stored, nature of packaging, materials involved, and the proposed Project's required compliance with applicable regulations, the risk of hazard through the routine transport, use, or disposal of hazardous materials is considered less than significant. No significant impacts would occur and no further analysis of this issue is required.

The Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. California Government Code Section 65962.5 requires various state agencies to compile lists of hazardous waste disposal facilities, unauthorized releases from underground storage tanks, contaminated drinking water wells and solid waste facilities from which there is known migration of hazardous waste and submit such information to the Secretary for Environmental Protection on at least an annual basis. According to the SHS there are no known hazardous materials sites on the Project site. Soil testing was conducted in the areas where demolition and construction would occur (St. Joseph's and sports fields) for lead, pesticides, and gasoline and diesel hydrocarbons (see Appendix D). This testing found no traces or trace amounts well under Title 22 limits or Regional Water Quality Control Board Screening Levels. The Project would require demolition of the St. Joseph's buildings. These buildings were constructed in the 1950s and could likely contain materials such as lead based paint or asbestos. SHS is required to prepare and file a Demolition Plan with the Town that outlines measures to safely demolish the St. Joseph's buildings. The Demolition Plan specifies measures that must be incorporated into demolition activities and includes measures for handling demolition materials suspected to contain any hazardous materials and that would prevent worker and public exposure of any suspected hazardous materials. Implementation of the mitigation measures below would reduce this impact to a less-than-significant level. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The Project proposes the expansion of an existing school campus. The Project would, by its nature, not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Any hazardous materials uncovered during demolition are addressed above. No significant impacts would occur and no further analysis of this issue is required.

The Project is not located on a site included on a list of hazardous materials sites. The Project is not located on a list of hazardous materials sites.[6] Therefore, implementation of the proposed Project would not create a significant hazard to the public or the environment related its location on a hazardous materials site. No significant impacts would occur and no further analysis of this issue is required.

The Project would not be located within a public airport land use plan area, or within two miles of a public airport, would not result in a safety hazard to people residing or working in the Project area. The closest public airport is the San Carlos Airport (San Mateo County), which is located approximately 5.25 miles from the Project. Therefore, the Project site is not located within two miles of a public airport and no significant impact would occur.

The Project would not be located within the vicinity of a private airstrip and would not subject area residents and workers to a safety hazard. The Project site is not located within the vicinity of a private airstrip, and therefore the Project would not result in a safety hazard for people residing or working in the Project area. No significant impact would occur.

The Project would not interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan nor would it generate traffic congestion that would interfere with the execution of such a plan. The Project would not involve changes to the existing surrounding arterial street network, including emergency routes. Therefore, there are no direct impacts to emergency response planning. The Project proposes changes to circulation around the Project site, including changes to access from the Project site to Park Lane and Emilie Avenue. Additionally, the Project could result in an increase in congestion on area streets, including streets used for emergency routes. The potential for significant impacts related to emergency response planning indirectly through an increase in congestion will be evaluated in Section IV.G (Transportation/Traffic) the Draft EIR.

The Project would be located in proximity to wildland areas that could pose a potential fire hazard and could affect persons or structures in the area in the event of a fire. The Town of Atherton is located in an urbanized area. According to the California Department of Forestry and Fire Protection, the Town is not

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[6] *Department of Toxic Substances Control, EnviroStor, Selection for "94027", website: http://www.envirostor.dtsc.ca.gov/public/, accessed February 26, 2010.*

classified as a Fire Threatened Community and is not at risk to wildland fires.[7] Therefore, this impact would be less than significant. No significant impact would occur.

5. HYDROLOGY/WATER QUALITY

The Project would not violate any water quality standards or waste discharge requirements nor would it otherwise substantially degrade water quality. The Project is the construction of replacement school facilities on an existing school campus and would not result in the discharge of large amounts of polluted water that would violate any water quality standards or waste discharge requirements nor would it otherwise substantially degrade water quality. See below for a discussion of stormwater detention and treatment facilities. No significant impacts would occur and no further analysis of this issue is required.

The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The Project would be connected to municipal water supplies and does not propose any wells and would not use any groundwater supplies. However, the Project would include the construction of impervious surfaces on the site, which could limit groundwater recharge in the area. The watershed area for the St. Joseph's Campus is estimated to be approximately 23.2 acres and currently developed with 38 percent impervious area. The watershed for the entire Project site is 64 acres and currently developed with 33 acres or 46 percent impervious surface area. The Project would result in an increase in impervious surfaces on the Project site, including 8 acres of synthetic turf playfields. Construction of the Project components would result in a total of 45 acres of impervious surfaces on the Project site or 70 percent of the Project site[8]. However, SHS and its civil engineers have prepared stormwater detention calculations to ensure that stormwater detention devices would meet all Santa Clara County Drainage Manual (SCCDM) requirements (see Appendix E). The Project would include detention and treatment devices, which would retain all runoff from the Project site at pre-development levels, allowing for groundwater recharge. All future Project facilities would be required to be designed in conformance with Santa Clara County Drainage Manual (SCCDM requirements. Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. There are no streams or rivers on the site. The Project site is level and grading activities would not substantially alter the existing drainage pattern of the site or area. However,

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[7] *California Department of Forestry and Fire Protection, 2003. Wildland Urban Interface -Fire Threatened Communities Map.*

[8] *Personal Communication with Sandy Dubinsky, Sacred Heart Schools, March 12, 2010.*

grading activities would be required for construction activities on the site, which could expose surface soils to erosion and could potentially result in sediment discharges to surface water.

As part of the conditions of approval, Project construction activities would be required to adhere to the RWQCB requirements and, if applicable, the National Pollution Discharge Elimination System (NPDES). SHS would be required to submit and the Town would oversee implementation of a Storm Water Pollution Prevention Plan (SWPPP) for the Project, in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The SWPPP would detail the treatment measures and best management practices (BMPs) to control pollutants and an erosion control plan that outlines erosion and sediment control measures that would be implemented during the construction and post-construction phases of Project development. In addition, the SWPPP would include construction-phase housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides. It would also describe the post-construction BMPs used to reduce pollutant loadings in runoff and percolate once the site is occupied (e.g., grassy swales, wet ponds, and educational materials) and would set forth the BMP monitoring and maintenance schedule and responsible entities during the construction and post-construction phases. The RWQCB and Town would enforce compliance with the regulatory requirements of the General Permit, which would control erosion on the Project site. Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. There are no streams or rivers on the site. The Project site is level and grading activities would not substantially alter the existing drainage pattern of the site or area. However, grading activities would be required for construction activities on the site, which could increase the rate or amount of surface runoff on the site. However, stormwater detention and treatment requirements would be incorporated into the Project. See below for a discussion of stormwater detention facilities. No significant impacts would occur and no further analysis of this issue is required.

The Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems nor provide substantial additional sources of polluted runoff. Stormwater runoff from the Project would be subject to stormwater detention and treatment requirements. Stormwater detention would be accomplished by limiting any stormwater discharge from the Project to pre-development levels. Stormwater treatment would be accomplished by directing the raw stormwater to either a bioretention area or a vegetated swale. The stormwater treatment and stormwater detention would meet the requirements of the Town of Atherton (Atherton's drainage criteria refer to the Santa Clara County Drainage Manual [SCCDM]) and RWQCB design criteria.

A hydromodification (HMP) analysis was conducted for the Project to estimate additional storage requirements to meet San Francisco Bay Regional Water Quality Control Board (RWQCB) permit criteria for HMP. These criteria require the Post-Project flows to match the duration-frequency relationship of

Pre-Project flows between a flow rate equal to 10 percent of the 2-year flow and the 10-year flow. A hydrologic model known as BAHM was developed for sizing of HMP detention basins and BAHM simulations for the various scenarios were run.

Details of the detention system are still being designed. However, stormwater detention would limit the post-development runoff to pre-development levels through the use of a control structure or a pump. A control structure is a riser with one or more orifices or weirs cut into the side of the riser that limits the flowrate into the structure to pre-development rates. If a gravity outlet would be feasible, the discharge is directed to an offsite stormdrain. If a gravity outlet would not be feasible, a pump may be used in place of a control structure. The pump would be designed to pump only the predevelopment discharge rate. After passing through the control structure or pump, the Project runoff would be directed offsite to the public storm drain or right-of-way. Due to the installation of the detention system, the runoff from the Project site would be limited to the pre-development levels and would not exceed the capacity of existing or planned stormwater drainage systems. Additionally, the treatment system would treat all Project runoff (see below) and there would not be any increase in additional sources of polluted runoff. Therefore, no significant impact would occur.

The Project would not otherwise substantially degrade water quality. The Project would use treatment devices to clean and treat stormwater runoff. Bioretention best management practices (BMP) would be implemented that use a soil and plant-based filtration device to remove pollutants through a variety of physical, biological, and chemical treatment processes. These facilities would consist of a permeable bed, ponding area, organic or mulch layer, planting soil, and plants. The raw stormwater runoff would be distributed evenly along a ponding area. Infiltration of the stored water in the bioretention area planting soil and into the underlying soils or underdrain system occurs over an extended period of time.

Details of the treatment system are still being designed. However, a vegetated swale best management practice (BMP) would be used that consists of open, shallow channels with vegetation covering the side slopes and bottom that slowly convey runoff to a downstream discharge point. The swale would be designed to treat runoff by filtering the untreated stormwater through the vegetation in the channel, filtering through the subsoil matrix, and/or infiltration into the underlying soils. Additionally, the vegetated swale would trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of stormwater runoff. Due to the installation of the treatment system, the runoff from the Project site would meet the stormwater treatmen requirements of the Town of Atherton design criteria and the Project would not substantially degrade water quality. Therefore, no significant impact would occur.

The Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. A replacement residential building (The Gatehouse) would be constructed to house six nuns and would include a full size kitchen, a smaller kitchen and six bedrooms. According to the Town of Atherton General Plan there are no areas of 100-year flood in the Town of Atherton.[9] Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. According to the Town of Atherton General Plan there are no areas of 100-year flood in the Town of Atherton.[10] Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project would not expose people or structures to a significant risk of loss, inquiry or death involving flooding, including flooding as a result of the failure of a levee or dam. The closest reservoir is Bear Gulch Reservoir, approximately two miles from the Project site. Bear Gulch Reservoir is located at approximately 200 feet in elevation, which is higher than the Project site. In the event that flooding would occur from the Reservoir, water would flow towards the San Francisco Bay and the Project site. However, there are many structures within the two mile distance between the Reservoir and Project site that would serve to redirect flood flows from the Reservoir and it is not likely that the Project site would be flooded as a result of the failure of a levee or dam. Therefore, no significant impacts would occur and no further analysis of this issue is required.

The Project site would not be subject to inundation by seiche, tsunami, or mudflow. Seiches are standing waves created by seismically induced ground shaking (or volcanic eruptions or explosions) that occur in large, freestanding bodies of water. Tsunamis, or seismic tidal waves, are caused by off-shore earthquakes which can trigger large, destructive sea waves. San Francisco Bay is located approximately 4.5 miles northeast of the Project site, and the Pacific Ocean is located approximately 12 miles west of the Project site.[11] There would be no significant impact as a result of seiches or tsunamis because of the Project site is not located sufficiently close to these bodies of water. There would be no significant impact as a result of mudflow because the Project site is located on level ground. No significant impacts would occur and no further analysis of this issue is required.

6. MINERAL RESOURCES

The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state nor would it result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The Project site is not designated by the State or the Town of Atherton General Plan as an area of mineral resource. Therefore, the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Furthermore, as the site is currently developed, the Project would not alter its status with respect to the availability of mineral resources. Therefore, implementation of the proposed Project would not result in any impacts

[9] *Town of Atherton General Plan, Page LU-7.*
[10] *Ibid.*
[11] *Google Earth, 2007.*

related to the availability of a known mineral resource or a locally-important mineral resource recover site. No significant impacts would occur and no further analysis of this issue is required.

7. POPULATION AND HOUSING

The Project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). With respect to resulting in direct population growth, the Project does not propose the construction of any new housing and no substantial population growth related to employment would be induced. This increase in enrollment could result in the addition of several instructors employed on the campus; however, instructors generally live in many parts of the Bay Area and commute to schools where they are employed. Additionally, this increase in instructors would be small and it is not anticipated implementation of the Project would result in an increase in population growth in the Town or surrounding area through the relocation of instructors to the Town. In addition, it is not likely that construction workers would relocate their place of residence as a consequence of working on the proposed Project. Therefore, implementation of the proposed Project would not result in any impacts related to population growth. No significant impacts would occur and no further analysis of this issue is required.

The Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No housing would be removed or impacted to allow construction of the Project. No significant impacts would occur and no further analysis of this issue is required.

The Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No people would be displaced to allow construction of the Project. Therefore, implementation of the Project would not result in any impacts related to the construction of replacement housing. No significant impacts would occur and no further analysis of this issue is required.

8. PUBLIC SERVICES

The Project would not result in a substantial adverse physical impact associated with the provision of fire services and the need for new or physically altered fire facilities. Implementation of the proposed Project would result in the construction of replacement campus facilities and buildings and would not increase the number of structures on the Project site. All Project structures would be designed to comply with California Building Code's requirements for public school facilities regarding fire suppression. All buildings plans would be reviewed by the Menlo Park Fire Protection District for compliance with these codes. Additionally, all proposed buildings would be inspected for compliance with these codes by the Menlo Park Fire Protection District prior to approval of occupancy permits. Therefore, the Project would not increase demand for fire protection services at the Project site to the extent that new or physically altered fire facilities would be required to serve the Project site. No significant impacts would occur and no further analysis of this issue is required.

The Project would not result in a substantial adverse physical impact associated with the provision of police services and the need for new or physically altered police facilities. Implementation of the proposed Project would result in the construction of replacement campus facilities and improvement of existing facilities. The Project site is served by the Atherton Police Department. Additionally, SHS maintains its own security on-site. All proposed building and site plans would be reviewed by the Atherton Police Department to ensure that the plans comply with emergency procedures and would not create safety hazards. Additionally, the Project would not include substantial employment or population growth, which could generate demand for police services to the extent that new or physically altered police facilities would be required to serve the Project site. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not result in a substantial adverse physical impact associated with the provision of school services and the need for new or physically altered school facilities. The Project is an expansion of existing private school services. The Project would not include substantial employment or population growth, which could generate demand for other elementary, middle, or high school facilities that exceeds the capacity of the school district(s) responsible for serving the Town. Therefore, the proposed Project would not require the construction of new school facilities. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not include substantial employment or population growth that generates a demand for park or recreational facilities, which would require the construction of new parks or result in non-attainment of goals related to the provision of parklands. Although the Project would increase the number of students and employees on the campus, it would not directly increase the number of residents in the area. Students attending classes on campus would likely only use school recreational facilities and would not be expected to use any Town of Atherton recreational facilities unless they are already residents of the Town. Therefore, the proposed Project would not cause a significant impact with regard to the demand for recreational facilities or parks. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not generate a demand for other public facilities (such as libraries) that exceeds the available capacities. As stated in the discussion under Population and Housing, the proposed Project does not include any residential uses that could directly increase population within the surrounding area, thereby increasing the demands for library services. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

9. RECREATION

The Project would not include substantial employment or population growth which could generate a demand for park or recreational facilities that exceeds the capacity of existing parks or recreational facilities and causes premature deterioration of the facilities. The Project would increase the number of students and employees on the campus. However, it is unlikely that students and employees would use any parks in the Town when similar facilities are already available on the Project site. As discussed above under Public Services, the proposed Project would not cause a significant impact with regard to the demand for recreational facilities or parks. As the proposed Project's demand for park services is considered to be less than significant, Project impacts on maintenance of those facilities would likewise be less than significant. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not include the construction or expansion of recreational facilities, and therefore would not have a significant impact on the environment. The Project proposes to the relocation of existing fields on the Project site. These facilities would replace existing facilities on the site or augment existing uses located in developed areas. These facilities would be for use by SHS students and guest teams as the Project site is a private school and the fields are not open for public use. Overall, the proposed on-site recreational facility improvements would serve to enhance the existing recreational facilities at the Project site, but are not anticipated to attract substantial numbers of new users or spectators to the Project site. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

10. UTILITIES/SERVICE SYSTEMS

The Project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board. A significant impact would occur if the Project exceeds wastewater treatment requirements of the Regional Water Quality Control Board. This question would typically apply to properties served by private sewage disposal systems, such as septic tanks. The San Francisco Regional Water Quality Control Board (SFRWQCB) enforces wastewater treatment and discharge requirements for properties in the area. The Project site is not served by a private on-site wastewater treatment system, but instead conveys wastewater via municipal sewage infrastructure maintained by the South Bayside System Authority. The South Bayside Wastewater Treatment Facility is a public facility, and is therefore subject to the State's wastewater treatment requirements. Wastewater from the Project site is therefore treated according to the wastewater treatment requirements enforced by the SFRWQCB, and no significant impact would occur. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would not result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The Project would result in an increase of 114 students on the campus. Additional students would result in an increase in the demand for water consumption and wastewater generation. The Project site is served for water supply by the California Water Service Company (CalWater). According to CalWater, no new water treatment facilities would be needed to adequately treat water supply to serve the increase in students on the Project site.[12]

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[12] *Personal communication with Larry Mathias, CalWater, on January 22, 2010.*

The Project site is served for wastewater treatment by the South Bayside System Authority (SBSA). The South Bayside Wastewater Treatment Facility is currently capable of treating approximately 27 million gallons per day (mgd) and the average daily flow is about 17 mgd. SBSA is about four months away from completing a comprehensive Conveyance System Master Plan (CSMP) to meet projected growth in the region. The planning window for the CSMP is 2030 and the estimated growth in flow in that time is minimal with plant flow reaching approximately 19 mgd in 2030.[13] Therefore, the South Bayside Wastewater Treatment Facility would have capacity to treat wastewater for the Project without needing to construct new or expanded wastewater facilities. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project site would not result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effect. The Project area currently has stormwater drainage from an upstream area that would be routed around the St. Joseph's Campus in a new stormdrain pipeline. However, this rerouting of stormwater drainage facilities would be constructed in conjunction with the St. Joseph's Campus improvements and would be subject to the same construction BMPs, including the implementation of a Storm Water Pollution Prevention Plan (SWPPP) as the Project. The Project would result in the construction of new impervious surfaces on the site. However, all runoff on the Project site would be limited to pre-development amounts and there would be no need for the expansion of any drainage facilities to serve the Project. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The proposed Project would have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed. The Project would result in an increase of 114 students on the campus. Additional students would result in an increase in the demand for water supply on the campus. The Project site is served for water supply by the California Water Service Company (CalWater). According to CalWater there would be adequate water supply to serve the increase in students on the Project site.[14] The Project could be served from existing entitlements and no new or expanded entitlements would be required. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The proposed Project would not result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. The Project would result in an increase of 114 students on the campus. Additional students would result in an increase in wastewater generation. The Project site is served for wastewater treatment by the South Bayside System Authority (SBSA). The South Bayside Wastewater Treatment Facility is currently capable of treating approximately 27 million gallons per day (mgd) and the average daily flow is about 17 mgd. SBSA is about four months away from completing a comprehensive Conveyance System Master Plan (CSMP) to meet projected growth in the

[13] *Personal communication with Dan Child, Manager, South Bayside System Authority, on January 25, 2010.*
[14] *Personal communication with Larry Mathias, CalWater, on January 22, 2010.*

region. The planning window for the CSMP is 2030 and the estimated growth in flow in that time is minimal with plant flow reaching approximately 19 mgd in 2030.[15] Therefore, the South Bayside Wastewater Treatment Facility would have capacity to treat the Project's projected demand in addition to the provider's existing commitments. No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. The Project would require the demolition of existing buildings on the site. Solid Waste from the Town is taken by Republic Services to Ox Mountain Landfill. SHS is required to comply with the Town of Atherton Ordinance 15.52, which requires that every structure planned for demolition shall be made available for deconstruction, salvage and recovery prior to demolition. Demolition waste from the Project would be separated during demolition and trucked to certified recyclers for recycling and would not impact the Ox Mountain Landfill.[16]

The Project would result in an increase of 114 students on the campus that would result in an incremental increase in solid waste generated on the site. The Town of Atherton is served for solid waste collection by Republic Services. As of 2006, the Town had a diversion rate of 67 percent. Solid Waste from the Town is taken by Republic Services to Ox Mountain Landfill. The landfill has a permitted maximum disposal of 3,598 tons per day. As of 2000, the landfill has exceeded its permitted capacity of 37.9 million cubic yards by approximately 6.7 million cubic yards (17.8 percent). However, the closure date is planned for 2018. While the Ox Mountain landfill is currently in excess of its permitted capacity, waste is continued to be accepted as the landfill gradually settles and new space becomes available. Thus, the increase in solid waste generated under the proposed Project would be sufficiently served by the Ox Mountain Landfill.[17] No significant impact would occur and no additional analysis of this issue is warranted in the EIR.

The Project would comply with federal, state, and local statutes and regulations related to solid waste. The Project would require the demolition of existing buildings on the site. In addition, the Project would result in the generation of solid waste during Project operation. SHS is required to comply with the Town of Atherton Ordinance 15.52, which requires that every structure planned for demolition shall be made available for deconstruction, salvage and recovery prior to demolition. In addition, SHS implements a recycling program for paper, aluminum, and plastics. All solid waste generated on-site would be required to be disposed of in accordance with all applicable federal and State regulations related to solid waste. No significant impact would occur.

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[15] *Personal communication with Dan Child, Manager, South Bayside System Authority, on January 25, 2010.*
[16] *Personal communication with Andrea Rodriquez, Republic Services, on February 2, 2010.*
[17] *Personal communication with David Zeiger, Republic Services, on January 22, 2010.*

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IV. ENVIRONMENTAL IMPACT ANALYSIS
B. AESTHETICS

INTRODUCTION

This section of the Draft EIR describes existing aesthetic and visual resources on the Project site and in the surrounding area. It also evaluates the potential for aesthetic and visual impacts associated with implementation of the Project. A regulatory framework is provided in this section describing applicable agencies and regulations related to the Project.

Preparation of this section used information from various sources including a site visit, site photography and visual simulations, and architectural renderings.

ENVIRONMENTAL SETTING

Regional Visual Character

The Project site is located in the Town of Atherton in San Mateo County, approximately thirty miles south of San Francisco and twenty miles north of downtown San Jose, on the San Francisco peninsula. The San Francisco peninsula is characterized by flatter land areas on its eastern border, adjacent to the San Francisco Bay, which transition into hilly areas along the peninsula's spine and western edge that then slope down to the Pacific Ocean. The eastern edge of the Town is located in an area of flatlands near the San Francisco Bay, with its western edge terminating on the west side of Interstate-280 in the hills. The Town contains many large oak trees and could be described as semi-rural in character and thickly-wooded.

Local Visual Character

The Project site is located 2 miles south of U.S. Route 101 and 2 miles north of Interstate-280 and is bounded by Valparaiso Avenue to the southeast, Emilie Avenue to the northeast, Park Lane to the northwest, and Elena Avenue to the southwest. Local access is currently provided from Valparaiso, Emilie, and Elena avenues, as well Park Lane.

The Project site is located in a predominately older, established, suburban residential area with some church, school, and country club uses intermixed. The Church of Latter Day Saints is located to the east directly across Valparaiso Avenue, the Menlo Circus Club (a country club and equestrian facility) is located to the west directly across Park Lane, and other private school uses (The Menlo School) are located to the north along Valparaiso Avenue. Single family residential uses are located in all four directions surrounding the Project.

On-Site Visual Character

The SHS campus contains school buildings, sports fields and athletic uses, residential areas (for retired nuns), a small private cemetery, pathways and narrow roadways, parking areas, open space areas, and landscaping. The overall visual character is of an older, established school campus, with buildings and facilities varying in age, and therefore style, from the original Main School Building to the recent Homer Science Building.

The Main Building lends character to the built environment on the SHS Campus. The Main Building is a three-story brick masonry building configured in an L-shape with West and South wings. The building design is considered Second Empire Style, with a mansard roof. The West Wing contains two bays that flank a central, slightly projecting bay. The South Wing contains five alternating bays separated by brick Ionic pilasters. A bricked courtyard is framed by the South and West wings. A modern two-story brick performing arts center building faces onto the courtyard at its northern edge. Although the Main Building appears to be eligible for listing as a historic structure, it is not listed on the National Register of Historic Places, California Register, or any, local registers.[1]

Many trees are scattered throughout the Project site, including oaks, redwoods, pines, cedars, sweet gum, walnuts, and bay laurels. Pedestrian pathways connect various areas of the campus and tend to be centered on the interior portion of the campus. Sport fields are predominately located around the perimeter of the site. Scattered mature trees are growing along the perimeter of the site on the edges of the sports fields. The visual character of the Project site is illustrated in the Figures III-4 thorough III-8 of the Project Description. A photo location viewpoint map of these views is shown in Figure III-3.

Scenic Resources

The Town of Atherton General Plan does not designate any scenic views or resources in the Project area. The Project is located in a flat area of the Town and there are no views, distant or otherwise, of hills or scenic features available from the Project site.

Light and Glare

Glare impacts tends to occur when a person's eyes have difficulty in adjusting to bright lights with a darker background. Glare can occur from a direct light source, such as oncoming headlights in the night; or indirectly from reflected light sources, such as light shining off water or buildings, depending on the angle of the sun. The Project site is currently developed with school buildings and other associated development including: a pool and football stadium, playfields, and parking areas. The only light sources on the site are from lights typically found in and around school sites such as classrooms lighting, entry lights, and some pathway lighting. Sources of light and glare from the existing development are

[1] *Page & Turnbull, The Historic Status of the Sacred Heart Main Building, September 9, 2008.*

anticipated to be low due to the suburban nature of the surrounding area. Headlights or windshields of vehicles and streetlights along the surrounding streets are also a source of light and glare.

REGULATORY SETTING

Federal

There are no federal regulations related to aesthetics that would apply to the proposed Project.

State

Caltrans Scenic Highway Program

California's Scenic Highway Program is administered by the California Department of Transportation (Caltrans). The Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated.

The closest officially designated State Scenic Highway is Interstate-280 from the Santa Clara County line to the north San Bruno City limits. The section of Interstate-280 that is an Officially Designated State Scenic Highway under the State Scenic Highway program is not in the vicinity of the Project site.[2]

Regional/Local

Town of Atherton General Plan

The Town of Atherton General Plan (General Plan) was most recently revised and adopted November 20, 2002. The General Plan is composed of six elements; the Land Use Element, Circulation Element, Housing Element, Open Space and Conservation Element, Noise Element, and Community Safety Element.

The Project site is designated as Public Facilities and Schools in the Town of Atherton General Plan. This land use category typically includes the types of activities and facilities which are generally provided by the public sector, but does include private schools.

General Plan goals and policies related to aesthetics are contained in the Land Use, Circulation, and Open Space and Conservation Elements. Policies that would be relevant to the Project include:

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[2] *California Department of Transportation, Scenic Highway Program, Eligible and Designated Routes, website: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys4.htm, December 15, 2009.*

- **Land Use Goal 1.210.** To preserve the Town's character as a scenic, rural, thickly wooded residential area with abundant open space.

- **Circulation Policy 2.421.** All streets and highways in the Town of Atherton shall be preserved as scenic routes.

- **Circulation Policy 2.425.** On-street and visible off-street parking of vehicles and other means of transportation shall be carefully controlled.

- **Open Space and Conservation Policy 4.232.** The Town shall endeavor to protect scenic resources, significant stands of natural vegetation, wildlife habitat, public safety and significant archaeological resources, both publicly and privately held.

- **Open Space and Conservation Policy 4.233**. The Town seeks to preserve the open space characteristics of existing public and private schools, churches, the Circus Club, the California Water Service property and the public parks.

A specific discussion of the Project's consistency with General Plan policies is included in IV. E. Land Use and Planning of this Draft EIR.

Town of Atherton Zoning Ordinance

The Town of Atherton Zoning Ordinance (Zoning Ordinance) designates land uses, height, bulk, density and parking standards throughout the Town. The Zoning Ordinance was designed for consistency with the General Plan. Therefore, the General Plan's land use designations are directly reflected in the Zoning Ordinance.

The Project site is zoned as Public Facilities and Schools (PFS). Zoning Ordinance regulations related to the aesthetics for the Project are described under Chapter 17.36 Public Facilities and Schools. These regulations include development standards for maximum height, lot coverage, and setbacks for development on all parcels. The maximum height for structures on the Project site based on this zoning would be 34 feet. Maximum lot coverage would be 40 percent of the gross lot area. Setbacks vary from 50 to 75 feet depending on the side of the building and adjacent surrounding land uses.

ENVIRONMENTAL IMPACTS

The proposed Project would have a significant effect on the environment if it would:

- Have a substantial adverse effect on a scenic vista;

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Project Impacts

Impact AES-:1 Implementation of the proposed Project would not have a substantial adverse effect on a scenic vista.

The Town of Atherton General Plan does not describe any designated scenic views or scenic resources in the Project area. The Project is located in a flat area of the Town and there are no views, distant or otherwise, of hills or scenic features available from the Project site. Therefore, the Project would not substantially affect scenic vistas and there would be ***no impact***.

Impact AES-2: Implementation of the proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The closest officially designated State Scenic Highway is Interstate-280 from the Santa Clara County line to the north San Bruno City limits. The section of Interstate-280 that is an Officially Designated State Scenic Highway under the State Scenic Highway program is not in the vicinity of the Project site.[3] Therefore, the Project site is not located within a state scenic highway.

However, General Plan Circulation Policy 2.421 states that, "All streets and highways in the Town of Atherton shall be preserved as scenic routes." The Project would result in the construction of new school buildings on the St. Joseph's campus and reconfiguration of sports fields. Additionally, the Project would include an extension of a parking area adjacent to Elena Avenue. These changes would require the removal of some trees and would be visible from the streets surrounding the Project site.

Proposed buildings on the St. Joseph's Campus would be located farther towards the center of the Project site and would be located farther from Emilie Avenue than they are currently sited. The realigned St. Joseph's sports fields would be located between Emilie Avenue and the St. Joseph's school buildings. Realignment of the sports fields on the St. Joseph's campus would require the removal of some trees currently growing in the area immediately adjacent to the existing St. Joseph's buildings, the small circle lot to the west of the existing campus, and along Emilie Avenue and Park Lane. Additionally, some trees would be removed to accommodate the new St. Joseph's Middle School drop-off and parking area. However, many trees around the perimeter of the site would be retained and would be augmented with additional tree plantings around the perimeter of the St. Joseph's Campus. Over time, these additional plantings would grow and mature, blending in with the existing mature trees ringing the St. Joseph's

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[3] *California Department of Transportation, Scenic Highway Program, Eligible and Designated Routes, website: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys4.htm, December 15, 2009.*

Campus, ultimately providing incrementally more screening than exists today. Therefore, changes to scenic resources (trees) on the St. Joseph's Campus would not be substantial, and would not substantially affect the scenic quality visible from Town streets.

Changes to other parts of the Project site include realignment of sports fields along Park Lane near Elena Avenue and extension of a parking area along Elena Avenue. These areas are currently occupied by sports fields, tennis courts, and the existing Elena Avenue parking area. Realignment of the sports fields along Park Lane would result in only minimal removal of trees along Park Lane as the majority of trees are located along the perimeters of the site and would not infringe on the sports fields. Realignment of the sports fields along Elena Avenue would require removal of some smaller trees planted near the existing tennis courts and sports field located on the interior of the site, and some removal of trees at the corner of Park Lane and Elena Avenue. However, the area between the sports field and parking lot would be replanted with trees. Similar to the areas along Emilie Avenue, these additional plantings would grow and mature, augmenting and blend in with the existing mature trees, ultimately providing screening of the sports fields. The extension of the parking lot along Elena Avenue would require some removal of trees. Trees would be retained in the center of the parking lot extension, where feasible, and at the corner of Park Lane and Elena Avenue. Additionally, as stated previously, the area between the parking lot extension and the sport fields would include new plantings of trees. There would be no changes to the Main Building resulting from the Project.

There are no rock outcroppings and there are no designated historic buildings on the Project site. Removal of trees on the interior of the Project site would be minimal and the overall views of the Project site would remain as an older, established school campus. Trees would be replanted to replace any lost screening along Elena Avenue, and along Emilie Avenue and Park Lane on the St. Joseph's Campus. Although there would be some removal of trees in select areas to accommodate the new St. Joseph's Campus, parking lot extension, and sports field realignments, the overall views of the SHS campus would not be significantly changed, and the Project would not substantially affect the scenic quality visible from Town streets. Therefore, the Project would not substantially damage scenic resources, including trees, and impacts to scenic resources would be ***less than significant*** and no mitigation measures are required.

Impact AES-3: Implementation of the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings.

The Project proposes demolition, construction, renovation, and site improvements on the Project site to accommodate an additional 114 students on the campus, from the current 1,082 students to a maximum enrollment of approximately 1,196 students. The Project would include relocation of the St. Joseph's Campus and construction of new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus. Overall improvements to the Sacred Heart Schools campus would include campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance.

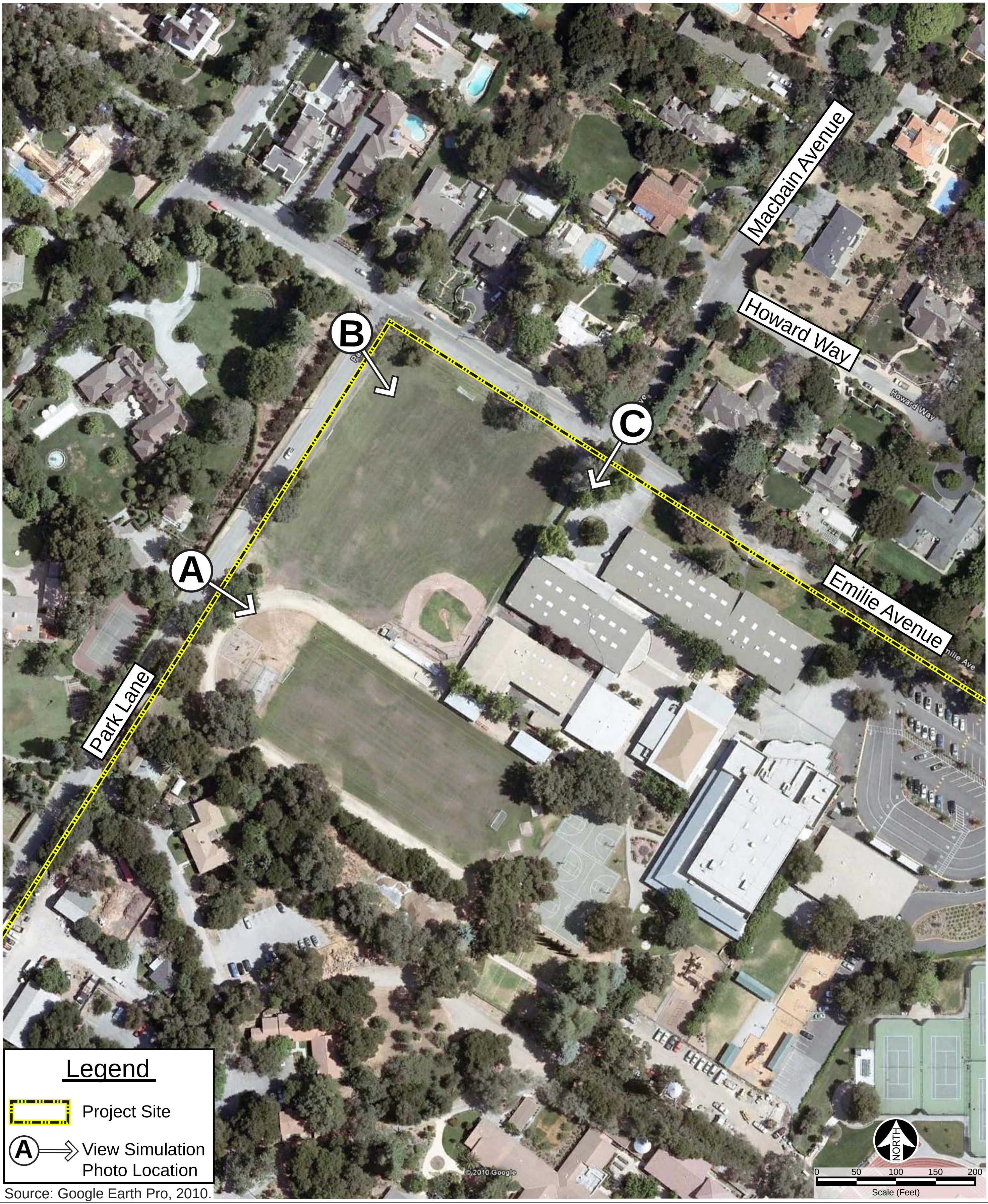
Changes to the site would not be visible from Valparaiso Avenue, but would be visible from Park Lane, Emile Avenue, and Elena Avenue. These visible changes include the relocation of the St. Joseph's Campus, realignment of St. Joseph's sports fields along Emilie Avenue, realignment of the sports fields along Park Lane, and extension of the parking lot along Elena Avenue.

In order to assess changes to the Project site resulting from construction of the St. Joseph's Campus, visual simulations were prepared showing views of the St. Joseph's Campus from Park Lane, the intersection of Emilie Avenue and Park Lane, and Emilie Avenue. These viewpoints are shown in Figure IV.B-1, Visual Simulation Viewpoints.

View A (Figure IV.B-2: View A, Existing) shows the view into the St. Joseph's Campus from Park Lane looking east into the Campus. A track, sports field, and athletic equipment are visible in the foreground. The existing St. Joseph's Campus buildings are visible in the mid-ground. Mature trees and bushes are adjacent to the chain link fencing along Park Lane. The visual character of the view is of school buildings and sports fields. With construction of the St. Joseph's Campus (See Figure IV.B-2: View , Proposed), this view would change from a view of sports fields to views of the back side of the performing arts classrooms and St. Joseph's Assembly Hall. Some trees would be removed from the area along Park Lane and the area replanted with trees. Buildings on the St. Joseph's Campus would appear more prominent from this viewpoint due to their closer location to Park Lane than the existing buildings. However, the scale of the buildings would be consistent with school uses and the overall visual quality of the site would continue to characterize an existing school campus.

View B (Figure IV.B-3: View B, Existing) shows the view into the St. Joseph's Campus from the intersection of Emilie Avenue and Park Lane looking south. This area along Park Lane does not contain trees; however, trees are visible closer to the intersection of Park Lane and Emilie Avenue and along Emilie Avenue. Soccer fields and a baseball diamond are visible in the foreground. The existing St. Joseph's Campus buildings are visible in the mid-ground. Trees located in the center of the Project site are visible in the distance. Construction of the proposed buildings on the St. Joseph's Campus (See Figure IV.B-3: View B, Proposed), would result in changes to the views of the site from single story classroom buildings to views of a single story library and two-story Lower School. The existing Spieker Hall would be more visible from this angle due to the location of the proposed buildings. Additionally, the back side of the performing arts classrooms and St. Joseph's Assembly Hall would be visible from this location. Similar to the change resulting in views as described in View A, the scale and materials of the proposed buildings and views of the sports fields would be consistent with the existing school uses and the overall visual quality of the site would continue to characterize an existing school campus.

View C (Figure IV.B-4: View C, Existing) is a view from Emilie Avenue looking southwest across the existing sports fields and towards the existing St. Joseph's buildings. Utilities and mature trees are visible in the foreground and Campus buildings are visible in the mid- and background. Figure IV.B: View C, Proposed shows the change that would result from construction of the St. Joseph's Campus. The view would change from one of closer school buildings and distant sports fields to one of one- and two-story school buildings separated by sports fields from Emilie Avenue. Some existing trees would be removed



Source: Google Earth Pro, 2010.

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Figure IV.B-1
View Simulation Location Map

View A: Existing view looking southeast across Park Lane.

View A: Proposed view looking southeast across Park Lane.

Source: Christopher A. Joseph & Associates, 2010.

View B: Existing view looking southeast from the corner of Park Lane and Emilie Avenue.

View B: Proposed view looking southeast from the corner of Park Lane and Emilie Avenue.

Source: Christopher A. Joseph & Associates, 2010.

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Environmental Planning and Research

Figure IV.B-3
Photographic View Simulation
View B

View C: Existing view looking southwest across Emilie Avenue.

View C: Proposed view looking southwest across Emilie Avenue.

Source: Christopher A. Joseph & Associates, 2010.

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Environmental Planning and Research

Figure IV.B-4
Photographic View Simulation
View C

to accommodate the sports fields. Landscaping would be installed along Emilie Avenue and along the ends and sides of the proposed St. Joseph's buildings. This landscaping would mature over time and provide more screening of the area than currently exists. The proposed St. Joseph's buildings would be located farther from Emilie Avenue than the existing buildings.

Views of the St. Joseph's Campus would continue to be characteristic of an established school campus, which includes buildings, sports fields, sports equipment, pedestrian facilities, and landscaping. The Campus would be more distant from surrounding streets in the area and would eventually be more screened from view as landscaping matures. Overall, the visual quality and character of the St. Joseph's Campus would not be substantially changed or degraded.

As described above, the Project also proposes changes to other areas of the Project site. Changes to other parts of the Project site include realignment of sports fields along Park Lane near Elena Avenue and extension of a parking area along Elena Avenue. These areas are currently occupied by sports fields, tennis courts, and the existing Elena Avenue parking area. Realignment of the sports fields along Park Lane would not result in a substantial change to the visual quality of this portion of the Project site, as only minimal tree removal would occur for relocation of the sports fields.

Realignment of the sports fields along Elena Avenue would require removal of some smaller trees planted near the existing tennis courts and sports field located on the interior of the site, and some removal of trees at the corner of Park Lane and Elena Avenue. However, the area between the sports field and parking lot would be replanted with trees. These additional plantings would grow and mature, augmenting and blend in with the existing mature trees, ultimately providing screening of the sports fields, and would not substantially degrade the visual quality of the site.

The extension of the parking lot along Elena Avenue would require some removal of trees. Trees would be retained in the center of the parking lot extension and at the corner of Park Lane and Elena Avenue and the area between the parking lot extension and the sport fields would include new plantings of trees. Therefore, although there would be some removal of trees along Elena Avenue, some trees would be retained and augmented with new plantings, and the overall visual quality would be consistent with the existing school uses on the Project site and would not change substantially.

Overall, visual changes to the Project site from relocation of the St. Joseph's Campus and construction of new buildings and classrooms on the St. Joseph's Campus and other improvements to the Sacred Heart Schools campus would not represent a substantial change in the visual quality of the site. The Project site has been an existing school campus since 1898. No changes are proposed to the Main Building. The design of buildings and improvements on the site would be consistent with buildings and improvements associated with the existing school uses and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, this impact would be ***less than significant*** and no mitigation measures are required.

Impact AES-4: Implementation of the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The types of lighting that would be incorporated into the design of the Project components, including the St. Joseph's campus, would be similar to the existing lighting systems in place. No lighting is proposed for any of the sport fields on the Project site. However, due to the construction of new buildings on the St. Joseph's campus and changes to parking to the Project site, additional sources of lighting and reflective surfaces would be introduced or reoriented in comparison to existing lighting sources.

The Project would include additional building, pathway, parking lot, and new site lighting. Where feasible, Project lighting would be similar as current lighting installed on the site. Title 24 and SHS's desire for LEED certification both requires the use of well-shielded "dark-sky" cutoff-type light sources that produce no light above a horizontal line through the fixtures. All fixtures would be shielded so bare lamps are not visible from adjacent properties. There would be no decorative landscape lighting or tree uplights.

Building-mounted lights for the St. Joseph's Campus would be mounted on walls or canopies to provide unobtrusive downlighting. There would be no glare-producing floodlights or industrial wall-packs. All fixtures would be small and would produce downlight only. There would be some patterns of light on the buildings below the fixtures, but there will be no uplighting or facade floodlighting. These lighting techniques would provide unobtrusive, safe, energy-efficient, dark-sky-compliant and neighbor-friendly lighting.

Pathway lighting would be LEED rated for energy efficiency and appropriate for education campuses with a light level typically used for pathways. Pole lights along other paths on the east and west sides of the St. Joseph's buildings, including the new quad, would be Type A30 pedestrian-scaled lights on 12-foot poles spaced approx. 55 feet apart. The lights would have full-cutoff optics so there would be no spill light outside the Campus, nor would any bare light bulbs be visible from adjacent properties. The fixtures would be a different shape than the existing "shoebox" campus lights, but their effect would be similar.

Along paths on the south side of the St. Joseph's buildings, Type A31 3-foot-high bollards approximately 20 feet apart would provide low-level path lighting. These would produce downlight from sources concealed in the fixtures, and there would be no bright lenses or other glare sources. Where feasible, new lighting on the Project site would be consistent with lighting of the other buildings and facilities throughout the SHS campus and the proposed Project would not include light sources such as illuminated billboards or light fixtures associated with outdoor sporting events.

Likewise, the exterior surfaces of the proposed St. Joseph's structures would be constructed with brick surface materials, similar to those found on the existing newer campus buildings and would not be highly reflective. Additionally, while the buildings would include windows, these windows would be part of the overall structure and the new buildings would not include large expanses of reflective glass.

The nearest light-sensitive land uses to the St. Joseph's campus are residential uses located over 350 feet away across Emilie Avenue. These residential uses are not immediately adjacent to the Project site; therefore, due to distance and the type of illumination that would be used, light and glare spillover from the Project site would not occur at these locations. Overall, the proposed Project would not result in a substantial increase in light or glare which could adversely affect day or nighttime views in the Project area and this impact would be ***less than significant*** and no mitigation measures are required.

CUMULATIVE IMPACTS

The area considered for the cumulative analysis of aesthetic impacts includes the surrounding streets (Valparaiso, Emilie, and Elena avenues and Park lane) and surrounding residential neighborhood. The area surrounding the Project site is currently developed with established land uses including the Church of Latter Day Saints, another school (Menlo School), and country club (Circus Club) uses intermixed. Single family residential uses are located in all four directions surrounding the Project site. There are no other under development or proposed development projects in this immediate area.

The Project would not substantially affect scenic vistas or result in substantial changes to the Project site. The design of buildings and improvements on the site would be consistent with buildings and improvements associated with school uses and would not substantially degrade the existing visual character or quality of the surroundings area. Additionally, the proposed Project would not result in a substantial increase in light or glare which could adversely affect day or nighttime views in the area surrounding the Project. All visual changes on the Project site would be consistent with the existing use and aesthetics of the Project site and not result in any significant impacts to aesthetics. There are no proposed projects in the area that would contribute to any changes to aesthetics in the Project area. Therefore, impacts to aesthetic resources as a result of the Project would be ***less than significant***, cumulative or otherwise, and no mitigation measures are required.

IV. ENVIRONMENTAL IMPACT ANALYSIS
C. AIR QUALITY

INTRODUCTION

This section of the Draft EIR describes the existing air quality for the Project area. It also evaluates the potential for air quality impacts associated with implementation of the proposed Project. A regulatory framework is provided in this section describing applicable agencies and regulations related to the proposed Project.

The section has been prepared using methodologies and assumptions recommended in the air quality impact assessment guidelines of the *Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans*, most recently published in December 1999. The air quality assessment considers "criteria air pollutants" (pollutants for which state and federal ambient standards exist), "toxic air contaminants" (pollutants that pose human health risks) and greenhouse gases.

Preparation of this section used data from various sources. These sources include including the Town of Atherton General Plan and the Sacred Heart Schools Master Plan Traffic Impact Study prepared by Crane Transportation Group in 2010.

ENVIRONMENTAL SETTING

The Project site is located in the Town of Atherton, which is an incorporated town in San Mateo County, California. The Town of Atherton is located within the nine-county San Francisco Bay Area Air Basin (Basin), which encompasses seven counties (Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa) and portions of two others (southwestern Solano and southern Sonoma). The air quality within the Basin is influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry.

Air Pollutants

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produces electricity or generates heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Mobile sources account for the majority of the air pollutant emissions within the San Francisco Air Basin (Basin). Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, that have been adopted for them. The federal and state standards have been set at levels considered safe to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to air quality planning and regulation in the Bay Area include ozone, carbon monoxide (CO), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. A description of each of these criteria pollutants as well as their potential health impacts is presented below.

- *O_3* is a highly reactive and unstable gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NO_X), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in areas of high ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels may lead to increases in school absences, daily hospital admission rates, as well as mortality rates.

- *CO* is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

  Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes. Exposure to low levels of CO can cause fatigue, headaches, nausea, and dizziness, as well as aggravating cardiovascular disease. High concentrations of CO may be lethal with death resulting from asphyxiation.

- *PM_{10} and $PM_{2.5}$* consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and the world. The elderly, people with pre-existing respiratory or cardiovascular disease and children are more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

- *NO_2* is a nitrogen oxide compound that is produced from the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered) and power plant facilities. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. Commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitors. Short term exposure to NO_2 may lead to an increased resistance to air flow and airway contraction. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2.

- *SO_2* is a colorless, extremely irritating gas or liquid. It enters the atmosphere mainly as a result of burning high sulfur-content fuel oils and coal, as well as from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X). Acute exposure to SO_2 can cause an increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties in asthmatics. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Very high levels of exposure to SO_2 can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

- *Pb* occurs in the atmosphere as particulate matter. Present sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary Pb smelters. The combustion of leaded gasoline was the primary source of airborne Pb in the Basin until the use of leaded gasoline was no longer permitted for on-road motor vehicles. Pb is also present in many soils and can get re-suspended in the air.

  Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system.

In addition to the criteria pollutants described above, toxic air contaminants (TACs) and greenhouse gases (GHGs) are also of concern within the Bay Area. The characteristics of TACs and GHGs are briefly described below.

- *TACs* refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. They are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). In urban areas, TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources such as gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than "criteria" pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be felt on a local scale rather than on a regional basis.

  TACs are known to cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects. Acute health effects from TACs are attributable to sudden exposure to high quantities of air toxics. These effects include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects from TACs result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which requires a period of 10-30 years after exposure to develop.

  Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resources Board (ARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB, and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants programs. The United States Environmental Protection Agency (U.S. EPA) has adopted Ultra Low Sulfur Diesel (ULSD) fuel standards that went into effect in June 2006 in an effort to reduce diesel particulate matter substantially. As of June 1, 2006, refiners and importers nationwide have been required by the U.S. EPA to ensure that at least 80 percent of the volume of the highway diesel fuel they produce or import would be ULSD-compliant. By December 10, 2010, only ULSD fuel will be available for highway use nationwide. In California, which was an early adopter of ULSD fuel and engine technologies, 100 percent of the diesel fuel sold – downstream from refineries, up to and including fuel terminals that store diesel fuel – was ULSD fuel since July 15, 2006. Since September 1, 2006, all diesel fuel offered for sale at retail outlets in California have been ULSD fuel.

- *GHGs* refer to a group of compounds that are believed to affect global climate conditions. Simply put, the greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. This phenomenon results in the warming of the Earth's atmosphere. However, excessive concentrations of GHGs in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences. Global climate change attributable to anthropogenic (human) emissions of GHGs is one of the most important and widely debated scientific, economic, and political issues in the United States. Since the industrial revolution, there has been a significant increase in the amount of greenhouse gases emitted into the atmosphere. Research has shown that this exponential increase in greenhouse gas emissions from human activities has contributed to rapid Global Climate Change. Global Climate Change, also known as global warming, is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emissions of greenhouse gases and global temperature variations.

GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). A general description of each of these GHGs is provided in Table IV.C-1, Description of Identified Greenhouse Gases. CO_2 is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e.

Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. There appears to be a close relationship between the concentration of greenhouse gases in the atmosphere and global temperatures. A number of scientists believe that the amount of greenhouse gas emissions in the atmosphere has increased at a rapid rate due to the use of machines powered by fossil fuels and that these gases are increasing global temperatures.[1] If not abated, the warming increase could reduce water supply, increase erosion of coastlines, increase seawater intrusion, increase power demand, and worsen air quality.[2]

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[1] *Intergovernmental Panel on Climate Change. Climate Change 2007 – The Physical Science Basis, Summary for Policymakers, 2007.*

[2] *California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.*

Table IV.C-1
Description of Identified Greenhouse Gases

Greenhouse Gas	General Description
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of carbon dioxide are from burning coal, oil, natural gas, and wood.
Methane	A flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no ill health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (CFCs) for automobile air conditioners and refrigerants. CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. As CFCs destroy stratospheric ozone, their production was stopped as required by the Montreal Protocol in 1987.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down though the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above the earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Source: Association of Environment Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007.

State standards have been promulgated for other air pollutants, including SO_4, hydrogen sulfide, and visibility reducing particles. The state also recognizes vinyl chloride as a TAC with an undetermined threshold level of exposure for adverse health effects. Vinyl chloride and hydrogen sulfide emissions are generally generated from mining, milling, refining, smelting, landfills, sewer plants, cement manufacturing, or the manufacturing or decomposition of organic matter. The state standards for sulfate and visibility reducing particles are not exceeded anywhere in the Basin.

Existing Regional Air Quality

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and the ARB to assess and classify the air quality of each air basin, county, or, in some cases, a specific developed area. The classification is determined by comparing actual monitoring data with federal and state standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in "attainment." If the pollutant exceeds the standard, the area is classified as a "nonattainment" area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

The U.S. EPA and the ARB use different standards for determining whether the Basin is in attainment. National and state standards are summarized in Table IV.C-2. The attainment status for the Basin regarding the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) is shown in Table IV.C-3.

Table IV.C-2
Ambient Air Quality Standards

Air Pollutant	Averaging Time	State Standard	National Standard
Ozone (O_3)	1 Hour	0.09 ppm	--
	8 Hour	0.07 ppm	0.075 ppm
Carbon Monoxide (CO)	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm	--
	24 Hour	0.04 ppm	0.14 ppm
Particulate Matter 10 (PM_{10})	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual	20 $\mu g/m^3$	--
Particulate Matter 2.5 ($PM_{2.5}$)	24 Hour	--	35 $\mu g/m^3$
	Annual	12 $\mu g/m^3$	15 $\mu g/m^3$

Note: The Pb standard is not listed because of the phase-out of leaded gasoline.
Source: California ARB, Ambient Air Quality Standards, website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, February 2010.

As can be seen, the Basin is considered "non-attainment" for the O_3 (8-hour) and $PM_{2.5}$ (24-hour) national standards, and is considered "non-attainment" for the O_3 (1-hour and 8-hour), PM_{10} (24-hour and AAM) and $PM_{2.5}$ (AAM) State standards.

Table IV.C-3
Ambient Air Quality Attainment Status for San Francisco Bay Area Air Basin

Pollutant	State-Level Attainment Status	National-Level Attainment Status
Ozone (1-hour)	Non-attainment	N/A
Ozone (8-hour)	Non-attainment	Non-attainment
Particulates (PM_{10}), (24-hour)	Non-attainment	Unclassified
Particulates (PM_{10}), (AAM)	Non-attainment	N/A
Fine Particulates ($PM_{2.5}$), (24-hour)	N/A	Non-attainment
Fine Particulates ($PM_{2.5}$), (AAM)	Non-attainment	Attainment
Carbon Monoxide (1-hour)	Attainment	Attainment
Carbon Monoxide (8-hr)	Attainment	Attainment
Nitrogen Dioxide (1-hr)	Attainment	N/A[a]
Nitrogen Dioxide (AAM)	Attainment	Attainment
Sulfur Dioxide (1-hour)	Attainment	N/A
Sulfur Dioxide (24-hour)	Attainment	Attainment
Sulfur Dioxide (AAM)	N/A	Attainment
Lead (Pb)	Attainment	Attainment

Note: N/A = not applicable
AAM = Annual Arithmetic Mean
[a] National-Level nitrogen dioxide 1-hr standard was introduced in 2010 and attainment status for the Basin has not been determined.
Source: BAAQMD, http://www.baaqmd.gov/Divisions/Technical-Services/Ambient-Air-Monitoring/Ambient-Air-Quality-Standards.aspx, February 2010.

The most current average daily emissions inventory for the entire Basin and San Mateo County portion of the Basin is summarized in Table IV.C-4. As shown, motor vehicles generate the majority of ROG, NO_X, and CO emissions; stationary sources generate the most SO_X; and area-wide sources generate the most airborne particulates in the Basin. In the San Mateo County portion of the Basin, motor vehicles generate the majority of ROG, NO_X, CO, and SO_X, while area-wide sources generate the most airborne particulates.

Table IV.C-4
2008 Estimated Average Daily Regional Emissions

Emissions Source	Emissions in Tons Per Day					
	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
San Francisco Bay Area Air Basin						
Stationary (Point) Sources	106.6	44.3	50.6	45.9	16.3	12.1
Area-Wide Sources	87.9	161.9	16.9	0.6	175.5	52.9
Mobile Sources	183.1	1,541.5	380.5	14.9	20.3	16.3
Natural (non-anthropogenic) Sources	106.5	49.4	1.6	0.5	5.1	4.3
Total Emissions	484.1	1,797.0	449.7	62.0	217.2	85.6

Table IV.C-4
2008 Estimated Average Daily Regional Emissions

Emissions Source	Emissions in Tons Per Day					
	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
San Mateo County						
Stationary (Point) Sources	7.4	2.1	1.7	0.1	1.0	0.8
Area-Wide Sources	8.7	11.0	1.9	0.1	16.5	4.2
Mobile Sources	18.6	159.8	39.7	0.3	1.8	1.4
Natural (non-anthropogenic) Sources	6.9	-	-	-	-	-
Total Emissions	41.6	172.9	43.3	0.5	19.3	6.4

"-" represents data not available.
Source: California Air Resources Board, website: http://www.arb.ca.gov/app/emsinv/emssumcat.php, February 2010.

Existing Local Air Quality

Air quality in the Basin is monitored by the BAAQMD, which operates a regional network of air pollution monitoring stations to determine if the national and State standards for criteria air pollutants are being achieved. The BAAQMD Redwood City Monitoring Station is closest to the Project site. This station currently monitors emission levels of O_3, CO, NO_2, and PM_{10}. Table IV.C-5 identifies the NAAQS and CAAQS for relevant air pollutants, the concentrations registered, and the violations of State and national pollutant standards that have occurred at the Redwood City Monitoring Station from 2006 to 2008.

Table IV.C-5
Summary of Ambient Air Quality in the Project Vicinity

Emissions Source	Standard	Year		
		2006	2007	2008
Carbon Monoxide (CO)				
Maximum 1-hour concentration measured		5.5 ppm	5.5 ppm	4.3 ppm
Days exceeding national 1-hour standard	35 ppm	0	0	0
Days exceeding State 1-hour standard	20 ppm	0	0	0
Maximum 8-hour concentration measured		2.4 ppm	2.3 ppm	1.9 ppm
Days exceeding national & State 8-hour standard	9.0 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration measured		0.085 ppm	0.077 ppm	0.082 ppm
Days exceeding State 1-hour standard	0.09 ppm	0	0	0
Maximum 8-hour concentration		0.063 ppm	0.069 ppm	0.069 ppm
Days exceeding national 8-hour standard	0.075 ppm	0	0	0
Days exceeding State 8-hour standard	0.070 ppm	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration measured		0.069 ppm	0.057 ppm	0.069 ppm

Table IV.C-5
Summary of Ambient Air Quality in the Project Vicinity

Emissions Source	Standard	Year		
		2006	2007	2008
Days exceeding State 1-hour standard	0.25 ppm[a]	0	0	0
Annual Arithmetic Mean (AAM)		0.014 ppm	0.013 ppm	0.014 ppm
Exceedance of national AAM standard?	0.053 ppm	No	No	No
Exceedance of State AAM standard?	0.030 ppm	No	No	No
Respirable Particulate Matter (PM_{10})[b]				
Maximum 24-hour concentration measured		70 $\mu g/m^3$	56 $\mu g/m^3$	-
Days exceeding national 24-hour standard	150 $\mu g/m^3$	0	0	-
Days exceeding State 24-hour standard	50 $\mu g/m^3$	2	1	-
Annual Arithmetic Mean (AAM)		19.8 $\mu g/m^3$	17.5 $\mu g/m^3$	-
Exceedance of State AAM standard?	20 $\mu g/m^3$	No	No	-
Respirable Particulate Matter ($PM_{2.5}$)				
Maximum 24-hour concentration measured		75.3 $\mu g/m^3$	45.4 $\mu g/m^3$	27.9 $\mu g/m^3$
Days exceeding national 24-hour standard	35 $\mu g/m^3$	1	1	0
Annual Arithmetic Mean (AAM)		9.6 $\mu g/m^3$	8.3 $\mu g/m^3$	9.1 $\mu g/m^3$
Exceedance of State AAM standard?	20 $\mu g/m^3$	No	No	No

Note: ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter
[a] In 2008, the nitrogen dioxide state standard was lowered from 0.25 to 0.18 ppm.
[b] PM_{10} monitoring was discontinued in 2008 at the Redwood City monitoring station.
Source: BAAQMD, Bay Area Air Pollution Summaries. http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx, accessed February 2010.

As shown in Table IV.C-5, the Redwood City monitoring station measurements indicate that the ambient air concentrations in the vicinity of the Project site have not exceeded the NAAQS or the CAAQS for CO, O_3, and NO_2 from 2006-2008 (most recent data available). The State 24-hour standard for PM_{10} was exceeded twice in 2006 and once in 2007, and the national 24-hour standard for $PM_{2.5}$ was exceeded once in 2006 and 2007.

Existing Air Pollutant Emissions in Local Vicinity

Air pollutant emissions are generated in the local vicinity of the Project site by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. None of the existing uses surrounding the Project site involve industrial or manufacturing processes that would result in the release of toxic air emissions. Overall, motor vehicles are the primary source of pollutants in the Project site vicinity.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO "hotspots." The BAAQMD considers CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. Typical sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

The BAAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating localized pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to ambient CO air concentrations. For this analysis, localized CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the BAAQMD. The simplified procedure is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. The emission factors used in the analysis have been updated to EMFAC2007.

Using the simplified CALINE4 screening procedure described above, the maximum 1-hour and 8-hour CO concentrations were calculated for the 11 study intersections that were evaluated in the traffic report for the proposed Project**.** The results of these calculations are presented in Table IV.C-6 for representative receptors located at each roadway edge as well as at 25, 50, and 100 feet from each roadway.

The distances of 25, 50, and 100 feet from each roadway were selected because they represent locations where a person may be living or working for more than eight hours at a time. The national 1-hour CO ambient air quality standard is 35.0 ppm, and the state 1-hour CO ambient air quality standard is 20.0 ppm. The 8-hour national and state standards for localized CO concentrations are 9.0 ppm.

As shown in Table IV.C-6, existing CO concentration levels at the study intersections currently do not exceed the national and state 1-hour and 8-hour CO standards. Therefore, CO hotspots do not currently exist near these intersections.

Table IV.C-6
Existing (2009) Localized Carbon Monoxide Concentrations

Intersection	CO Concentrations in Parts per Million [a]							
	Roadway Edge		25 feet		50 feet		100 feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
El Camino Real & Valparaiso Ave.	5.9	3.0	5.4	2.6	5.2	2.5	4.9	2.3
Menlo/University & Valparaiso Ave.	5.2	2.5	4.8	2.3	4.7	2.2	4.6	2.1
Michaels Way & Valparaiso Ave.	6.0	3.1	5.2	2.5	5.0	2.4	4.8	2.2
Johnson St. & Valparaiso Ave.	6.1	3.1	5.3	2.6	5.0	2.4	4.8	2.3
Emilie Ave. & Valparaiso Ave.	6.1	3.2	5.3	2.6	5.1	2.4	4.8	2.3
Arbor Road & Valparaiso Ave.	6.0	3.1	5.2	2.6	5.0	2.4	4.8	2.2
San Mateo Dr. & Valparaiso Ave.	5.9	3.0	5.2	2.5	5.0	2.4	4.8	2.2
Elena Ave. & Valparaiso Ave.	6.0	3.1	5.3	2.6	5.0	2.4	4.8	2.3
Cotton Street & Valparaiso Ave.	6.0	3.1	5.2	2.5	4.0	2.4	4.8	2.2
Emilie Ave. & Park Lane	5.0	2.4	4.7	2.2	4.6	2.1	4.5	2.1
Elena Ave. & Park Lane	5.1	2.5	4.8	2.2	4.7	2.2	4.6	2.1

[a] *The national 1-hour CO ambient air quality standard is 35.0 ppm, and the state 1-hour CO ambient air quality standard is 20.0 ppm. National and state 8-hour standards are 9.0 parts per million.*

Traffic Information Source: Crane Transportation Group, 2010.
Source: Christopher A. Joseph & Associates, February 2010. Calculation data and results are provided in Appendix B.

Existing State-wide and Regional Greenhouse Gas Emissions

The CEC published the *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004* in December 2006. This report indicates that California emitted between 425 to 468 million metric tons of GHG's in 1990. When considering fossil fuel emissions on a per capita basis, California is second lowest in the nation in per capita CO_2 emissions, with only the District of Columbia being lower. Between 1990 and 2000, California's population grew by 4.1 million people and during the 1990 to 2003 period, California's gross state product grew by 83 percent (in dollars, not adjusted for inflation). However, California's GHG emissions grew by only 12 percent between 1990 and 2003. The report concludes that California's ability to slow the rate of growth of GHG emissions is largely due to the success of its energy efficiency, renewable energy programs, and commitment to clean air and clean energy. In fact, the state's programs and commitments lowered its GHG emissions rate of growth by more than half of what it would have been otherwise.

In December 2008, the BAAQMD published a document entitled, "Source Inventory of Bay Area Greenhouse Gas Emissions". This document is a greenhouse gas inventory for the Bay Area, which reflects the estimated 2007 greenhouse gas emissions for all seven counties located in the jurisdiction of the BAAQMD- Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma counties. This greenhouse gas inventory is based on the standards for criteria pollutant inventories and is intended to support the BAAQMD's climate protection activities.

Based on the information contained in the "Source Inventory of Bay Area Greenhouse Gas Emissions", Table IV.C-7 below shows the regional (Bay Area) and local (San Mateo County, Project location) 2007 greenhouse gas emissions from existing direct and indirect greenhouse gas sources. The emissions are estimated for existing industrial, commercial, transportation, residential, forestry, and agriculture activities. The estimated greenhouse gas emissions are presented in carbon dioxide equivalents, which weight each greenhouse gas by its global warming potential.

Table IV.C-7
2007 Estimated Regional & Local Greenhouse Gas Emissions

Emissions Source	Emissions in Million Metric Tons of CO2e Per Year (2007)	
	Bay Area	**San Mateo County**
Industrial/Commercial	34.86	1.6
Residential Fuel	6.82	0.8
Electricity/Co-Generation	15.20	1.0
Off-Road Equipment	2.92	0.3
Transportation	34.87	4.8
Agricultural/Farming	1.11	0.0
Total Emissions	**95.8**	**8.5**

Source: Bay Area Air Quality Management District, Source Inventory of Bay Area Greenhouse Gas Emissions, December 2008.

Projected Impacts of Global Warming in California

According to the 2006 California Climate Action Team (CAT) Report, temperature increases arising from increased GHG emissions potentially could result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. If emissions from GHGs are not reduced significantly, the warming increase could have the following consequences in California[3]:

- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply;
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes;

[3] *California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.*

- Erosion of California's coastlines would increase as well as sea water intrusion;
- Pest infestation and vulnerability to fires of the State's forests would increase; and
- Rising temperatures would increase power demand, especially in the summer season.

California-Specific Adaptation Strategies

Because climate change is already affecting California and current emissions will continue to drive climate change in the coming decades, regardless of any mitigation measures that may be adopted, the necessity of adaptation to the impacts of climate change is recognized by the State of California. The 2009 California Climate Adaptation Strategy Discussion Draft begins what will be an ongoing process of adaptation, as directed by Gov. Schwarzenegger's Executive Order S-13-08. The goals of the strategy are to analyze risks and vulnerabilities and identify strategies to reduce the risks. Once the strategies are identified and prioritized, government resources would be identified. Finally, the strategy includes identifying research needs and educating the public.

Climate change risks are evaluated using two distinct approaches: (1) projecting the amount of climate change that may occur using computer-based global climate models and (2) assessing the natural or human system's ability to cope with and adapt to change by examining past experience with climate variability and extrapolating this to understand how the systems may respond to the additional impact of climate change. The major anticipated climate changes expected in the State of California include increases in temperature, decreases in precipitation, particularly as snowfall, and increases in sea level, as discussed above. These gradual changes will also lead to an increasing number of extreme events, such as heat waves, wildfires, droughts, and floods. This would impact public health, ocean and coast resources, water supply, agriculture, biodiversity, and the transportation and energy infrastructures.

Key preliminary adaptation recommendations included in the *Strategy* are as follows:

- Appointment of a Climate Adaptation Advisory Panel;
- Improved water management in anticipation of reduced water supplies, including a 20 percent reduction in per capita water use by 2020;
- Consideration of project alternatives that avoid significant new development in areas that cannot be adequately protected from flooding due to climate change;
- Preparation of agency-specific adaptation plans, guidance or criteria by September 2010;
- Consideration of climate change impacts for all significant state projects;
- Assessment of climate change impacts on emergency preparedness;
- Identification of key habitats and development of plans to minimize adverse effects from climate change;

- Development of guidance by the California Department of Public Health by September 2010 for use by local health departments to assess adaptation strategies;

- Amendment of Plans to assess climate change impacts and develop local risk reduction strategies by communities with General Plans and Local Coastal Plans; and

- Inclusion of climate change impact information into fire program planning by state fire fighting agencies.

REGULATORY SETTING

Air quality in the United States is governed by the Federal Clean Air Act (FCAA). In addition to being subject to the requirements of the FCAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, the FCAA is administered by the U.S. EPA. In California, the CCAA is administered by the ARB at the state level and by the AQMDs at the regional and local levels.

Air quality within the Bay Area is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Bay Area are discussed below.

Federal

Federal Ambient Air Quality Standards

The U.S. EPA is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

Climate Change

In the past, the U.S. EPA has not regulated GHGs under the Clean Air Act because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change. However, the U.S. Supreme Court recently held that the U.S. EPA must consider regulation of motor-vehicle GHG emissions[4]. The Court ruled that GHGs fit within the Clean Air Act's definition of a pollutant and that

[4] Massachusetts v. Environmental Protection Agency et al. *(127 S. Ct. 1438 (2007))*

the U.S. EPA did not have a valid rationale for not regulating GHGs. In April 2009, the U.S. EPA proposed an endangerment finding for GHGs under the Clean Air Act. This is the first step in regulating GHGs under the provisions of the Clean Air Act.

State

State Ambient Air Quality Standards

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological problems in California, there is considerable diversity between the state and national ambient air quality standards. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

California Air Resources Board

The ARB is the state agency responsible for regulating air quality. The ARB's responsibilities include establishing state ambient air quality standards, emissions standards, and regulations for mobile emissions sources (e.g., autos, trucks, etc.), as well as overseeing the efforts of countywide and multi-county air pollution control districts, which have primary responsibility over stationary sources.

Climate Change

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 within the State.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced, on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. In response to the Executive Order, the Secretary of Cal/EPA created the Climate Action Team (CAT), which, in March 2006, published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the "2006 CAT Report"). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies.

Assembly Bill 32

In 2006, the California State Legislature adopted Assembly Bill (AB 32), the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG emissions in California, and requires the ARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the ARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved.

As a central requirement of AB 32, the ARB was assigned the task of developing a Scoping Plan that outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. On December 11, 2008, ARB adopted a Scoping Plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program, strategies to enhance and expand proven cost-saving energy efficiency programs, California's clean cars standards, increases in the amount of clean and renewable energy used to power the State, and a low-carbon fuel standard that will make the fuels used in the State cleaner. Furthermore, the Scoping Plan also proposes full deployment of the California Solar Initiative, high-speed rail, water-related energy efficiency measures, and a range of regulations to reduce emissions from trucks and from ships docked in California ports. ARB has until January 1, 2011, to adopt the necessary regulations to implement that plan. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

Senate Bill 97

In August 2007, the Legislature adopted Senate Bill 97 (SB 97), requiring the California Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency by July 1, 2009. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by OPR by January 1, 2010.

OPR submitted its proposed guidelines to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency undertook the formal rulemaking process to certify and adopt the amendments as part of the state regulations implementing CEQA and adopted the CEQA Guidelines Amendments on December 30, 2009.

In the CEQA Guideline Amendments, a threshold of significance for greenhouse gas emissions was not specified, nor does it prescribe assessment methodologies or specific mitigation measures. Instead, the amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but rely on the lead agencies in making their own determinations based upon substantial evidence. The CEQA amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

Senate Bill 375

In September of 2008, the California legislature adopted SB 375, legislation which: (1) relaxes CEQA requirements for some housing projects that meet goals for reducing greenhouse-gas emissions and (2) requires the regional governing bodies in each of the state's major metropolitan areas to adopt, as part of their regional transportation plan, "sustainable community strategies" that will meet the region's target for reducing GHG emissions. SB 375 creates incentives for implementing the sustainable community strategies by allocating federal transportation funds only to projects that are consistent with the emissions reductions.

Other State Measures

The Governor and the California legislature have passed additional regulations with the intent on reducing GHG emissions in order to achieve AB 32. These include the following

- Executive Order S-01-07 requires a 10% or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by ARB.

- AB 1493 (Pavley Standard) requires ARB to adopt regulations to reduce GHG emissions for noncommercial passenger vehicles and light-duty trucks of model year 2009 and thereafter.

- Under Senate Bill 107, California's Renewables Portfolio Standard (RPS) requires retail suppliers of electric services to increase procurement from eligible renewable energy resources to 20% by 2010.

- California Executive Order S-14-08 mandates retail suppliers of electric services to increase procurement from eligible renewable energy resources to 33% by 2020.

- Senate Bill (SB) 1368 requires the California Public Utilities Commission (PUC) and California Energy Commission (CEC) to establish GHG emission performance standards for the generation of electricity.

Regional

Bay Area Air Quality Management District

The BAAQMD is the regional agency responsible for air quality regulation within the Bay Area Air Basin. The BAAQMD regulates air quality through its planning and review activities. The district has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits; it can also impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of toxic air contaminants.

In January 2006, the BAAQMD, in cooperation with the MTC and ABAG, adopted the Bay Area 2005 Ozone Strategy. The Ozone Strategy is a roadmap showing how the San Francisco Bay Area will achieve compliance with the state 1- hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the MTC, local governments, transit agencies, and others. The 2005 Ozone Strategy also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard. In this, the 2005 Ozone Strategy replaces the 2000 Clean Air Plan (CAP). Like the 2000 CAP and prior versions thereof, the 2005 Ozone Strategy continues to implement and expand key mobile-source emissions control, including 19 transportation control measures. Although an ozone-control plan, the 2005 Ozone Strategy also includes information concerning particulate matter.

In response to the U.S. EPA redesignation of the basin for the 1-hour federal ozone standard to nonattainment, the BAAQMD, ABAG, and MTC were required to develop an ozone attainment plan to meet this standard. The 1999 Ozone Attainment Plan was prepared and adopted by these agencies in June 1999. However, in March 2001, the U.S. EPA proposed and took final action to approve portions of the 1999 ozone plan and disapprove other portions, while also making the finding that the Bay Area had not attained the national 1-hour ozone standard. As a result, a revised Ozone Attainment Plan was prepared and adopted in October 2001. The 2001 Ozone Attainment Plan amends and supplements the 1999 plan. The 2001 Ozone Attainment Plan contains control strategies for stationary and mobile sources. The adopted mobile-source control program was estimated to significantly reduce volatile organic compound and NOx emissions between 2000 and 2006, reducing emissions from on- and off-road diesel engines (including construction equipment). In addition to emission reduction requirements for engines and fuels, the 2001 Ozone Attainment Plan identified 28 transportation control measures to reduce automobile emissions, including improved transit service and transit coordination, new carpool lanes, signal timing, freeway incident management, and increased state gas tax and bridge tolls.

With respect to odors, BAAQMD Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The limitations of this regulation limit the "discharge of any odorous substance which causes the ambient air at or beyond the property line…to be odorous and to remain odorous after dilution with four parts of odor-free air." The BAAQMD must receive odor complaints from ten or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the BAAQMD if a test panel of people can detect an odor in samples collected periodically from the source.

Local

Town of Atherton General Plan

The Town of Atherton General Plan (General Plan) was most recently revised and adopted November 20, 2002. The General Plan is composed of six elements; the Land Use Element, Circulation Element, Housing Element, Open Space and Conservation Element, Noise Element, and Community Safety Element and is further discussed in Section IV. E, Land Use and Planning. No local policies regarding air quality are identified in the General Plan.

ENVIRONMENTAL IMPACTS

The proposed Project would normally have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The thresholds discussed below are currently recommended by the BAAQMD in the *BAAQMD CEQA Guidelines* to determine the significance of air quality impacts.

Construction/Demolition Emissions

According to the BAAQMD CEQA Guidelines, PM_{10} is the pollutant of greatest concern with respect to construction activities. Construction emissions of PM_{10} can vary greatly depending upon the level of activity, construction equipment, local soils, and weather conditions, among other factors. As a result, the *BAAQMD CEQA Guidelines* specifies, "[t]he District's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions." Therefore, the determination of significance with respect to construction emissions should be based on a consideration of the control measures to be implemented. If all the applicable control measures for PM_{10} indicated in the *BAAQMD CEQA Guidelines* would be implemented, then air pollutant emissions from construction activities would be considered less than significant. If a project would not implement all applicable control measures, construction emissions would be considered a significant impact.

Operational Emissions

The BAAQMD recommends that individual project's impacts involving direct and/or indirect operational emissions that exceed the following thresholds be considered significant:

- 80 pounds per day (ppd) of ROG
- 80 ppd of NO_x
- 80 ppd of PM_{10}

Direct emissions are those that are emitted on a site and include stationary sources and on-site mobile equipment. Examples of land uses and activities that generate direct emissions are industrial operations and sources subject to an operating permit by the BAAQMD. Indirect emissions come from mobile sources that access the project site but generally emit off site. For many types of land-use development projects, the principal sources of air pollutant emissions are the motor vehicle trips generated by the project. It should be noted that these significance thresholds do not account for the size of the project and therefore a larger project is more likely to exceed these thresholds.

Local CO Concentrations

Indirect CO emissions are considered significant if they will contribute to a violation of the State standards for CO (9 ppm averaged over 8 hours and 20 ppm over 1 hour). CO emissions are localized, and typically analyzed in terms of their impacts to specific roadway segments or intersections. Construction equipment exhaust contains CO and ozone precursors. However, these exhaust emissions are included in the emission inventory that is the basis for regional air quality plans, and are not expected to impede attainment and maintenance of ozone and CO standards in the Bay Area. In addition, as mentioned before, although State standards for $PM_{2.5}$ exist, area designations have not yet been determined. As a result, State plans for addressing $PM_{2.5}$ emissions are not yet in place and air quality management districts do not include these emissions in their analyses of construction impacts.

Odors

Odors would be considered significant if the project would result in a frequent exposure of members of the public to objectionable odors. According to the BAAQMD, typical uses that may result in significant odor impacts include wastewater treatment plant, sanitary landfill, transfer station, composting facility, petroleum refinery, asphalt batch plant, chemical manufacturing, fiberglass manufacturing, painting/coating operations, rendering plant, and coffee roasters.

TACs

According to the *BAAQMD CEQA Guidelines*, when evaluating the potential impacts of TACs related to a project, two situations should be considered: (1) the proposed project is a source of TACs and will be located near sensitive receptors; and/or (2) sensitive receptors within the proposed project area will be located near an existing source of TACs. As stated in the *BAAQMD CEQA Guidelines*, a project that emits (or exposes sensitive receptors to) TACs and exceeds the following criteria is considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million;[5] or
- Ground-level concentrations of non-carcinogenic TACs would result in a hazard index greater than one (1) for the MEI.[6]

Greenhouse Gas Emissions

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a "threshold of significance". At present, there are no officially adopted greenhouse gas emission significance thresholds for the State, Town or air district. Thus, prior to having a significance threshold for GHGs emissions that has been formally adopted by the State, the air agency or the local municipality, emissions of GHGs will be quantified but will not be compared to a quantitative threshold. Instead, a project will be deemed to contribute to a cumulative significant adverse GHG emissions impact if it is inconsistent with those applicable guidance documents issued in furtherance of AB 32 to date, including the 2006 CAT Report and the ARB Scoping Plan.

Cumulative Impacts

According to the BAAQMD CEQA Guidelines, any project that would individually have a significant air quality impact would also have a significant cumulative air quality impact. For a project that does not individually have a significant air quality impact, the BAAQMD requires that a determination of cumulative impacts be based on an evaluation of the consistency of the proposed project with the local General Plan and of the General Plan with the regional air quality plan. The appropriate regional air quality plan for this analysis is the 2000 CAP. If a project is proposed in a town or county with a General Plan that is consistent with the CAP, and the project is consistent with that General Plan, the project would not have a significant cumulative impact. If the town or county General Plan is not consistent with the CAP, or the project is not consistent with the General Plan, quantitative analysis is required to determine whether the impact is significant.

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5 *An MEI is a hypothetical off-site person, usually at or near the site boundary, who would receive the maximum exposure from a facility's operations.*

6 *A hazard index measures the potential for non-cancer health effects. It is the ratio of the estimated exposure level to the Reference Exposure Level, which is the level at or below which no adverse health effects are anticipated.*

Project Impacts

Impact AQ-1: Implementation of the proposed Project would not conflict with the applicable air quality plan.

The *BAAQMD CEQA Guidelines* recommends that, in jurisdictions where the local general plan is consistent with the Clean Air Plan, and if a proposed project is consistent with the local general plan, then it is consistent with the CAP. The CAP assumed that future growth would occur within the zoning restrictions in effect at the time of its adoption. As the General Plan was in place at the time of the most recent CAP, the General Plan is consistent with the Clean Air Plan. As described in Section IV.E, Land Use and Planning, the proposed Project is consistent with the General Plan, and this impact would be ***less than significant***.

Impact AQ-2: Implementation of the proposed Project would not violate an air quality standard.

<u>Construction/Demolition Emissions</u>

The proposed Project would involve the demolition of the existing structures on the site and construction of school buildings and parking area for the Lower and Middle Schools. An assembly hall and performing arts classrooms would be constructed, and the relocation of sports fields would occur. During the construction phase of development of the proposed Project, on-site stationary sources, heavy-duty construction vehicles, construction worker vehicles, and energy use would generate emissions.

In addition to construction vehicle emissions, fugitive dust would also be generated during grading and construction activities. Dust is generated when grading equipment breaks down surface materials. The resulting dust, which includes PM_{10}, is subsequently entrained into the air by wind and vehicle tires. Although much of this airborne dust would settle out on or near the Project site, smaller particles would remain in the atmosphere, increasing existing particulate levels within the surrounding area. Sensitive receptors that could be affected by construction include the existing residential areas near the Project site. Although the Project's construction-related emissions would be temporary in duration, in the absence of control measures, the emissions could be substantial. This would be a temporary, but potentially ***significant impact***. As described above, the determination of significance with respect to construction emissions is based on whether all the applicable control measures for PM_{10} indicated in the *BAAQMD CEQA Guidelines* would be implemented. Therefore, upon implementation of Mitigation Measure C-1.1 listed below, this impact would be ***less than significant***.

Mitigation Measure AQ-2.1 Construction/Demolition Emissions

Implementation of the following measures would reduce airborne dust by reducing and controlling loose soils in areas subject to dust creating activity. As a condition of the construction contracts, the Project sponsors shall require that construction contractors follow these construction practices:

a. Water all active construction areas at least twice daily.

b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.

c. Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction sites.

d. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction sites.

e. Sweep public streets adjacent to construction sites daily (with water sweepers) if visible soil material is carried onto the streets.

f. Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads to 15 miles per hour.

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as soon as possible.

k. Wash off the tires or tracks of all trucks and equipment leaving the construction site.

l. Install wind breaks at the windward sides of the construction areas

m. Suspend excavation and grading activities when wind (as instantaneous gusts) exceeds 25 miles per hour.

Regional Operational Emissions – Daily Emissions of ROG, NO_x, and PM_{10}

Operational emissions associated with the ultimate development and operation of the proposed Project would result primarily from increased vehicular trips to and from the development. Other sources of emissions associated with the Project would include area source emissions, such as the regular use of natural gas for water and space heaters and landscaping equipment. The primary sources of emissions would continue to occur from the vehicular trips generated by the Project.

The predicted mobile source and area source emissions associated with Project operation were calculated using the URBEMIS 2007 computer model distributed for use by the ARB and recommended for use by the BAAQMD. The average daily indirect and direct emissions associated with the proposed Project are presented in Table IV.C-8 and are compared with the BAAQMD project-specific recommended thresholds of significance for the sources of pollutants for the proposed Project. It should be noted that this analysis represents the net increase in air pollutant emissions associated with the operation of the Project. As shown in the table, the Project would not generate average daily direct and indirect emissions of ROG and NO_x and PM_{10} in excess of the significance thresholds by 2014.

Table IV.C-8
Air Pollutant Emissions from Project Operations (lbs/day)

Operational Activity	ROG	NOx	PM_{10}
Project Buildout 2014			
Net Project Operational Emissions	2.03	3.18	4.28
Significance Threshold	80	80	80
Significant Impact?	**No**	**No**	**No**
Source: Christopher A. Joseph & Associates, 2010.			

As shown in Table IV.C-8, the net increase in operational emissions with implementation of the proposed Project would not generate average daily direct and indirect emissions of ROG, $NO_{x,}$ and PM_{10} in excess of the significance thresholds. Therefore, impacts related to generation of operational emissions of ROG, $NO_{x,}$ and PM_{10} for the proposed Project buildout would be ***less than significant.***

Impact AQ-3: Implementation of the proposed Project would not expose sensitive receptors to substantial pollutants.

Local CO Concentrations

As stated previously, the BAAQMD recommends that CO modeling be performed for projects for which traffic would affect intersections or roadway segments operating at LOS E or F, or would cause a decline to LOS E or F. Due to the low number of intersections analyzed in the traffic study, CO modeling was performed for the all of the study intersections listed below:

Project Buildout (2014)

- El Camino Real and Valparaiso Avenue/Glenwood Avenue
- University Drive and Valparaiso Avenue
- Michaels Way and Valparaiso Avenue

- Johnson Street and Valparaiso Avenue
- Emilie Avenue and Valparaiso Avenue
- Arbor Road and Valparaiso Avenue
- San Mateo Drive and Valparaiso Avenue
- Elena Avenue and Valparaiso Avenue
- Cotton Street and Valparaiso Avenue
- Emilie Avenue and Park Lane
- Elena Avenue and Park Lane

For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the BAAQMD. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway, 90° to the secondary road; wind speed of less than one meter per second; and a high level of atmospheric stability or lack of change) and provides a screening of maximum, worst-case CO concentrations. Maximum CO concentrations were calculated for peak-hour traffic volumes at the study intersections noted above. Results are presented below in Table IV.C-9.

Table IV.C-9
Future (2014) Localized Carbon Monoxide Concentrations

Intersection	CO Concentrations in Parts per Million [a]							
	Roadway Edge		25 feet		50 feet		100 feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
El Camino Real & Valparaiso Ave.	5.4	2.7	5.0	2.4	4.9	2.3	4.7	2.2
Menlo/University & Valparaiso Ave.	4.9	2.3	4.7	2.2	4.6	2.1	4.5	2.0
Michaels Way & Valparaiso Ave.	5.4	2.7	4.9	2.3	4.8	2.2	4.6	2.1
Johnson St. & Valparaiso Ave.	5.5	2.7	5.0	2.4	4.8	2.2	4.7	2.1
Emilie Ave. & Valparaiso Ave.	5.5	2.8	5.0	2.4	4.8	2.3	4.7	2.2
Arbor Road & Valparaiso Ave.	5.4	2.7	4.9	2.3	4.8	2.2	4.6	2.1
San Mateo Dr. & Valparaiso Ave.	5.4	2.7	4.9	2.3	4.7	2.2	4.6	2.1
Elena Ave. & Valparaiso Ave.	5.5	2.7	5.0	2.4	4.8	2.3	4.7	2.1
Cotton Street & Valparaiso Ave.	5.4	2.7	4.9	2.3	4.8	2.2	4.6	2.1
Emilie Ave. & Park Lane	4.7	2.2	4.5	2.1	4.5	2.0	4.4	2.0
Elena Ave. & Park Lane	4.9	2.3	4.6	2.1	4.5	2.1	4.5	2.0

[a] *The national 1-hour CO ambient air quality standard is 35.0 ppm, and the state 1-hour CO ambient air quality standard is 20.0 ppm. National and state 8-hour standards are 9.0 parts per million.*

Traffic Information Source: Crane Transportation Group, 2010.
Source: Christopher A. Joseph & Associates, February 2010. Calculation data and results are provided in Appendix G.

Based on the CALINE4 computer-modeling results, local CO concentrations would not exceed State or national ambient air quality standards. Therefore, emissions of CO associated with the Project would be ***less than significant*** with no mitigation warranted.

TACs

TACs are typically associated with a variety of sources, including industrial facilities such as refineries, chemical plants and chrome platers, commercial facilities such as dry cleaners and gasoline stations, and motor vehicles. TACs emissions from motor vehicles are generally a result of diesel exhaust emissions associated with truck or bus operations and along heavily-traveled freeways.

The proposed Project does not include land uses such as those previously described, but it would generate traffic trips. Although the Project would generate new traffic trips, the amount of TACs that would be generated by these new trips is not anticipated to be of a high enough concentration to pose a cancer risk that exceeds 10-in-1-million or a non-cancer risk greater than a hazard index of 1.0. As a point of comparison, the ARB[7]considers distribution centers with 100 or more daily truck trips to be a potential source of significant toxic air contaminants (TACs), specifically diesel particulate matter (DPM). Based on the Sacred Heart Schools Master Plan Traffic Impact Study, the proposed project will generate 320 daily trips. Based on the fleet mix used in URBEMIS 2007, less than 2 percent of these trips (i.e., less than 7 trips) will be from diesel-powered heavy-duty trucks. Therefore, Project impacts related to TACs would be ***less than significant***.

The ambient air environment that currently exists on and around the Project site would also have the potential to impact the students at the Project Site. Based on ARB siting recommendations[8], sensitive receptors should not be sited within 1,000 feet of a warehouse distribution center which has extensive heavy-duty truck activity, within 500 feet of a freeway, within 300 feet of a large gas station, 50 feet of a typical gas dispensing facility or within 300 feet of a dry cleaning facility that uses perchloroethylene. The Project site boundary is greater than 500 feet from any freeway. Because the Project is not located within the radii of the listed source types, the siting of the Project site would result in a ***less than significant*** impact with regard to the exposure of on-site residents to the TAC emission sources identified in ARB's siting recommendations.

Impact AQ-4: Implementation of the proposed Project would not create objectionable odors.

According to the BAAQMD CEQA Guidelines, the types of projects that commonly result in odor impacts include: wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters. The proposed Project does not include any of these uses and would not create objectionable odors that would affect a substantial number of people. Therefore, Project impacts related to odors would be ***less than significant***, and no further analysis of this issue is required.

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[7] *ARB, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005.*

[8] *Ibid.*

Impact AQ-5: Implementation of the proposed Project is not inconsistent with applicable guidance documents issued in furtherance of AB 32 to date, including the 2006 CAT Report and the ARB Scoping Plan.

Pursuant to CEQA Guidelines Section 15064.4(a), the Town has made a good-faith effort, based on the scientific and factual data available, to calculate the amount of GHG emissions that will result from the proposed Project. These calculations are provided in Appendix B and the inventory of emissions is shown in Table IV.C-10, below. Sources of GHG emissions from the proposed Project arise out of both construction and operation and include motor vehicles, natural gas consumption, electricity generation, and water consumption.

During construction activities at the Project site, the consumption of fuel by the on-site equipment would generate GHG emissions. The URBEMIS 2007 model, which can estimate the daily and annual amount of CO_2 emissions generated by on-site equipment during construction activities at the Project site, was used to estimate the amount of construction-related GHG emissions associated with the proposed Project. As URBEMIS 2007 reports annual emissions in English tons, the results were converted to metric tons for reporting consistency. The reported emissions in this category include the use of construction equipment during grading, construction and paving, haul truck trips to the site, construction worker trips to the site, and vendor trips to the site.

During operation of the proposed Project, the consumption of fossil fuels is necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water. Fuel is also consumed by on-road mobile vehicles associated with the proposed Project. T he consumption of these fossil fuels creates GHG emissions. In calculating the GHG emissions estimated to result from the proposed Project, the future fuel consumption rates and water use for the proposed Project by these sources were estimated based on the proposed land uses. The GHG emission factors from the California Climate Action Registry (CCAR) Protocol for natural gas and electricity were then applied to the respective consumption rates, to calculate annual GHG emissions in metric tons. GHG emissions from water consumption were determined by evaluating the water-related energy use relationship identified in the CEC's California's Water-Energy Relationship document. The on-road mobile vehicle miles per day and vehicle fleet mix with the proposed Project were estimated using the URBEMIS 2007 computer model and sources of assumed miles per gallon were based upon the National Highway Traffic Safety Administration Summary of Fuel Economy Performance and the U.S. Department of Energy Transportation Energy Book. The GHG emission factors from the CCAR Protocol for motor vehicles were applied to calculate annual GHG emissions in metric tons.

Table IV.C-10
Predicted Proposed Project Greenhouse Gas Emissions

Emissions Source	CO_2e Emissions in Metric Tons
Construction (2011-2014)	738
Emissions Source	**CO_2e Emissions in Metric Tons per Year**
Operations	
Natural Gas Use	54
Electrical Use	87
Motor Vehicles	341
Water Consumption	0.7
Total	482
Source: Christopher A. Joseph & Associates, 2010.	

The consistency of the proposed Project with the strategies from the 2006 CAT Report and ARB's Scoping Plan measures is evaluated in Table IV.C-11, Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies, and Table IV.C-12, Project Consistency with Scoping Plan Recommended Greenhouse Gas Emission Reduction Measures, respectively. As shown, the proposed Project would be consistent with all feasible and applicable strategies of the 2006 CAT Report and the recommended measures of ARB Scoping Plan to reduce GHG emissions in California.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
California Air Resources Board	
<u>Vehicle Climate Change Standards</u> AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by ARB in September 2004.	**Consistent.** The vehicles that travel to and from the Project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
<u>Diesel Anti-Idling</u> In July 2004, ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	**Consistent.** The diesel-fueled commercial trucks making deliveries to the Project site would be required to comply with all applicable adopted ARB vehicle standards.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	**Consistent.** This strategy applies to consumer products. All applicable products purchased by students and faculty of the proposed Project would comply with the regulations that are in effect at the time of manufacture.
Transportation Refrigeration Units, Off-Road Electrification, Port Electrification (ship to shore) Require all new transportation refrigeration units (TRU) to be equipped with electric standby. Require cold storage facilities to install electric infrastructure to support electric standby TRUs.	**Not applicable.** The proposed Project would not involve the use of transportation refrigeration units.
Manure Management Improved management practices, manure handling practices, and lagoon/liquid waste control options.	**Not applicable.** The proposed Project would not involve any manure handling.
Semi Conductor Industry Targets Emission reduction rules for semiconductor operations.	**Not applicable.** The proposed Project would not involve any semiconductor operations.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	**Consistent.** The diesel vehicles that travel to and from the Project site on public roadways could utilize this fuel once it is commercially available.
Alternative Fuels: Ethanol Increased use of E-85 fuel.	**Consistent.** Students and faculty of the proposed Project could purchase flex-fuel vehicles and utilize this fuel once it is commercially available in the region and local vicinity.
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	**Consistent.** The heavy-duty vehicles (e.g., refuse and delivery trucks) that travel to and from the Project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Reduced Venting and Leaks on Oil and Gas Systems Improved management practices in the production, processing, transport, and distribution of oil and natural gas.	**Not applicable.** The proposed Project does not involve any production, processing, transport, or distribution of oil and natural gas.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Hydrogen Highway The California Hydrogen Highway Network (CA H2 Net) is a State initiative to promote the use of hydrogen as a means of diversifying the sources of transportation energy.	**Not applicable.** The proposed Project would not be responsible for promoting the use of hydrogen for transportation energy. However, students and faculty of the proposed Project could use this fuel once it becomes commercially available.
Achieve 50% Statewide Recycling Goal Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	**Consistent.** The proposed Project would comply with the requirements set forth in AB 939, which requires each city or county to divert 50 percent of its solid waste from landfill disposal through source reduction, recycling, and composting.
Landfill Methane Capture Install direct gas use or electricity projects at landfills to capture and use emitted methane.	**Not applicable.** The proposed Project does not involve landfill operations.
Zero Waste – High Recycling Efforts to exceed the 50 percent goal would allow for additional reductions in climate change emissions.	**Consistent.** The proposed Project would comply with the requirements of AB 939. The proposed Project would also be subject to all applicable State and Town requirements for solid waste reduction as they change in the future.
Department of Forestry	
Forest Management Increasing the growth of individual forest trees, the overall age of trees prior to harvest, or dedicating land to older aged trees.	**Not applicable.** The proposed Project is not located within or near a forest.
Forest Conservation Provide incentives to maintain an undeveloped forest landscape.	**Not applicable.** The proposed Project is not located within or near a forest.
Fuels Management/Biomass Reduce the risk of wildland fire through fuel reduction and biomass development.	**Not applicable.** The proposed Project is not located within or near a forest or an area of open space in which fuel accumulation is an issue.
Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Not applicable.** The proposed Project is not located in an urban setting.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Afforestation/Reforestation Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	**Not applicable.** The proposed Project is not located within or near a forest.
Department of Water Resources	
Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent.** The proposed Project would be subject to all applicable State and Town requirements for water use efficiency.
Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	**Consistent.** The proposed Project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development.
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	**Consistent.** Under State law, appliances that are purchased for the proposed Project would be consistent with energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent.** Students and faculty of the proposed Project could purchase tires for their vehicles that comply with State programs for increased fuel efficiency.
Cement Manufacturing Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	**Not applicable.** The proposed Project does not involve cement manufacturing.
Municipal Utility Energy Efficiency Programs/Demand Response Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	**Not applicable**. While this strategy is not applicable, the proposed Project would not preclude the implementation of this strategy by municipal utility providers.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Municipal Utility Renewable Portfolio Standard California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20 percent of retail electricity sales from renewable energy sources by 2017, within certain cost constraints.	**Not applicable**. While this strategy is not applicable, the proposed Project would not preclude the implementation of this strategy by municipal utility providers.
Municipal Utility Combined Heat and Power Cost effective reduction from fossil fuel consumption in the commercial and industrial sector through the application of on-site power production to meet both heat and electricity loads.	**Not applicable**. While this strategy is not applicable, the proposed Project would not preclude the implementation of this strategy by municipal utility providers.
Municipal Utility Electricity Sector Carbon Policy State agencies to address ways to transition investor-owned utilities away from carbon-intensive electricity sources.	**Not applicable.** While this strategy is not applicable, the proposed Project would not preclude the implementation of this strategy by municipal utility providers.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent.** Students and faculty of the proposed Project could purchase alternative fuel vehicles and utilize these fuels once they are commercially available in the region and local vicinity.
Business, Transportation and Housing	
Measures to Improve Transportation Energy Efficiency Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	**Consistent.** The location of the proposed Project promotes fuel conservation as it is located close to public transportation, providing students and faculty of the Project an alternative to the single occupancy vehicle.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	**Consistent.** The proposed Project is located near a number of public transportation services, thereby reducing the number of vehicles miles traveled.
Department of Food and Agriculture	
Conservation Tillage/Cover Crops Conservation tillage and cover crops practices are used to improve soil tilt and water use efficiency, and to reduce tillage requirements, labor, fuel, and fertilizer requirements.	**Not applicable.** The proposed Project would not include any elements of agriculture.
Enteric Fermentation Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	**Not applicable.** The proposed Project would not include any elements of agriculture.

Table IV.C-11
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
State and Consumer Services Agency	
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and –leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.	**Consistent.** As discussed previously, the proposed Project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The current 2005 Title 24 standards are approximately 8.5 percent more efficient than those of the 2001 standards.
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33 percent renewable in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33 percent goal.	**Not applicable**. While this strategy is not applicable, the proposed Project would not preclude the implementation of this strategy by municipal utility providers.
California Solar Initiative The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, use of advanced metering in solar applications, and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	**Not applicable.** The proposed Project would not preclude the implementation of this strategy. In addition, although solar roofs are not proposed as part of the proposed Project, the design of the new building structures would not preclude the installation and use of solar equipment in the future if they become cost effective from a purchase and maintenance standpoint of the property owners.
Investor-Owned Utility Programs These strategies include energy efficiency programs, combined heat and power initiative, and electricity sector carbon policy for investor owned utilities.	**Not applicable.** While this strategy is not applicable, the Project would not preclude the implementation of this strategy by investor owned utility providers.

Sources: California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006; Christopher A. Joseph & Associates, February 2010.

Table IV.C-12
Project Consistency with ARB Scoping Plan Recommended Greenhouse Gas Emission Reduction Measures

Measure	Project Consistency
California Air Resources Board	
California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	**Not applicable.** While this measure is not specifically applicable to the proposed Project, the proposed Project would not preclude the implementation of this measure by ARB.
California Light-Duty Vehicle Greenhouse Gas Standards Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**Consistent.** The vehicles that travel to and from the Project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Energy Efficiency Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).	**Consistent.** The proposed Project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The current 2005 Title 24 standards are approximately 8.5 percent more efficient than those of the 2001 standards.
Renewables Portfolio Standard Achieve 33 percent renewable energy mix statewide.	**Not applicable.** While this measure is not applicable, the proposed Project would not preclude the implementation of this measure by municipal utility providers.
Low Carbon Fuel Standard Develop and adopt the Low Carbon Fuel Standard.	**Consistent.** Students and faculty of the proposed Project could purchase low carbon fuel once they are commercially available in the region and local vicinity.
Regional Transportation-Related Greenhouse Gas Targets Develop regional greenhouse gas emissions reduction targets for passenger vehicles.	**Consistent.** The passenger vehicles that travel to and from the Project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Vehicle Efficiency Measures Implement light-duty vehicle efficiency measures.	**Consistent.** The light-duty vehicles that travel to and from the Project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.

Table IV.C-12
Project Consistency with ARB Scoping Plan Recommended Greenhouse Gas Emission Reduction Measures

Measure	Project Consistency
Goods Movement Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	**Not applicable.** While this measure is not applicable, the Project would not preclude the implementation of this measure by ARB.
Million Solar Roofs Program Install 3,000 MW of solar-electric capacity under California's existing solar programs.	**Not applicable.** The proposed Project would not preclude the implementation of this strategy.
Medium/Heavy-Duty Vehicles Adopt medium and heavy-duty vehicle efficiency measures.	**Consistent.** The medium and heavy-duty vehicles that travel to and from the Project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Industrial Emissions Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	**Not applicable.** The proposed Project is not an industrial facility and would not involve the operation of industrial processes.
High Speed Rail Support implementation of a high speed rail system.	**Not applicable.** While this measure is not applicable, the proposed Project would not preclude the implementation of this measure by the State.
Green Building Strategy Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Consistent.** The proposed Project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The current 2005 Title 24 standards are approximately 8.5 percent more efficient than those of the 2001 standards.
High Global Warming Potential Gases Adopt measures to reduce high global warming potential gases.	**Not applicable.** While this measure is not applicable, the proposed Project would not preclude the implementation of this measure by the State.
Recycling and Waste Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	**Consistent.** The proposed Project would comply with the requirements of AB 939. The proposed Project would also be subject to all applicable State and City requirements for solid waste reduction as they change in the future.

Table IV.C-12
Project Consistency with ARB Scoping Plan Recommended Greenhouse Gas Emission Reduction Measures

Measure	Project Consistency
Sustainable Forests Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	**Not applicable.** The proposed Project is not located within or near a forest.
Water Continue efficiency programs and use cleaner energy sources to move and treat water.	**Consistent.** The Project would comply with measures mandated by the local water agency to reduce water use as well as wastewater generation.
Agriculture In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	**Not applicable.** The proposed Project would not include any elements of agriculture.
Sources: Air Resources Board, Climate Change Proposed Scoping Plan, October 2008; Christopher A. Joseph & Associates, February 2010.	

CUMULATIVE IMPACTS

According to the *BAAQMD CEQA Guidelines*, any project that would individually have a significant air quality impact would also have a significant cumulative air quality impact. Since the proposed Project would not exceed the BAAQMD-recommended significance thresholds for individual projects, the cumulative air quality impacts are also considered ***less than significant***.

IV. ENVIRONMENTAL IMPACT ANALYSIS
D. BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) provides a description of the biological resources on the proposed Project site, including the vegetation communities, wildlife, special-status species, sensitive natural communities; a discussion of the regulations that serve to protect sensitive resources; an assessment of the potential impacts of the proposed Project; and recommendations to minimize and mitigate potentially significant impacts on biological resources.

Preparation of this section used data from various sources. These sources are summarized in the Backgrounds and Methods section below.

ENVIRONMENTAL SETTING

REGULATORY SETTING

Federal

Federal Endangered Species Act

The Federal Endangered Species Act of 1973, as amended (FESA), provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the USFWS and the National Marine Fisheries Service (NOAA Fisheries), prohibitions against "taking" of listed species, and provisions for permits that allow incidental "take." The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries share the responsibility for administration of the FESA. During the CEQA review process, each agency is given the opportunity to comment on the potential of the proposed Project to affect listed plants and animals.

Sensitive Species

The United States Forest Service designates plant and animal species identified by a regional forester that are not listed or proposed for listing under FESA for which population viability is a concern, as evidenced by significant current or predicted downward trend in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution, as "sensitive." Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

Clean Water Act Section 404 & 401

The Army Corps of Engineers (ACE) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (such as dams and levees), infrastructure developments (such as highways and airports) and mining projects. Section 404 of the CWA requires a federal license or permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the state in which the discharge originates or would originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NOAA Fisheries and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the CDFG), with a view to conservation of birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

The Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbance that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

The Bald Eagle Protection Act (16 U.S.C. 668) was passed in 1940 to protect bald eagles and was later amended to include golden eagles. Under the act it is unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

State

California Endangered Species Act

The State of California enacted similar laws to the FESA -- the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Game (CDFG) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB) , a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the CEQA review process, the CDFG is given the opportunity to comment on the potential of the proposed Project to affect listed plants and animals.

Fully Protected Species & Species of Special Concern

The classification of "fully protected" was the CDFG's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibians and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with "fully protected" species state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," although take may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFG to authorize take resulting from recovery activities for state-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFG because they are declining at a rate that could result in listing or because they historically occurred in low numbers and known threats to their persistence currently exist.

This designation is intended to result in special consideration for these animals by the CDFG, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under the CEQA during project review.

California Fish and Game Code Sections 3503 & 3513

According to Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MTBA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version. The Inventory assigns plants to the following categories:

- 1A – Presumed extinct in California
- 1B – Rare, threatened, or endangered in California and elsewhere
- 2 – Rare, threatened, or endangered in California, but more common elsewhere
- 3 – Plants for which more information is needed
- 4 – Plants of limited distribution

Additional endangerment codes are assigned to each taxa as follows:

- 1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree of immediacy of threat).
- 2 – Fairly endangered in California (20-80 percent occurrences threatened).
- 3 – Not very endangered in California (<20 percent of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and are given special consideration under CEQA during project review. Although plants on List 3 and 4 have little or no protection under CEQA, they are usually included in the project review for completeness.

Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These waterbodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require an ACE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

California Fish and Game Code Section 1600

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFG under Sections 1600-1616 of the California Fish and Game Code. A 1602 Lake and Streambed Alteration Agreement is generally required for any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. The term "stream," which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself." Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFG.

California Oak Woodland Statute

In September 2004, State Bill 1334 was passed and added to the State Public Resources Code as Statute 21083.4, requiring all California counties to determine in their CEQA documents whether a project in its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. The California Fish and Game Code (Section 1361) defines oak woodland habitat as "an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover."

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, state, and local conservation plans, policies or regulations. The CDFG ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its CNDDB. Sensitive vegetation communities are also identified by CDFG on its List of California Natural Communities Recognized by the CNDDB. Impacts to sensitive natural communities and habitats identified in local or regional plans, policies, regulations or by federal or state agencies must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

Regional/Local

Town of Atherton General Plan

The Town of Atherton General Plan (November 20, 2002) sets forth policy guidelines for decision making on issues related to development and conservation in the Town of Atherton. Section IV.E (Land Use and Planning) assesses the consistency of the proposed Project with the relevant goals and policies of the Town of Atherton General Plan.

Atherton Municipal Code

Town of Atherton Tree Preservation Guidelines, Standards and Specifications

The Town of Atherton Tree Preservation Guidelines, Standards and Specifications (The Guide) was prepared in 2004 by the Town of Atherton as a guide to the Town's policies and procedures involving trees. The Town of Atherton adopted these policies that provide specific steps to insure the preservation of trees before during and after construction on a project site. The Guide also includes criteria for Town review of applications involving trees and shrubs on and procedures for tree alteration, removal, or planting in the Town of Atherton. The Guide is provided in Appendix G.

In addition, the Town of Atherton provides several ordinances specific to tree preservation. In particular, Chapter 8.10 of the Atherton Municipal Code specifically addresses the Removal of and Damage to Heritage Trees. Appendix G. provides a table listing the various tree ordinances found in the Atherton Municipal Code.

BACKGROUND AND METHODS

The analysis of potential biological resources impacts associated with the proposed Project involved review of available background information, including (but not limited to) Tree Reports and reports completed for the Project site. In addition, a reconnaissance level field survey was conducted by a biologist with Christopher A. Joseph & Associates (CAJA).

Prior to conducting field surveys, CAJA's biologist reviewed the Tree Reports (McClenahan 2008 and 2009) completed for the Project site to verify the adequacy, completeness, and accuracy of these reports for their use in this section of the DEIR. In addition, Tree Protection and Removal Plans (Carducci 2010; WRNS 2010; SWA 2010) and proposed Landscape Plans were provided for each Project segment. These reports and plans are included in Appendix G.

In addition to the reports listed above, CAJA's biologist reviewed:

- California Department of Fish and Game (CDFG) 2009 California Natural Diversity Database (CNDDB);
- California Native Plant Society (CNPS) 2009 Inventory of Rare and Endangered Plants;
- U.S. Fish and Wildlife Service (USFWS) December 1, 2009 Federal Endangered and threatened Species that Occur in or May Be Affected by Project in the Palo Alto USGS 7.5 Minute Quadrangle;
- Natural Resources Conservation Service (NRCS), United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Maps for San Mateo County;
- USFWS 2009 Wetlands Geodatabase. Division of Habitat and Resource Conservation National Wetlands Inventory (NWI) maps;

Other available site plans, aerials and Master Plan figures were also reviewed by CAJA biologists. The methods used to assess the biological resources on the site are described in more detail below.

Vegetation Communities & Wildlife Habitats

The vegetation communities and wildlife habitats identified on the proposed Project site are composed of an entirely landscaped school and residential campus with several native and non-native tree species. Normally site vegetation communities are classified according to Holland, *Preliminary Descriptions of the Terrestrial Natural Communities of California* for the purpose of identifying sensitive natural habitats. However, few Holland classifications exist for areas dominated by non-native species (i.e., landscaped areas). Therefore, Vegetation communities on the site are generally mapped on landscape plans for each segment of the Project. Due to the maintained landscape characteristics of the site, no habitat map was created.

Special-Status Species

For the purposes of this analysis, special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the FESA; those listed or proposed for listing as rare, threatened, or endangered by CDFG under the CESA; plants occurring on List 1A, List 1B, List 2, List 3 and List 4 of the CNPS Inventory; and animals designated as "species of special concern" or "fully protected" by CDFG.

The potential occurrence of special-status species on the proposed Project site was evaluated by first developing a list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the Project site based on a search of the CNDDB records within a five-mile radius of the site and the CNPS Electronic Inventory records, included on the Palo Alto (428B)U.S. Geological Service (USGS) 7.5-Minute Quadrangle, and review of the USFWS list of Federal Endangered and Threatened Species that Occur in or May be Affected by Projects on the Palo Alto(428B) USGS 7.5 Minute Quad. Each species was then evaluated for its potential to occur on the site during the reconnaissance-level field surveys according to the following criteria:

(1) Not Present. Species listed as Not Present on the project site are those species for which:

No suitable habitat occurs on the project site. The species has no likelihood for utilizing any portion of the site due to lack of habitat requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.).

The site has been surveyed during the proper time of year with negative results for the species.

(2) Low Potential to Occur. Species listed as having a Low Potential to Occur on the Project site are those species for which:

There are no known records of occurrence in the vicinity of the site; and/or

The majority of the habitat on the project site is unsuitable or of very poor quality for the species;

Required habitat components are not present on the site.

(3) Moderate Potential to Occur. Species listed as having a Moderate Potential to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site; and/or

Some of the required habitat components are available on the site, but the site lacks some critical components required by the species.

(4) Likely to Occur. Species listed as Likely to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site (there are many records and/or records in close proximity); and/or

Habitat components are available on the site but no record of the species utilizing the project site exists.

(5) Present. Species listed as Present on the project site are those species for which:

The species was observed or is otherwise known to occur on the project site.

Table IV.D-1 and Table IV.D-2 presents the list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the proposed Project site, their habitat requirements, and a rating of potential for occurrence on the site. Although species restricted to marine habitats (e.g., black abalone (Haliotes cracherodii), white abalone (Haliotes sorenseni), Gaudalupe fur seal (Arctocephalus townsendi), blue whale (Balaenoptera musculus), finback whale(Balaenoptera physalus), right whale (Ebalaena glacialis), and sperm whale (Physeter catodon) are known to or have the potential to occur in San Mateo County, these species were not included in Table IV.D-2, as the Project site does not support habitat used by these species. Also, the words “nesting”, “nesting colony”, “rookery site” or “wintering” following the sensitivity/regulatory status of the bird species in Table IV.D-2 indicates the regulatory status only while the species is nesting or wintering.

Sensitive Natural Communities

Sensitive natural communities are identified by federal, state, and local agencies as those habitats that support special-status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitats, and/or provide high biological diversity. The potential occurrence of sensitive natural communities on the proposed Project site was evaluated by first developing a list of sensitive habitats that are known to or have the potential to occur in the vicinity of the Project site based on a search of the CNDDB records within a five-mile radius of the site. The sensitive natural communities known to occur in the vicinity of the Project site were then compared to the vegetation communities identified on the site to determine the nature and extent of potential sensitive communities to occur on the Project site.

Tree Reports

Tree Reports were conducted in August 2008 and November 2009 by McClenahan Consulting, LLC. The purpose of these surveys was to inventory the location of individual trees greater than 15 inches in diameter within the Project site’s building setbacks. Tree species, diameter, height, spread, condition, location and observations were recorded. During the Tree Report each tree was evaluated using a health matrix and given a “Tree Condition” rating as an assessment of relative life expectancy as follows:

- 0 – 5 Years = Poor
- 5 – 10 Years = Poor to Fair
- 10 – 15 Years = Fair
- 15 – 20 Years = Fair to Good
- 20+ Years = Good

It should be noted that the health of a tree is generally dependent on general climactic and soil conditions, as well as potential physical or mechanical damage of a non-biotic origin and/or infestation of various pests including, but not limited to: ants, termites, wood boring beetles, cambium eating beetles, fungus, and parasitic plans. Climbing plants which may use oaks and other trees for support, such as Algerian or English ivy (*Hedera sp.*), Honeysuckle (*Lonicera sp.*), wild cucumber (*Marah macrocarpus*), and poison oak (*Toxicodendron diversilobum*) are also considered as health threatening infestations. While the aesthetic value of a tree is subjective, a tree is usually considered highly aesthetic if it has generally dense foliage, a relatively uniform or spectacular irregular shape and large size.

Additional Tree Protection and Removal Plans were compiled for each portion of proposed campus development by Carducci & Associates, WRNS, and SWA. Tree locations were recorded and mapped on site plans. Site tree information was confirmed by CAJA's biologist during the site reconnaissance visit. Information provided in the surveys and tree plans was used to determine potential impacts to trees on site, in particular Heritage trees which are protected by the Town of Atherton Heritage Tree Ordinance (Chapter 8.10).

Jurisdictional Waters and Wetlands

Dredge or fill of wetlands or waters of the state are regulated under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act in California. The appropriate Regional Water Quality Control Board (RWQCB) regulates compliance with both of these laws for the protection of water quality. Dredge or fill of navigable waters of the U.S. are regulated under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act by the U.S. Army Corps of Engineers (USACE). Based on a site visit and background review of pertinent information, no jurisdictional wetlands are known to occur on-site.

EXISTING CONDITIONS

The following sections provide descriptions of the vegetation communities and wildlife habitats, special-status species and sensitive natural communities, and jurisdictional waters and wetlands present or potentially present on the proposed Project site.

Vegetation Communities & Wildlife Habitats

The entire SHS campus and associated Project sites are landscaped and consists of landscaped areas, turf fields, and native and non-native tree species. There are no sensitive vegetation communities, and no habitat to support special status plant and/or animal species on or in the immediate vicinity of the Project site.

Sensitive vegetation communities and wildlife habitats identified to occur in the vicinity of the site as well as the potential for the site to support special status species are described in more detail below.

Trees are addressed separately below.

Special-Status Species

As discussed above in the Background and Methods section, the special-status plants and animals evaluated for their potential to occur on the proposed Project site are listed below in Table IV.D-1 and Table IV.D-2, respectively. Table IV.D-3 represents Sensitive Vegetation Communities evaluated for their potential to exist on the proposed Project site. The plants, animals, and sensitive vegetation communities classified as having a Low Potential to Occur or Not Present are not discussed further in this analysis because these species are not likely to occur on or adjacent to the Project site due to the fact that the general habitat and/or micro-habitat requirements for the species are not present, the species distribution does not include the Project site, or the species or community was not detected during appropriately timed field surveys.

Table IV.D-1
Special-Status Plant Species Evaluated for the Potential to Occur within the Project Site

Common Name Scientific Name	Status			Habitat Requirements	Elevation Range, Flowering Period	Potential Occurrence on the Project Site
	Federal	State	CNPS			
San Mateo thorn-mint *Acanthomintha duttonii*	FE	CE	List 1B.1	In relatively open areas in chaparral, valley and foothill grassland, and coastal scrub. Extant populations known only from very uncommon serpentinite vertisol clays.	50-300m April - June	Not Present. No suitable soils or habitat present on site.
Franciscan onion *Allium peninsulare var. franciscanum*			List 1B.2	Dry hillsides in cismontane woodland, valley and foothill grassland, on clay or serpentinite soils.	100-300m May - June	Not Present. No suitable soils or habitat present on site.
Kings Mountain Manzanita *Arctostaphylos regismontana*			List 1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest on granitic or sandstone outcrops.	300-700 m January-April	Not Present. No suitable soils or habitat present on site.
Congdon's tarplant *Centromadia parryi ssp. Congdonii*			List 1B.2	Alkanline soils, sometimes described as heavy white clay, in valley and foothill grassland.	1-230m May- November	Not Present. No suitable soils or habitat present on site.
Fountain thistle *Cirsium fontinale var. fontinale*	FE	CE	List 1B.1	Serpentine seeps and grassland in chaparral.	90-180m June-October	Not Present. No suitable soils or habitat present on site.
Lost Thistle *Cirsium praeteriens*			List 1A	Little information exists on this plant; it was last collected from	0-100 m June - July	Not Likely to occur on completely

Table IV.D-1
Special-Status Plant Species Evaluated for the Potential to Occur within the Project Site

				the Palo Alto area at the turn of the 20th century.		developed site.
San Francisco collinsia *Collinsia multicolor*			List 1B.2	Closed-cone coniferous forest and coastal scrub on decomposed shale (mudstone) mixed with humus.	30-250m March - May	Not Present. No suitable soils or habitat present on site.
Western leatherwood *Dirca occidentalis*			List 1B.2	On brushy slopes in mesic soils in broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest and woodland.	30-550m January - April	Not Present. No suitable soils or habitat present on site.
Hoover's button celery *Eryngium aristulatum var. hooveri*			List 1B.1	Historically in alkaline depressions, vernal pools, roadside ditches and other wet places near the coast.	3-45m July	Not Present. No suitable soils or habitat present on site.
Fragrant fritillary *Fritillaria liliacea*			List 1B.2	Coastal scrub, valley and foothill grasslands, coastal prairie; associated with serpentinite soils; clay soils in grassland	3-410m February – April	Not Present. No suitable soils or habitat present on site.
Marin western flax *Hesperolinon congestum*	FT	CT	List 1B.1	In serpentine barrens in chaparral and serpentine grassland.	5-370m April – July	Not Present. No suitable soils or habitat present on site.
Arcuate bush-mallow *Malacothamnus arcuatus*			List 1B.2	Gravelly alluvium soil in chaparral.	15-355m April-September	Not Present. No suitable soils or

Table IV.D-1
Special-Status Plant Species Evaluated for the Potential to Occur within the Project Site

						habitat present on site.
Davidson's bush-mallow *Malacothamnus davidsonii*			List 1B.2			
Slender-leaved pond weed *Potamogeton filiformis*			List 2.2	Shallow, clear water of freshwater marshes and swamps, drainage channels, edges of ponds and lakes.	15-2310m May – July	Not Present. No aquatic habitat on site.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*			List 1A	Valley and foothill grassland on alkaline clay soils.	0-455m March – April	Not Present. No suitable soils or habitat present on site.

STATUS KEY:
Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened
State
CE: California-listed Endangered
CT: California-listed Threatened
CR: California-listed Rare

CNPS
List 1A: Plants presumed extinct in California.
List 1B: Plants rare and endangered in California and elsewhere.
List 2: Plants rare and endangered in California, but more common elsewhere.
List 3: Taxa about which more information is needed.
List 4: Plants of limited distribution.

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

Common Name Scientific Name	Status Federal	Status State	Habitat Requirements	Potential Occurrence on the Project Site
INVERTEBRATES				
bay checkerspot butterfly *Euphydryas editha bayensis*	FT		Shallow, serpentine-derived soils in native grasslands supporting larval host plants, dwarf plantain or purple owl's clover.	Not Present. No suitable serpentine or native grassland habitat available on or adjacent to Project Area. Site and vicinity lack required host plants.
AMPHIBIANS				
California tiger salamander *Ambystoma californiense*	FT	CSC	Inhabits annual grass habitat and mammal burrows. Seasonal ponds and vernal pools crucial to breeding.	Not Present. No suitable vernal pool or seasonal pond habitat available on or adjacent to Project Area. Mammal burrows lacking. Not known to occur in the vicinity.
California red-legged frog *Rana draytonii*	FT	CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development.	Not Present. No suitable freshwater aquatic habitat on or adjacent to the Project Area. Not known to occur in the vicinity.
REPTILES				
western pond turtle *Actinemys marmorata*		CSC	Permanent or nearly permanent bodies of water with protected areas for basking, such as partially submerged rocks or logs, floating vegetation mats or open mud banks.	Not Present. No suitable freshwater aquatic habitat on or adjacent to the Project Area. Not known to occur in the vicinity.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE	CE	Found in the vicinity of freshwater marshes, ponds and slow moving streams. Prefer dense cover and water depths of at least on foot. Upland areas important.	Not Present. No suitable freshwater aquatic habitat on or adjacent to the Project Area. Not known to occur in the vicinity.

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

BIRDS				
Western Snowy Plover *Charadrius alexandrinus nivosus*	FT	CSC (nesting)	Breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, found on many of the beaches used for nesting as well as on beaches where they do not nest, in man-made salt ponds, and on estuarine sand and mud flats. Needs sandy, gravelly or friable soils for nesting.	Not Present. No suitable breeding, foraging, or nesting habitat available on or adjacent to the Project Area. Site located well inland.
Northern Harrier *Circus cyaneus*		CSC (wintering)	Marshes, meadows, grasslands, and cultivated fields. Nests on the ground, commonly near low shrubs, in tall weeds or reeds.	Not Present. No suitable habitat available on site or in vicinity of site.
Snowy Egret *Egretta thula*		* (rookery site)	Variety of habitats, including marshes, lakes, ponds, lagoons, and shallow coastal habitats. Nests in trees or shrubs or, in some areas, on ground or in marsh vegetation.	Not Present. No suitable habitat available on site or in vicinity of site.
White-tailed Kite *Elanus leucurus*		Cfp (nesting)	Savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations.	Not Present. No suitable habitat available on site or in vicinity of site.
Saltmarsh Common Yellowthroat *Geothlypis trichas sinuosa*		CSC	Freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, salt marshes, and edges of disturbed weed	Not Present. No suitable habitat available on site or in vicinity of site.

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

			fields and grasslands that border soggy habitats. Resident of San Francisco Bay region in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches and willows for nesting.	
California Black Rail *Laterallus jamaicensis coturniculus*		CT Cfp	Marshlands with unrestricted tidal influence (estuarine, intertidal, emergent, regularly flooded). Prefers areas dominated by pickleweed, bulrushes, matted salt grass, and other marsh vegetation.	Not Present. No suitable habitat available on site or in vicinity of site.
Alameda Song Sparrow *Melospiza melodia pusillula*		CSC	Resident of salt marshes bordering south arm of the San Francisco Bay. Inhabits salicornia marshes; nests low in grindelia bushes (high enough to escape high tides) and in salicornia. Requires dense vegetation for nesting, perches, and cover from predators.	Not Present. No suitable habitat available on site or in vicinity of site.
California Clapper Rail *Rallus longirostris obsoletus*	FE	CE Cfp	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. In the south and central San Francisco Bay and along the perimeter of San Pablo Bay, rails typically inhabit salt marshes dominated by pickleweed and Pacific cordgrass.	Not Present. No suitable habitat available on site or in vicinity of site.

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

California Least Tern *Sternula antillarum browni*	FE	CE Cfp (nesting colony)	Bays and lagoons, nesting on the adjacent open sandy beaches, dunes, or disturbed sites. Nesting is limited to colonies in the San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County.	Not Present. No suitable habitat available on site or in vicinity of site.
MAMMALS				
pallid bat *Antrozous pallidus*		CSC	Arid deserts and grasslands, often near rocky outcrops and water. Usually roosts in rock crevice or building, less often in cave, tree hollow, mine, etc. Prefers narrow crevices in caves as hibernation sites.	Not Present. No suitable habitat or natural water source on or near subject site.
Santa Cruz kangaroo rat *Dipodomys venustus venustus*			Silverleaf Manzanita mixed chaparral in the zayante sand hills ecosytstem of the Santa Cruz Mountains. Needs soft, well-drained sand.	Not Present. No suitable habitat or soils on or near subject site.
hoary bat *Lasiurus cinereus*		*	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low Potential to Occur. Marginal suitable habitat mosaic on site. No dense foliage. No natural water source available on site.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*			Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood	Low Potential to Occur. Marginal suitable habitat (individual trees and shrub rows) on site. No chaparral or redwood

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

			habitats. Constructs nests of shredded grass, leaves and other material. May be limited by availability of nesting materials.	habitat available. Maintained, landscaped nature of site limits nesting materials.
salt-marsh harvest mouse *Reithrodontomys raviventris*	FE	CE Cfp	Found only in the marshes of Corte Madera, Richmond, and South San Francisco Bay. Critically dependent on dense cover and preferred habitat is pickleweed. Seldom found in cordgrass or alkali bulrush.	Not Present. No suitable habitat exists on or near the subject site.
salt-marsh wandering shrew *Sorex vagrans halicoetes*		CSC	Tidal salt marsh plains above cordgrass zone, moist, lower pickleweed-dominated marsh, with abundant invertebrates, tidal debris, and flood escape habitat in the South San Francisco Bay.	Not Present. No suitable habitat exists on or near the subject site.
American badger *Taxidea taxus*		CSC	Prefers open areas and may also frequent brushlands with little groundcover. Although may prefer habitats with more friable soils for digging burrows, which are used for dens, escape, and predation, the hard-baked earth in the middle of an unpaved road is no obstacle. When inactive, occupies underground burrows that are elliptical shaped and eight or more inches in diameter.	Low Potential to Occur. Available open areas on subject site are well maintained sports fields subject to constant use and maintenance. Brush limited to hedgerows and maintained landscape plantings.

KEY:
(nesting and/or wintering) = For most taxa, the CNDDB is interested in information that indicates the presence of a resident population. For some species
(primarily birds), the CNDDB only tracks certain parts of the species range or life history (e.g.,

Table IV.D-2
Special-Status Wildlife Species Evaluated for the Potential to Occur within the Project Site

nesting locations).	
STATUS *Federal* *FE: Federally-listed Endangered* *FT: Federally-listed Threatened* *FD: Federally-delisted*	*State* *CE: California-listed Endangered* *CT: California-listed Threatened* *CSC: California Species of Special Concern* *Cfp: California Fully Protected Species* *Cwl: California Watch List* **: California Special Animal (species with no official federal or state status, but are included on the CDFG's Special Animal List due to limited distribution).*

Table IV.D-3
Sensitive Natural Communities Evaluated for the Potential to Occur within the Project Site

Plant Community	Federal and State Rank		Habitat Requirements	Potential for Occurrence on the Project Site
	GRank	SRank		
Northern Coastal Salt Marsh	G3	S3.2	Usually found along sheltered inland margins of bays, lagoons, and estuaries. These hydric soils are subject to regular tidal inundation by salt water for at least part of each year.	Not Present. No suitable habitat or soils on site for this community; not observed on site.
Serpentine Bunchgrass	G2	S2.2	Restricted to serpentine soils in protected, dry, less windy , and more sunny uplands than serpentine scrub. Dominants include purple needlegrass, foothill needlegrass, and wildflowers including footsteps to spring, cream cups, goldfields, California poppies, Presidio clarkia and Marin dwarf flax.	Not Present. No suitable habitat or serpentine soils on site; not observed on site.
Valley Oak Woodland	G5T2	S2.1	Found on deep, well-drained alluvial soils, usually in valley bottoms, apparently with more moisture in summer than in Blue Oak Woodland. Intergrades with Great Valley Oak Riparian Forest near rivers and with Blue Oak Woodland on drier slopes. Fire may prevent some valley oak	Present. Individual trees observed on site although not in a natural or woodland setting. All surrounding areas are developed and/or landscaped.

Table IV.D-3
Sensitive Natural Communities Evaluated for the Potential to Occur within the Project Site

			stands from succeeding to Ponderosa Pine or Coulter Pine forests before fire suppression.	

Plants

Based upon a review of the resources and databases available, fifteen special-status plants have been documented in the vicinity of the proposed Project site. Of these, all fifteen species were determined to be “not present. There are no specials-status plants identified as ”low potential to occur” “likely to occur” or “present” on the Project site. This is due to the lack of suitable soils and suitable habitat (e.g., serpentine soils, coastal prairie, riparian woodland, etc.).

Sensitive Natural Communities/Habitats

Three Sensitive Natural Communities have been documented by CNDDB and CNPS to occur in the vicinity of the proposed Project site**.** There are no sensitive natural communitiesor habitats present on the Project site. This is due to the lack of suitable hydrology, topography, and soils occurring on and in the immediate vicinity of the site (e.g., bay, lagoon, estuary, serpentine soils on hillsides, deep alluvial soils). However, individual valley oak trees are present on the Project site within the landscaped and developed site setting. Because these trees are scattered throughout the site and do not constitute a Valley Oak Woodland (e.g., no contiguous community) these trees are described in the Tree Reports are addressed below.

Animals

Twenty-one special-status wildlife species have been documented in the vicinity of the proposed Project site. Of these species, eighteen are “not present”, and three have a “low potential to occur” on or in the immediate vicinity of the Project site. This is due to the lack of essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.).

Jurisdictional Waters

There are no jurisdictional wetlands or waters present on or in the immediate vicinity of the Project site.

Local

Town of Atherton Tree Preservation Guidelines, Standards and Specifications

As noted in the Regulatory Setting section, The Town of Atherton Tree Preservation Guidelines, Standards and Specifications (The Guide) was prepared in 2004 by the Town of Atherton as a guide to the Town's policies and procedures involving trees. The Town of Atherton adopted these policies that provide specific steps to insure the preservation of trees before during and after construction on a project site. The Guide also includes criteria for Town review of applications involving trees and shrubs on and procedures for tree alteration, removal, or planting in the Town of Atherton. The Guide is provided in Appendix G.

In addition, the Town of Atherton provides several ordinances specific to tree preservation. In particular, Chapter 8.10 of the Atherton Municipal Code specifically addresses the Removal of and Damage to Heritage Trees. A Heritage Tree is defined by the City of Atherton as a tree 48 inches or more in circumference (15.2 inches dbh), measured at 48 inches above natural grade, located outside of the buildable area on the parcel and any native oak (*Quercus agrifolia, Q. lobata, Q. kellogii*) greater than 48 inches in circumference located anywhere on the parcel.

As recorded in the Tree Reports and on Tree Removal and Protection Plans provided for the Project site there are 75 Heritage Trees and 82 non-heritage trees located within the St. Joseph's School Project area (including lower and middle schools and Park Lane access improvements) for a total of 157 trees. Of these, 21 Heritage trees (including 6 oaks) and 41 ornamentals for a total of 62 trees would potentially be removed or encroached on during the construction phase. There are 28 Heritage trees and 72 non-heritage trees located within the West Fields Project area (including Elena Avenue parking, and tennis court improvements) for a total of 100 trees. Of these, none of the 28 Heritage trees would be removed or encroached on; 58 ornamentals would potentially be removed or encroached on; and 5 olive trees would be relocated. The removal of 21 Heritage trees and 101 ornamentals site wide would constitute a potentially significant impact.

It is likely that additional trees including Heritage trees would be impacted during implementation of the final phases of the campus Master Plan. However, since building and site design is conceptual at this point and since final design is five years away at a minimum, a Tree Report will be conducted closer to final design phases of the Project and will focus solely on the final phase Project area (e.g., Mc Ganney Gymnasium, main entrance improvements, etc.).

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The proposed Project would have a significant effect on the environment if it would:

- 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;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- 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;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Project Impacts and Mitigation Measures

Impact BIO-1: Implementation of the proposed Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species.

<u>Special-Status Plant Species</u>

Although special status plants have been identified by the CNDDB to occur in the vicinity, it is unlikely that the Project site supports any of these special status plant species due to the level of site development and landscaping on the site. The Project site does not contain specified soils, moisture regime or other significant habitat features necessary to support growth of the special status plant species listed with the potential to occur in the region. The proposed Project would not directly affect any known occurrences of special-status animal species on or in the immediate vicinity of the Project site.

<u>Special-Status Wildlife Species</u>

Although special status wildlife species have been identified by the CNDDB to occur in the vicinity, it is unlikely that the Project site supports any of these special status plant species due to the level of site development and landscaping on the site. The Project site lacks essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.). Proposed development would not directly affect any known occurrences of special-status animal species on or in the immediate vicinity of the Project site.

Birds

While no nests of raptors or other birds were observed on the site during the reconnaissance survey conducted by the applicant's biologist, there is a potential for new nests to be established prior to Project implementation, or during later phases of construction. Tree removal, vegetation clearing, or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act. Preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any new nests. Potential impacts to nesting birds are considered to be a potentially ***significant i***mpact.

Mitigation Measure BIO-1: In order to reduce impacts to nesting birds, the following mitigation measures shall be implemented:

- Any active raptor or other nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for raptor nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

  a) If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 14 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.

  b) If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with CDFG and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet shall be established for raptors and 100 feet for other birds within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated (e.g. high visibility fencing, staking or flagging), and construction personnel restricted from the area.

  c) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Town of Atherton and CDFG prior to initiation of grading in the nest-setback zone.

Impact BIO-2: Implementation of the proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community.

Proposed grading and development would not result in impacts to Riparian Habitat or Other Sensitive Natural Community types. There are no Sensitive Natural Communities existing on the Project site with the exception of individual Valley oaks (*Quercus lobata*) scattered throughout the site. The Heritage Tree ordinance protects trees 48 inches or more in circumference (15.2 inches dbh), measured at 48 inches above natural grade, located outside of the buildable area on the parcel and any native oak (*Quercus agrifolia, Q. lobata, Q. kellogii*) greater than 48 inches in circumference located anywhere on the parcel. Therefore, there would be ***no impact*** to Sensitive Natural Communities.

Impacts to Valley oak are addressed under Impact BIO-5 and Mitigation Measure BIO-5.

Impact BIO-3: Implementation of the proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

Proposed grading and development would not result in impacts to Jurisdictional Wetlands or Waters; there are no wetlands or waters on or in the immediate vicinity of the Project site. No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), are present on the Project site. No areas were observed that would meet the definition of a wetland according to the criteria of the U.S. Army Corps of Engineers. Therefore, there would be ***no impact***.

Impact BIO-4: Implementation of the proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site.

The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. Therefore, there would be ***no impact.***

Impact BIO-5: Implementation of the proposed Project would conflict with any local policies or ordinances protecting biological resources.

Heritage Trees

The development of the site would involve impacts to heritage trees on site which are protected under the Town of Atherton Heritage Tree Ordinance (Chapter 8.10) including Valley oaks (*Quercus lobata*) which are components of Valley Oak Woodland, a protected Sensitive Community. The removal of and or encroachment on 21 Heritage trees and 101 ornamentals site wide would constitute a potentially significant impact. In addition, buildout of the Master Plan would involve the removal of and/or encroachment on additional trees including Heritage trees. This would be a ***significant*** impact.

Mitigation Measure BIO-5: In order to reduce impacts to Heritage trees, the following mitigation measures shall be implemented:

The following mitigation measures represent a summary of the requirements of The Town of Atherton Tree Preservation Guidelines, Standards and Specifications (The Guide) as well as information provided in the Tree Reports and Tree Protection and Preservation Plans prepared for the Project areas and are recommended to avoid or minimize impacts to trees that may be affected by Project development. The complete Guide can be found in Appendix G and should be followed by the applicant and applicant's consultants and construction contractors.

Avoidance and Minimization of Impacts

- The Project arborist shall follow or accompany the survey crews no less than three days prior to the commencement of grading in order to confirm impacts to trees scheduled to be removed and to confirm avoidance of trees schedule for preservation. Should any adjustments to the total impact figures be necessary, the Project arborist shall immediately notify the Project proponent and the Project developer, which shall notify the Town of the revision.

- The Project arborist shall identify and clearly mark the tree's Tree Protection Zone (TPZ) in the field.

- The Project arborist shall ensure that protective fencing is installed around the perimeter of the tree's TPZ. The fence shall be a chain link fence with 6 foot high, minimum 12 gauge chain link fence. Fences are to be mounted on a 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing (See detail in Appendix III of The Guide). The Project arborist shall identify all trees requiring temporary fencing and shall verify that the fences are in place prior to commencement of grading operations within 20 feet of the dripline of any tree not scheduled for removal in the permit issued by the Town.

- Tree fencing shall remain in place until the Town Arborist approves the removal

- A warning sign shall be prominently displayed on each fence (See Appendix IV of The Guide). Signs are available at the Building Department.

- Construction contract specifications shall require that no stockpiled soils, building material, parked equipment or vehicles shall be stored within the fenced TPZ areas.

- Construction contract specifications shall include provision for temporary irrigation/watering and feeding of these trees, as recommended by a qualified arborist.

- The Project's arborist shall ensure the placement of four-inches of wood-chip mulch over the ground surface within the TPZ, leaving the trunk clear of mulch.

- When areas within the TPZ cannot be fenced, a Root Buffer is required and shall cover the root zone.

- Should any protected tree's branches overlap the outer edge of the Project Grading Area and require pruning in order to allow grading to proceed, the pruning shall be performed or supervised by the Project arborist or certified arborist.

- If trenching or pipe installation has been approved within the TPZ, then the trench shall be either cut by hand, air spade, or by mechanically boring the tunnel under the roots with a horizontal directional drill and hydraulic or pneumatic air excavation technology. In all cases, install the utility pipe, immediately backfill with soil and soak within the same day.

- Any damage or injury to trees shall be reported within 6 hours to the Project Arborist and Town Arborist so that mitigation can take place. All mechanical or chemical injury to branches, trunk or to roots over 20inches in diameter shall be reported in the Monthly Inspection Report (refer to Section 2.05 of The Guide).

- A mitigation program is required if the approved development will cause drought stress, dust accumulation or soil compaction to trees that are to be saved. Injury Mitigation guidelines shall be strictly adhered to in order to reduce impacts (refer to Section 2.04 of The Guide).

- No other onsite trees to be preserved shall be encroached upon within their TPZ other than what is being described in the Tree Protection and Removal Plan unless approved by the Town Arborist.

- No landscape, irrigation lines, utility lines and/or grade changes shall be designed and/or installed within the TPZ of any trees to be preserved, unless approved by the Town Arborist.

- Weed Control – the use of soil sterilizers shall be prohibited under and around any trees to be preserved. Sterilizers may leach into the root system and kill the tree. Use of pre-emergent weed killers shall be prohibited within 100 feet of any individual trees to be preserved.

- All work to this Project's Heritage trees shall be in accordance with the Town of Atherton's Heritage Tree Ordinance and specific treatment for Heritage Trees set forth in The Guide.

- Examination of the trees to be preserved shall be performed monthly by a qualified arborist to insure that they are being adequately protected and maintained. Prior to the completion of the proposed Project, a qualified arborist shall certify that all concerned tree policies have been adhered to.

- Copies of the proposed Project's Tree Report and the Town of Atherton Tree Preservation Guidelines Standards and Specifications shall be maintained onsite during all Project construction.

Mitigation Planting Program

In addition to the above listed mitigations, Project landscape architects have developed a Mitigation Planting Program to mitigate the loss of site trees due to implementation of the Project as follows:

The St. Joseph's portion of the Project is proposing 47 replacement trees for impacts to 21 Heritage trees. All Heritage oaks shall be replaced with 48" boxed coast live oak (*Quercus agrifolia*) at a 1:1 replacement ratio. All other species of Heritage trees shall be replaced with 15 gallon Q. agrifolia at a 3:1 replacement ratio in accordance with the Town of Atherton Heritage Tree Ordinance (Chapter 8.10). For the 41 additional ornamental trees that shall be impacted, 101 replacement plantings are planned (see Planting plans for sizes, species and locations).

The West Fields portion of the Project is proposing no impacts to Heritage trees. For the 58 ornamental trees that will be impacted, 17 24" box California sycamore (*Platanus racemosa*) and 2 valley oak (*Quercus lobata*) replacement plantings are planned. In addition, 5 mature fruiting olive (*Olea europaea*) would be relocated (see Planting plans for sized, species and locations).

As discussed above, prior to mitigation, the proposed impact to as many as 21 Heritage trees and 101 ornamentals site wide would constitute a potentially significant impact.

Over the long-term (i.e., 10 years), the implementation of the conceptual Mitigation Planting Program would be sufficient to mitigate the proposed Project impacts on Heritage trees and other site trees. Over a period of 10 years, the growth of the replacement oaks and sycamores would be sufficient to provide seed production and nesting opportunities in the replacement tree stock to compensate fully for the loss of the mature trees proposed for removal.

However, over the short-term, it is anticipated that, even with the implementation of the conceptual Mitigation Planting Program, the impact to Heritage trees would remain significant due to the loss of canopy coverage, seed production and nesting opportunities. As discussed in the preceding paragraph, this near-term significant impact should be mitigated to a ***less than significant*** level within 10 years following the completion of the conceptual Mitigation Planting Program.

Impact BIO-6: Implementation of the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The proposed Project site and its vicinity are not located within an area covered by a Habitat Conservation Plan, Natural Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be ***no impact***.

CUMULATIVE IMPACTS

The area considered for the cumulative analysis of biological impacts includes the surrounding streets (Valparaiso, Emilie, and Elena avenues and Park lane) and surrounding residential neighborhood. The area surrounding the Project site is currently developed with established land uses including the Church of Latter Day Saints, another school (Menlo School), and country club (Circus Club) uses intermixed. Single family residential uses are located in all four directions surrounding the Project site. There are no other under development or proposed development projects in this immediate area.

The Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species. The Project will not have a substantial adverse effect on any riparian habitat, other sensitive natural community or jurisdictional wetlands or waters. The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. The proposed Project site and its vicinity are not located within an area covered by a Habitat Conservation Plan, Natural Community Plan, or other approved local, regional, or state habitat conservation plan. Mitigation measures have been provided to avoid, minimize and mitigate for potential impacts to nesting birds consistent with the requirements of the Migratory Bird Treaty Act and to Heritage and non-heritage trees on site consistent with the Atherton Heritage Tree Ordinance and the Town of Atherton Tree Preservation Guidelines Standards and Specifications. There are no proposed projects in the area that would contribute to any changes to biological resources in the Project area. Therefore, impacts to biological resources as a result of the Project would be less than significant, cumulative or otherwise.

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IV. ENVIRONMENTAL IMPACT ANALYSIS
E. LAND USE & PLANNING

INTRODUCTION

This section of the Draft EIR describes existing land uses on the project site and in the surrounding area. A regulatory framework is provided in this section describing applicable agencies and regulations related to the proposed project. Potential land use impacts associated with implementation of the proposed project are identified and mitigation measures are recommended, where appropriate. This section also contains a discussion of the consistency of the proposed project with relevant land use policies. However, conflicts between a project and applicable policies do not constitute a significant physical environmental impact in and of themselves; as such, the project's consistency with applicable policies is discussed separately from the physical land use impacts associated with the project.

Preparation of this section used information from various sources including a site visit, the Town of Atherton General Plan and Town of Atherton Zoning Ordinance.

ENVIRONMENTAL SETTING

Regional and Local Setting

The Project site is located on the San Francisco peninsula. The peninsula is characterized by flatter land areas on its eastern border, adjacent to the San Francisco Bay, which transitions into hilly areas along the peninsula's spine and western edge that then slopes down to the Pacific Ocean. The San Francisco peninsula is primarily developed from Interstate-280 eastward towards the San Francisco Bay with a wide variety of land uses ranging from open space to residential to commercial/retail and industrial.

Land uses in the Town of Atherton are primarily residential and institutional (school) in nature. The Town is characterized in the Town of Atherton General Plan as a rural residential area with abundant open space. Residential areas can also contain related facilities such as schools and churches.

The Project site is located in a predominately older, established, suburban residential area with some church, school, and country club uses intermixed. The Church of Latter Day Saints is located to the southeast directly across Valparaiso Avenue (located in the City of Menlo Park), the Menlo Circus Club (a country club and equestrian facility) is located to the southwest directly across Park Lane, and other private school uses (The Menlo School) are located to the north along Valparaiso Avenue. Single family residential uses are located in all four directions surrounding the Project.

Project Site

The Project site is comprised of approximately 64 acres. The Sacred Heart Schools campus includes the St. Joseph's School of the Sacred Heart, consisting of the Montessori, Lower and Middle Schools, and the Sacred Heart Preparatory, consisting of the High School.

The entire Project site is developed with school buildings, parking lots, interior roadways, pedestrian and bicycle facilities, a pool, athletic fields, and landscaping. Existing instructional buildings for the Montessori, Lower, and Middle School (grades preschool through 8) are located primarily in the northern part of the campus. The high school division, Sacred Heart Preparatory, is located in the central part of the campus.

Instructional facilities are surrounded by landscaping, heritage trees, a Performing Arts Center, and various athletic fields. Physical education facilities are located on the outer portions of the campus and include five athletic fields, an Olympic-size swimming pool, an all-weather track, a tennis complex, and two gymnasiums. The home for the elderly religious known as Oakwood is located near the center of the campus.

The SHS campus also includes a small private cemetery, pathways and narrow roadways, parking areas, open space areas, and landscaping. Pedestrian pathways connect various areas of the campus and tend to be centered on the interior portion of the campus. Scattered mature trees are growing throughout the Project site and along the perimeter of the site on the edges of the sports fields.

Overall development on the site is interwoven with abundant open space areas and land uses include those consistent with school campus facilities, including what might be found on boarding schools or small college campuses (residential uses).

Existing Land Use Designations

The Project site is designated as Public Facilities and Schools (PFS) in the Town of Atherton General Plan. This land use category typically includes the types of activities and facilities which are generally provided by the public sector, but does include private schools. As stated in the Town of Atherton General Plan, private schools in Atherton are requested to submit Campus Master Plans to the Town for public informational purposes. These Master Plans are to be reviewed annually. Additionally, Conditional Use Permits for new or relocated buildings and facilities are required to be consistent with the Master Plan.

Areas surrounding the Project site are designated in the General Plan as Single Family Residential Low Density ([1 acre minimum]) for the residential areas surrounding the Project site, Parks and Open Space (POS) for the Menlo Circus Club, and Public Facilities and Schools (PFS) for the Menlo School. General Plan land uses across Valparaiso Avenue in the City of Menlo Park are designated as Very Low Density Residential, which allows single family dwellings.

Existing Zoning Designations

The Project site is zoned as Public Facilities and Schools (PFS). Zoning Ordinance regulations are described under Chapter 17.36 Public Facilities and Schools of the Zoning Ordinance. These regulations include development standards for maximum height, lot coverage, and setbacks for development on all parcels. The maximum height for structures on the Project site based on this zoning would be 34 feet.

Maximum lot coverage would be 40 percent of the gross lot area. Setbacks vary from 50 to 75 feet depending on the side of the building and adjacent surrounding land uses. There are no density standards for the PFS zoning designation.

Areas surrounding the Project site are zoned as Single Family Residential Low Density (R-1A [1 acre minimum]) for the residential areas surrounding the Project site, Parks and Open Space (POS) for the Menlo Circus Club, and Public Facilities and Schools (PFS) for the Menlo School. Zoning designations across Valparaiso Avenue in the City of Menlo Park are designated as Residential Estate (R-E), which allows single family dwellings.

REGULATORY SETTING

Federal

There are no federal regulations related to land use and planning that would apply to the proposed Project.

State

There are no state regulations related to land use and planning that would apply to the proposed Project.

Regional/Local

Town of Atherton General Plan

The Town of Atherton General Plan (General Plan) was most recently revised and adopted November 20, 2002. The General Plan is composed of six elements; the Land Use Element, Circulation Element, Housing Element, Open Space and Conservation Element, Noise Element, and Community Safety Element. The General Plan designates four basic land uses: Single Family Residential ([0.31 acre minimum]), Single Family Residential Low Density ([1 acre minimum]), Public Facilities and Schools (PFS), and Parks and Open Space (POS).

General Plan goals and policies related to the Project are contained in the Land Use, Circulation, and Open Space and Conservation Elements. Policies that would be relevant to the Project and consistency with the General Plan are discussed in Table IV.E-1, Town of Atherton General Plan Land Use Policy Consistency.

Town of Atherton Zoning Ordinance

The Town of Atherton Zoning Ordinance (Zoning Ordinance) designates land uses, height, bulk, density and parking standards throughout the Town. The Zoning Ordinance was designed for consistency with the General Plan. Therefore, the General Plan’s land use designations are directly reflected in the Zoning Ordinance.

ENVIRONMENTAL IMPACTS

The proposed project would have a significant effect on the environment if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community plan.

Impact LU-1: Implementation of the proposed Project would not physically divide an established community.

The Project proposes the construction of replacement school buildings, construction of parking areas, relocation of sports fields, and other site improvements such as landscaping. The Project site is currently developed with the existing SHS. The physical division of an established community typically refers to the construction of a major physical feature (such as a highway or railroad track) or removal of a means of access (such as a bridge) that would impair mobility within an existing community. The Project would do neither of these.

All Project improvements would be located within the boundaries of the existing SHS campus. The SHS is bisected by a roadway connecting Valparaiso Avenue and Park Lane. No closure of access is proposed for this roadway. Additionally, this roadway is a private access and not a public roadway for use by the public; therefore, any changes or development on the SHS campus would not remove any public access. The Project would not construct any major physical features or impair mobility in the Town that would physically divide an established community and there would be ***no impact*** and no mitigation measures are required.

Impact LU-2: Implementation of the proposed Project would not conflict with any applicable land use policy.

The Sacred Heart Schools Master Plan is not a Town of Atherton regulatory land use plan, but is a Master Plan as conceived by Sacred Heart Schools to guide construction and maintenance of their campus and educational facilities to meet their educational goals. Private schools in Atherton are requested to submit Campus Master Plans to the Town for public informational purposes.[1] The Master Plan would not become part of the Town's General Plan or land use planning policy. Therefore, this consistency analysis compares the Sacred Heart Schools Master Plan with the Town of Atherton General Plan policies.

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[1] *Town of Atherton General Plan,1.550 Schools, Page LU-6 and Town of Atherton Municipal Code, 17.36.030.*

Conflicts with a General Plan do not inherently result in a significant effect on the environment within the context of CEQA. As stated in Section 15358(b) of the CEQA Guidelines, "[e]ffects analyzed under CEQA must be related to a physical change." Conflicts between a project and applicable policies do not constitute a significant physical environmental impact in and of themselves; as such, the project's consistency with applicable policies is discussed separately from the physical land use impacts associated with the project. A policy inconsistency is considered to be a significant adverse environmental impact only when it conflicts with a policy adopted for the purpose of avoiding or mitigating an environmental effect and it is anticipated that the inconsistency would result in a significant adverse physical impact (based on the established significance criteria). A comparison of the project characteristics with applicable regional and local plans and policies is provided in Table IV.E-1.

Table IV.E-1
Town of Atherton General Plan Land Use Policy Consistency

Applicable Goal / Policy	Consistency Issue(s)
Land Use Element	
Land Use Goal 1.210. To preserve the Town's character as a scenic, rural, thickly wooded residential area with abundant open space.	**Consistent.** Although the Project would require the removal of some trees on the SHS campus to accommodate construction of buildings and relocation of sports fields, parking lots, and internal roadways, this removal would be minimal. Trees on the Project site would be retained to the greatest extent possible to preserve the overall rural, wooded character of the Project site in keeping with the residential areas surrounding SHS campus.
Land Use Objective 1.223. To retain the high quality of maintenance and living environment existing in the Town's residential neighborhoods.	**Consistent.** The Project has been designed to site buildings on the St. Joseph's campus and parking lot as close to the center of the site as possible, to eliminate any potential intrusion of institutional uses on residential uses, including changes to visual quality and noise. The sports fields and parking areas were sited to minimize tree removal and to maintain visual quality and biological resources. These Project design features would maintain the high quality living environment of the Town's residential neighborhoods.
Open Space Land Use Policy 1.421. The Town shall continue to preserve the open space characteristics of existing schools, churches and park facilities.	**Consistent.** See response to Land Use Goal 1.210 and Land Use Objective 1.223.
Public and Quasi-Public Land Use Policy 1.584. The Town supports recycling as a means of reducing the amount of waste material requiring disposal in the landfill. The Town's objective is to reduce the amount of waste material by continuing to participate in the South Bayside Waste Management Authority's recycling and clean waste programs. The Town shall encourage recycling and waste reduction efforts for residents, schools and in public and private development projects.	**Consistent.** The Project would comply with the Town's requirement to prepare a plan addressing the recycling and reuse of all demolition and waste construction materials. Additionally, the Project would participate in all recycling and clean waste programs as administered by the South Bayside Waste Management Authority.

Table IV.E-1
Town of Atherton General Plan Land Use Policy Consistency

Applicable Goal / Policy	Consistency Issue(s)
Circulation Element	
Circulation Objective 2.221. To preserve the streets of Atherton as scenic routes.	**Consistent.** Although the Project would require the removal of some trees on the SHS campus to accommodate construction of buildings and relocation of sports fields, parking lots, and internal roadways, this removal would be minimal. Trees on the Project site would be retained to the greatest extent possible to the streets surrounding the Project site as scenic routes.
Circulation Policy 2.421. All streets and highways in the Town of Atherton shall be preserved as scenic routes.	**Consistent.** See response to Circulation Objective 2.221.
Circulation Policy 2.425. On-street and visible off-street parking of vehicles and other means of transportation shall be carefully controlled.	**Consistent.** No on-street parking is proposed. Off-street parking for the St. Joseph's campus is located towards the center of the site and will not be visible from Park Lane or Emilie Avenue. Extension of the existing parking area along Elena Avenue would be landscaped to minimize areas of pavement.
Open Space and Conservation Element	
Open Space and Conservation Goal 4.210. To protect both publicly and privately held lands from deterioration of their rural charm, scenic value and environmental equilibrium.	**Consistent.** The Project has been designed to preserve the overall rural, wooded character of the Project site in keeping with the residential areas surrounding the SHS campus. The Project has been designed to site buildings on the St. Joseph's campus and parking lot as close to the center of the site as possible, to eliminate any potential intrusion of institutional uses on residential uses, including changes to visual quality, perceived density on the site, and noise. The sports fields and parking areas were sited to minimize tree removal and to maintain visual quality and biological resources. These Project design features would maintain the rural charm, scenic value and environmental equilibrium desired by the Town.
Open Space and Conservation Policy 4.232. The Town shall endeavor to protect scenic resources, significant stands of natural vegetation, wildlife habitat, public safety and significant archaeological resources, both publicly and privately held.	**Consistent.** See response to Open Space and Conservation Goal 4.210. Additionally, measures have been incorporated into the Project, including pre-construction surveys, soil sampling, and demolition plans that would protect resources and public safety.
Open Space and Conservation Policy 4.233. The Town seeks to preserve the open space characteristics of existing public and private schools, churches, the Circus Club, the California Water Service property and the public parks.	**Consistent.** See response to Land Use Goal 1.210, Land Use Objective 1.223, and Open Space and Conservation Goal 4.210.
Open Space and Conservation Action Program 4.310. Trees shall be preserved wherever possible. This policy shall be explicitly considered during	**Consistent.** See response to Land Use Goal 1.210, Land Use Objective 1.223, and Open Space and Conservation Goal 4.210.

Table IV.E-1
Town of Atherton General Plan Land Use Policy Consistency

Applicable Goal / Policy	Consistency Issue(s)
the subdivision process.	
Open Space and Conservation Action Program 4.320. Minimum lot sizes, setback restrictions, height limitations and sign regulations shall be employed to accomplish open space and conservation objectives.	**Consistent.** The Project would comply with all setback restrictions, height limitations, and sign regulations. Additionally, the Project has been designed to site buildings on the St. Joseph's campus and parking lot as close to the center of the site as possible, to eliminate any potential intrusion of institutional uses on residential uses, including changes to visual quality and noise.
Safety Element	
Safety Policy 6.310. The Town recognizes the potential danger to public safety that may result from natural or man made causes and seeks to minimize the public risks in such hazards.	**Consistent.** Buildings on the Project site are required to comply with all California Building Code requirements for schools and institutional facilities. Additionally, measures have been incorporated into the Project to protect public safety, including soil sampling and the preparation of demolition plans that would minimize public risks.
Safety Policy 6.320. The emergency evacuation routes established in this General Plan Element are El Camino Real, Middlefield Road, Marsh Road, Alameda de las Pulgas, and Valparaiso Avenue.	**Consistent.** The Project does not propose any changes to Valparaiso Avenue and would not interfere with any emergency evacuation routes established in this General Plan Element.
Safety Policy 6.330. Minimum road widths and clearances around structures shall be in accordance with generally recognized minimums consistent with fire protection.	**Consistent.** The Project would comply with all setback restrictions. Additionally, all Project building, roadway (including ingress and egress), and parking lot plans would be reviewed by the Town Engineer and Fire Department for compliance with established code requirements consistent with the fire protection and the ability to be served for fire protection.
Safety Policy 6.360. Public education, research and information dissemination on seismic hazards and emergency response shall be encouraged.	**Consistent.** SHS implements an Emergency Response Plan that addresses seismic hazards and emergency response actions.

As shown in Table IV.F-1, overall, the Project is consistent with General Plan policies. Therefore, the Project would not conflict with any applicable land use policy and there would be ***no impact*** and no mitigation measures are required.

Impact LU-3: Conflict with any Applicable Habitat Conservation Plan or Natural Community Plan.

There are no Habitat Conservation Plans or Natural Community Plans that are applicable to the Project site. Impacts to potential biological resources are addressed in Section IV.D (Biological Resources). Therefore, there would be ***no impact*** and no mitigation measures are required.

CUMULATIVE IMPACTS

The area considered for the cumulative analysis of land use impacts includes the surrounding streets (Valparaiso, Emilie, and Elena avenues and Park lane) and surrounding residential neighborhood. The area surrounding the Project site is currently developed with established land uses including the Church of Latter Day Saints, another school (Menlo School), and country club (Circus Club) uses intermixed. Single family residential uses are located in all four directions surrounding the Project site. There are no other development projects in this immediate area.

The Project would not result in any impacts that would divide the community or be inconsistent with the General Plan or other applicable planning policies. The Project would not result in changes to land uses on the Project site. All development resulting from the Project would be consistent with the existing land uses on the site and General Plan and zoning regulations and would not result in any significant impacts to land use. Therefore, there would be ***no impact***, cumulative or otherwise, to land uses as a result of the Project and no mitigation measures are required.

INTRODUCTION

This section of the Draft EIR describes the existing noise environment on the Project site. It also evaluates the potential for the Project to result in a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the Project site and to expose on-site and off-site sensitive receptors to excessive noise levels, groundborne vibration, and/or groundborne noise.

This noise analysis has been prepared using analytical methodologies and evaluation criteria outlined in the California Environmental Quality Act (CEQA) Guidelines (Appendix G), the Town of Atherton General Plan, and the Atherton Municipal Code.

BACKGROUND

Sound and Environmental Noise

Noise can be defined as unwanted sound. It is commonly measured with an instrument called a sound level meter. The sound level meter captures the sound with a microphone and converts it into a number called a sound level. Sound levels are expressed in units of decibels.

To correlate the microphone signal to a level that corresponds to the way humans perceive noise, the A-weighting filter is used. A-weighting de-emphasizes low-frequency and very high-frequency sound in a manner similar to human hearing. The use of A-weighting is required by most local General Plans as well as federal and state noise regulations (e.g. Caltrans, EPA, OSHA and HUD). The abbreviation dBA is sometimes used when the A-weighted sound level is reported.

Because of the time-varying nature of environmental sound, there are many descriptors that are used to quantify the sound level. Although one individual descriptor alone does not fully describe a particular noise environment, taken together, they can more accurately represent the noise environment. There are four descriptors that are commonly used in environmental studies; the Lmax, Leq, L90, and Ldn (or CNEL).

The maximum instantaneous noise level (Lmax) is often used to identify the loudness of a single event such as a car passby or airplane flyover. To express the average noise level the Leq (equivalent noise level) is used. The Leq can be measured over any length of time but is typically reported for periods of 15 minutes to 1 hour. The background noise level (or residual noise level) is the sound level during the quietest moments. It is usually generated by steady sources such as distant freeway traffic. It can be quantified with a descriptor called the L90 which is the sound level exceeded 90 percent of the time.

To quantify the noise level over a 24-hour period, the Day/Night Average Sound Level (DNL or Ldn) or Community Noise Equivalent Level (CNEL) is used. These descriptors are averages like the Leq except they include a 10 dB penalty during nighttime hours (and a 5 dB penalty during evening hours in the CNEL) to account for peoples increased sensitivity during these hours.[1]

Community Response to Changes in Noise Levels

The potential for adverse community response tends to increase as an intrusive noise becomes more noticeable above existing background noise levels. For example, if an intrusive noise has an average level that is comparable to existing average ambient noise levels, then the intrusive sound would tend to blend in with the ambient noise. However, if the intrusive sound is significantly greater than the ambient noise then the intrusive sound would be more noticeable and potentially more annoying as it can interfere with rest, working efficiency, social interaction and general tranquility. Representative environmental noise levels are shown in Table IV.F-1.

In general, human perception of environmental noise is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB clearly noticeable and a change of 10 dB is perceived as a doubling (or halving) of loudness.[2]

ENVIRONMENTAL SETTING

Project Location and Nearby Sensitive Receptors

The Sacred Heart Schools site is surrounded by four roadways. Residential is the primary noise sensitive land use near the Project site and is located on the opposite side of the four roadways. Most residential properties have a wooden or masonry fence at the property line along the roadway. Many fences are covered with dense vegetation. Some of the residential properties have driveway access to the roadways surrounding the site and there are gaps in the fence for the driveway. Other homes have access from another street and their fences are continuous.

Existing Conditions

The dominant noise source in the study area is traffic on the roadways surrounding the school site. At times voices associated with outdoor activities at the Project site also contribute the noise environment. Other noise sources include residential landscaping activities and occasional aircraft flyovers.

During school hours, PE classes are the major noise generating outdoor activities at the Project site. After school, the various playfields that are used for team sport practices and games become the dominant noise source at the site. Table IV.F-2 shows the various teams that comprise the middle and upper school athletics.

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[1] *American National Standards Institute, ANSI S1.1-1994, Acoustical Terminology, 1994.*

[2] *Cowen, Handbook of Environmental Acoustics, 1994.*

Table IV.F-1
Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Table IV.F-2
Middle School and High School Sports Teams

Season	Sport
Fall	Cross Country
	Football
	Water Polo
	Tennis
	Volleyball
	Golf
Winter	Basketball
	Soccer
Spring	Baseball
	Golf
	Lacrosse
	Swimming and Diving
	Tennis
	Track and Field
	Volleyball

Existing Ambient Daytime Noise Levels

Noise measurements were conducted on and around the Project site to document the existing noise levels at the nearby land uses and quantify the existing noise sources at the schools. The noise measurements included long-term (48-hour) noise measurements at four locations and short-term noise measurements at nine locations. The noise measurement locations are shown in Figure IV.F-1.

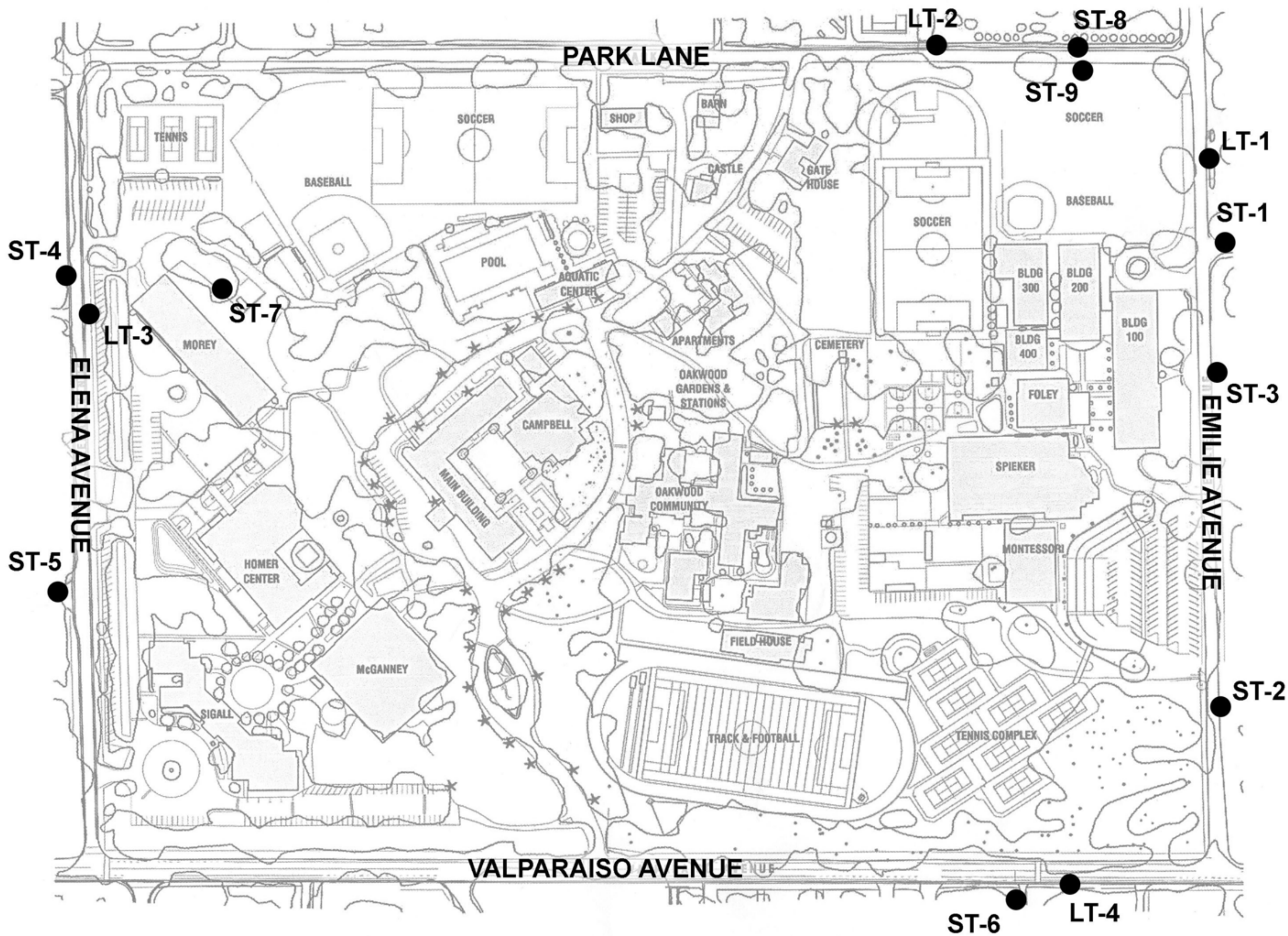
Figures IV.F-2 through IV.F-5 illustrate the results of the long-term noise measurements. Short-term noise measurement results are shown in Tables IV.F-3 and IV.F-4. The long-term noise measurement figures show the average noise level (L_{eq}) every 15-minute interval. Also shown is the L90 which is the quiet period between single events and the L1 which represents the sound level of a typical single event such as a car passby. The maximum noise level (L_{max}) shown in the short-term noise measurement Table IV.F-3 is the loudest event that occurred during the stated interval and is typically a vehicle passby. Table IV.F-4 provides the noise levels from various sports activities. The maximum sound levels of various sports related events are shown. The average noise level (L_{eq}) shown in this table represents the contribution of only the sports related noise. Since other noises such as car passbys and aircraft were removed from the L_{eq} by calculation, the result can be used in the analysis to assess the effects of changes in the contribution of the sports field noise.

Table IV.F-3
Short-Term Ambient Noise Measurements

Location		Date/Time	A-weighted Noise Level, dBA						
			L_{eq}	L_{max}	L_1	L_{10}	L_{50}	L_{90}	CNEL*
ST-1	Emile Avenue at McBain Avenue 50 feet from Centerline	3 Dec 2009 16:51 – 5:06 p.m.	60	75	69	64	53	44	58
ST-2	Emile Avenue at fence during lower school pickup	1 Dec 2009 3:23 – 3:38 p.m.	62	75	71	66	57	53	58
ST-3	Emile Avenue at fence	22 Feb 2010 1:30 – 4:15 p.m.	60	82	71	63	51	45	58
ST-4	Elena Avenue at fence	1 Dec 2009 4:30 – 4:45 p.m.	67	77	75	71	61	49	66
ST-5	Elena Avenue at Prado Secoya St 50 ft from centerline	22 Feb 2010 4:15 – 4:30 p.m.	58	72	68	63	52	43	59
ST-6	Valparaiso Avenue at Arbor Road 50 ft from Centerline	1 Dec 2009 4:54 – 5:09 p.m.	64	78	71	67	63	58	64

**CNEL calculated based on simultaneous noise measurement at long-term measurement locations.*

Source: R,G,D &L, 2010.



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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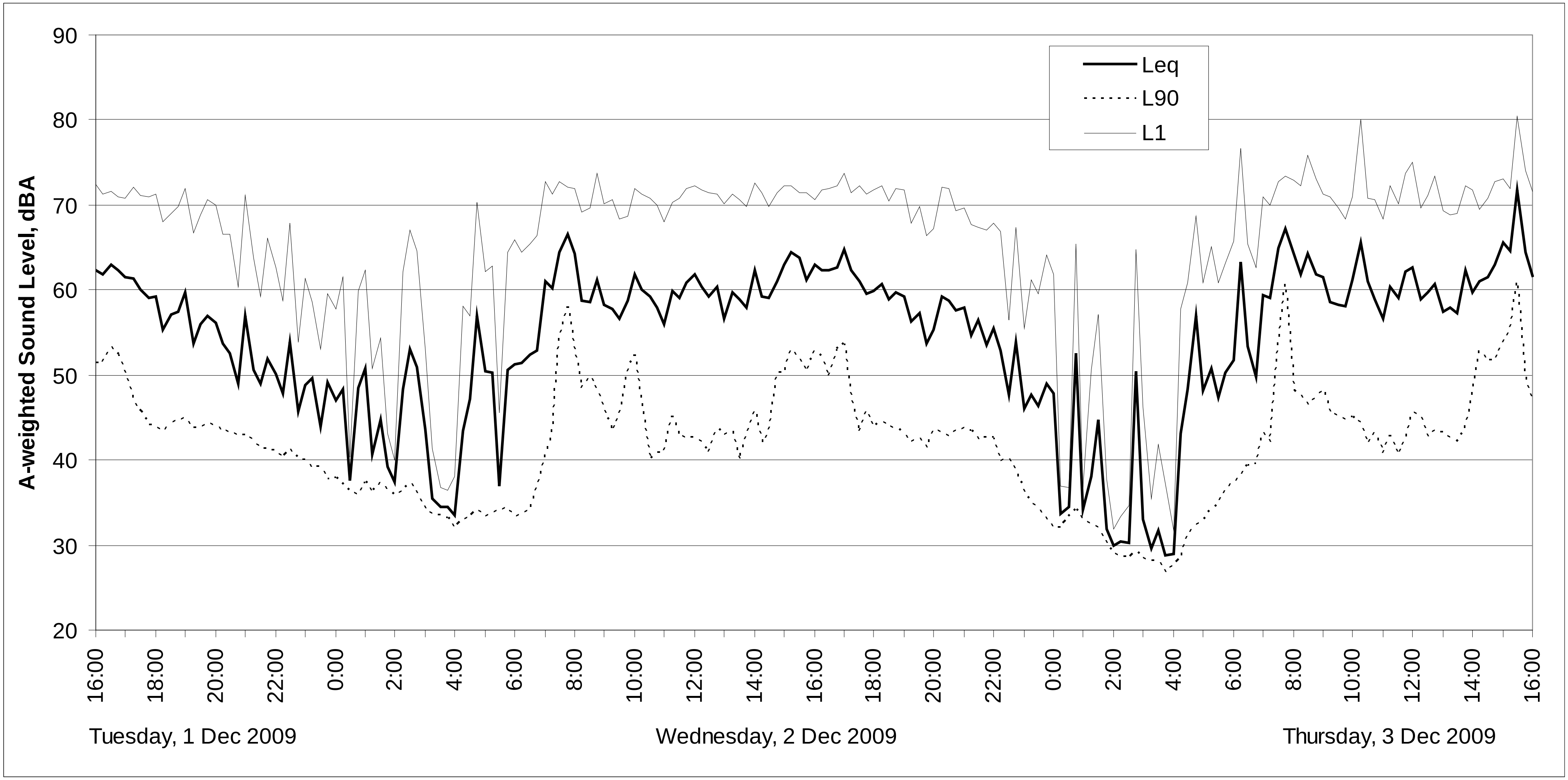
Figure IV.F-1
Noise Measurement Locations



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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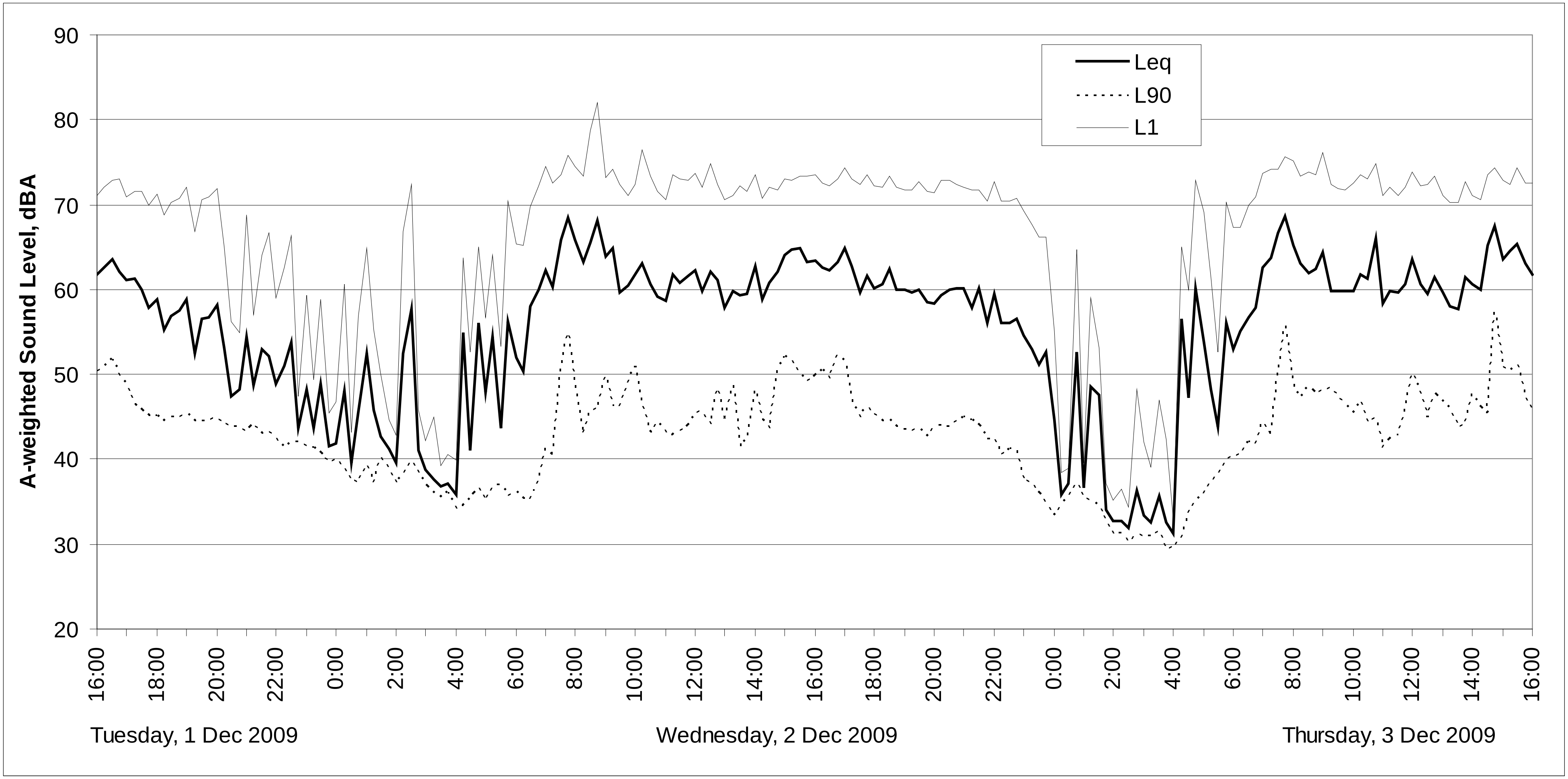
Figure IV.F-2
Long-Term Noise Measurement Results – Location LT-1: Emile Avenue



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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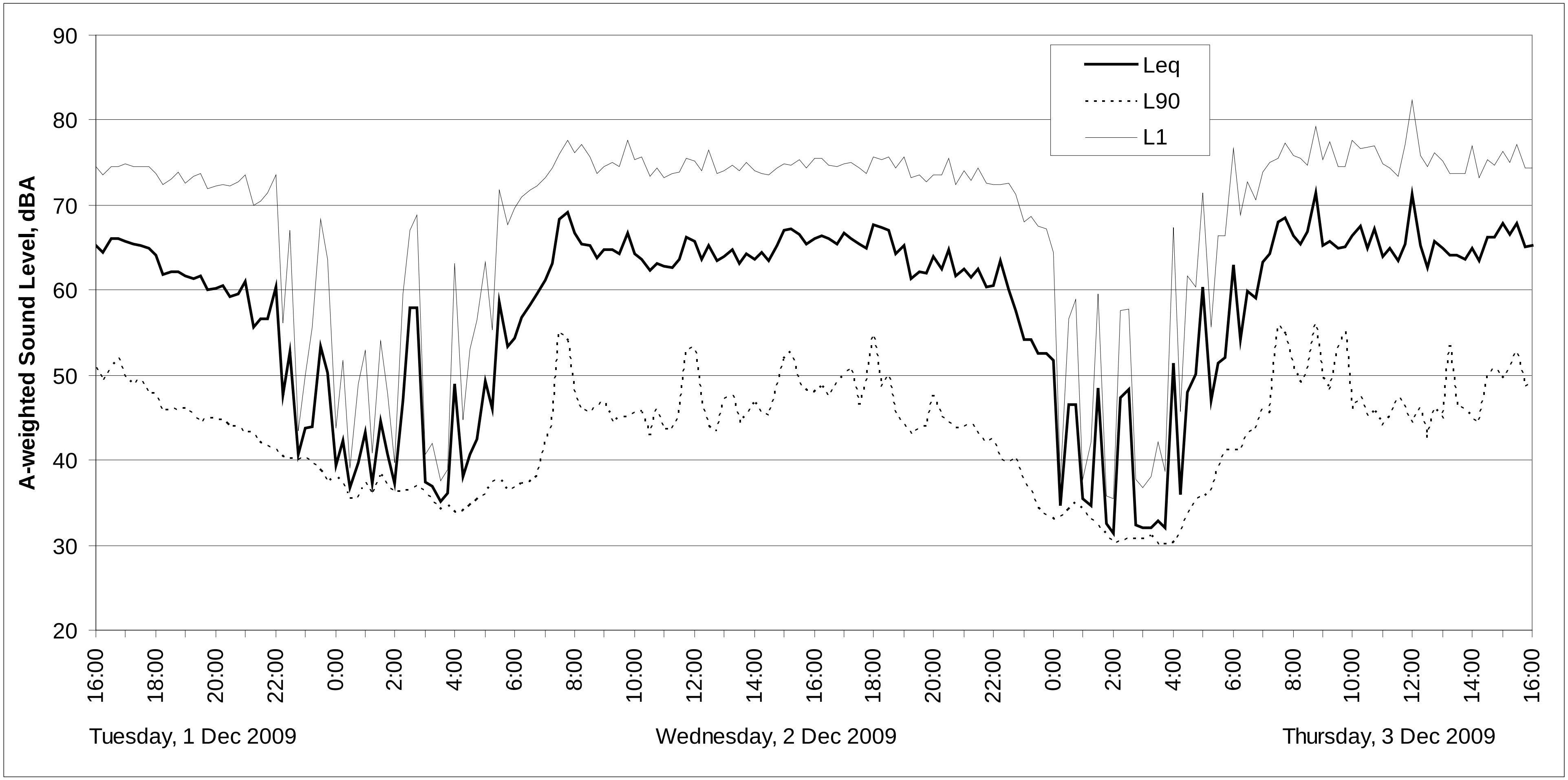
Figure IV.F-3
Long-Term Noise Measurement Results – Location LT-2: Park Lane



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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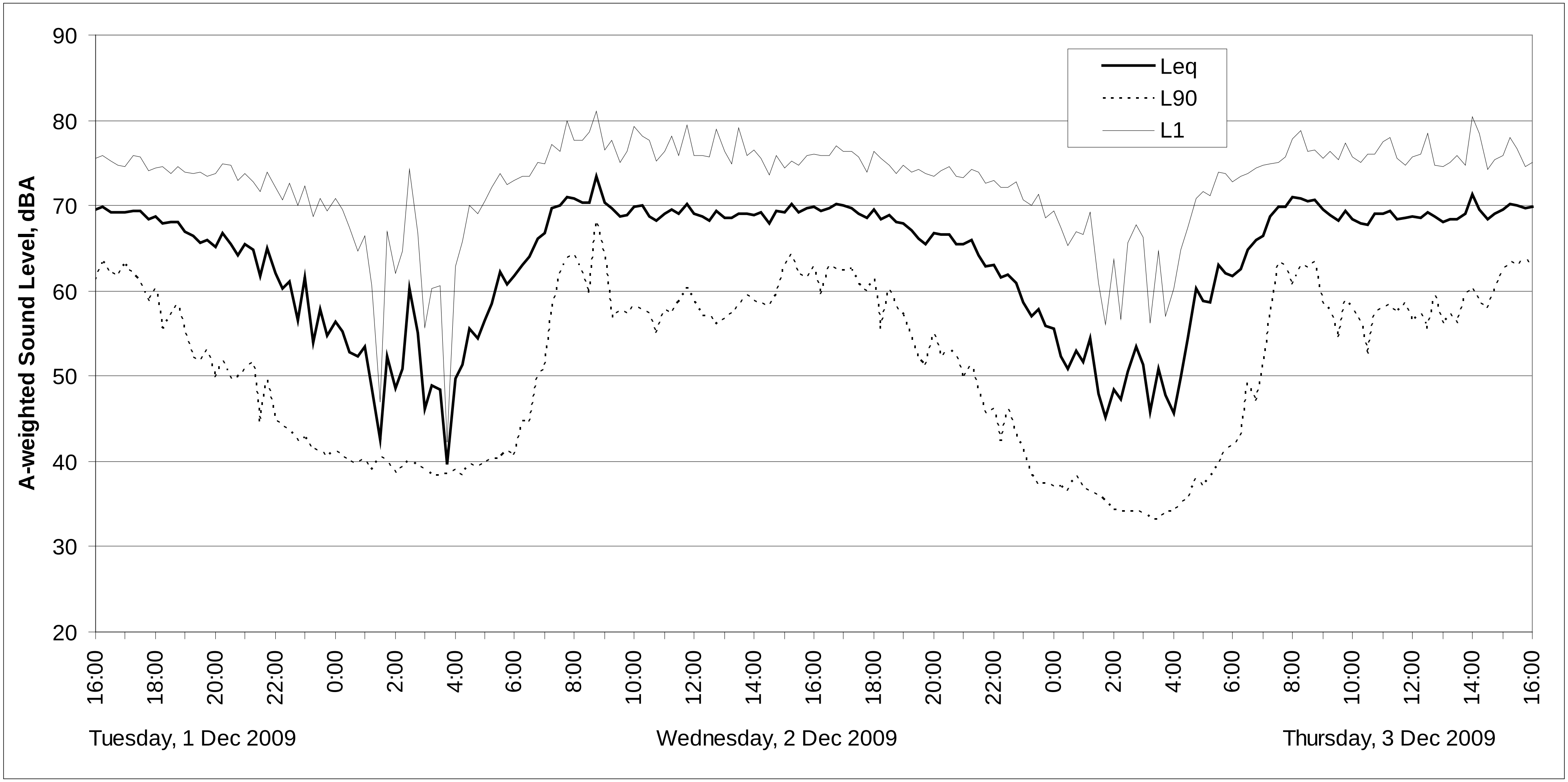
Figure IV.F-4
Long-Term Noise Measurement Results – Location LT-3: Elena Avenue



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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Figure IV.F-5
Long-Term Noise Measurement Results – Location LT-4: Valparaiso Avenue

Table IV.F-4
Short-Term Noise Measurements of Sports Activities

Location		Date/Time	Average Noise Level (L_{eq}) dBA	Events	Maximum Noise Levels (L_{max}) dBA
ST-7	Varsity Baseball Game Near Morey Hall 180 feet from home plate	11 Mar 2010 3:30 – 5:30 p.m.	54	Bat hitting ball Cheering and yelling	60 – 73 56 – 65
ST-8	Girls Soccer Game Across Park Avenue from middle school soccer field 140 feet from center of field	1 Dec 2009 4:04 – 4:19 p.m.	60	Voices on field Ref whistle Ball kick Car passbys	55 - 68 69 52 67 - 73
ST-9	Boys PE Class /Soccer At edge of middle school soccer field 95 feet from center of field	22 Feb 2010 2:22 – 2:34 p.m.	59	Voices on field Ball kick Car passbys	54 – 78 54 – 60 62 – 74
Source: R,G,D &L, 2010.					

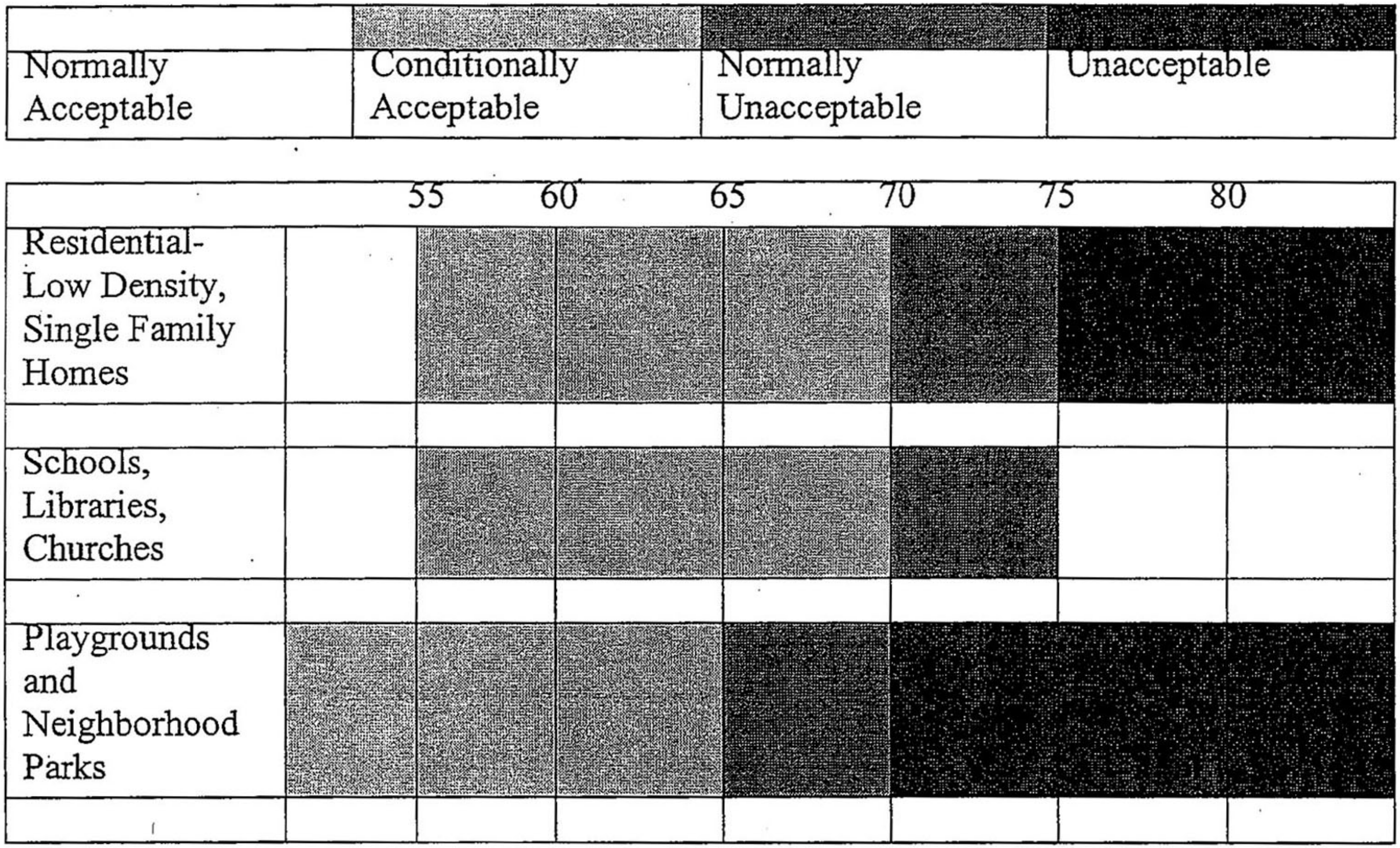
REGULATORY SETTING

Town of Atherton

The Town of Atherton's General Plan contains noise and land use compatibility guidelines for various types of land use (see Figure IV.F-6). Schools and residences are considered "normally acceptable" when exposed to a Community Noise Equivalent Level (CNEL) of 55 dBA or less and "conditionally acceptable" when exposed to a CNEL of 55 to 70 dBA.

The Town of Atherton's Noise Control Ordinance (Chapter 8.16) establishes a "basic noise regulation" with the sound level limits shown in Table IV.F-6. According to the noise control ordinance,

> *Except as otherwise permitted under this chapter, no person shall cause and no property owner shall permit on such owners' property, a noise produced by any person, machine, animal or device, or any combination thereof, in excess of the sound level limits set forth in this section to emanate from any property, public or private, beyond the property line. Any sound in excess of the sound level limits set forth in this section shall constitute a noise disturbance. For purposes of determining sound levels, sound level measurements shall be made at any location on the receiving property.*



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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Figure IV.F-6
Town of Atherton's Land Use Compatibility for Community Environments (GP Table N-2)

A. In the event the alleged offensive noise contains a steady, audible tone, such as a whine, beating, pulsating, throbbing, or hum, the standards set forth in Section 8.16.030 shall be reduced by five dB.

B. In the event the ambient sound level equals or exceeds the sound level limit then the limit shall be five dBA over the ambient.

Table IV.F-5
Town of Atherton's Nose Control Ordinance Sound Level Limits

Time of Day	Sound Level
7 a.m. to 10 p.m.	60 dBA
10 p.m. to 7 a.m.	50 dBA

Source: Town of Atherton Municipal Code (Chapter 8.16)

Construction and delivery are exempt from the basic noise regulation except during those times when prohibited by Chapter 15.40; between the hours of five p.m. in the evening and eight a.m. of the following day, Monday through Friday as well as on Saturday, Sunday and any holiday.

Certain other activities are also exempt from the sound level limits including motor vehicles operated on public streets and power garden equipment during some hours. Also, noise from practice and games at the Little League Field at Holbrook-Palmer Park may exceed the basic noise regulation during the Little League season between the hours of 4:30 p.m. to 7:30 p.m. weekdays and 8:45 a.m. to 4:30 p.m.Saturdays only. The noise levels produced by such games shall not exceed 75 dBA when measured at any adjacent residential property.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The proposed Project would have a significant effect on the environment if it would:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airstrip, expose people residing or working in the project area to excessive noise levels; or

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The following criteria are used as thresholds of significance to identify potential noise impacts resulting from the implementation of the proposed Project:

- Exposure of persons to noise levels in excess of applicable standards (General Plan and Noise Ordinance).

- Substantial increase in noise levels due to project: CEQA does not specify a method for determining when a project would cause a significant increase in noise. Likewise, the Town of Atherton does not have criteria for determining when a noise increase is significant. A recent FAA Draft Policy discusses screening and impact thresholds for increases in aircraft noise. These thresholds are used to assess the significance of noise increases due to the project as follows – an increase in CNEL is significant if it is;

    - 5 dBA or greater and the future CNEL is less than 60 dBA or

    - 3 dBA or greater and the future CNEL is 60 dBA or greater and less than 65 dBA or

    - 1.5 dBA or greater and the future CNEL is 65 dBA or greater.

- CEQA, the Town and the State do not specify acceptable vibration levels from construction activities. For the purposes of this assessment, the methodology described by the Federal Transit Administration (FTA) is used[3]. These FTA criteria are based on the potential for annoyance and interference with vibration sensitive activities which is much more stringent than criteria for structural damage. The FTA specifies an impact criterion of a vibration level of 80 VdB[4] for residences and 83 VdB for schools. These criteria are for “infrequent” events (i.e. transit train passbys). Although more stringent criteria are recommended for “frequent” or “occasional” events, these are not used since construction activities would generally occur during the daytime and would not be permanent.

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[3] *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration, May 2006

[4] VdB – The vibration velocity level expressed in decibels re one micro-inch per second.

The closest public airport is the San Carlos Airport (San Mateo County), which is located approximately 5.25 miles from the Project. Additionally, the Project site is not located in the vicinity of a private airstrip. Therefore, the Project site is not located within two miles of a public airport or within an airport land use plan area and the Project would not expose people residing or working in the project area to excessive noise levels. There would be ***no impact*** from airport noise and these thresholds are not analyzed any further.

Project Impacts and Mitigation Measures

Impact NOISE-1: Implementation of the proposed Project would result in construction noise that would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Construction activities would involve demolition, excavation, grading, and facilities development. Some of the equipment that would be used during construction includes excavators, backhoes, graders, dump trucks, loaders, compactors, dozers, pavers, concrete trucks, and other heavy machinery. Table IV.F-6 presents typical construction equipment noise levels at a reference distance of 50 feet. The noisier activities tend to occur during the demolition, grading and foundation phases of construction. After the exterior walls of the buildings have been erected, the noise levels would be significantly lessened as most activities would occur indoors. Construction would occur from 8 a.m. to 5 p.m. Monday through Friday.

Table IV.F-6
Typical Construction Equipment Noise Levels

Equipment Description	L_{max} (dBA) at 50 feet
Backhoe	78
Compactor	83
Compressor	78
Concrete Mixer Truck	79
Concrete Pump Truck	81
Crane	81
Bulldozer	82
Dump Truck	76
Excavator	81
Front End Loader	79
Generator	81
Grader	85
Hoe Ram	90
Jackhammer	89
Paver	77
Pneumatic Tools	85
Roller	80
Scraper	84
Tractor	84

Warning Horn	83
Welder/Torch	74
Source: FHWA Roadway Construction Noise Model, 2006.	

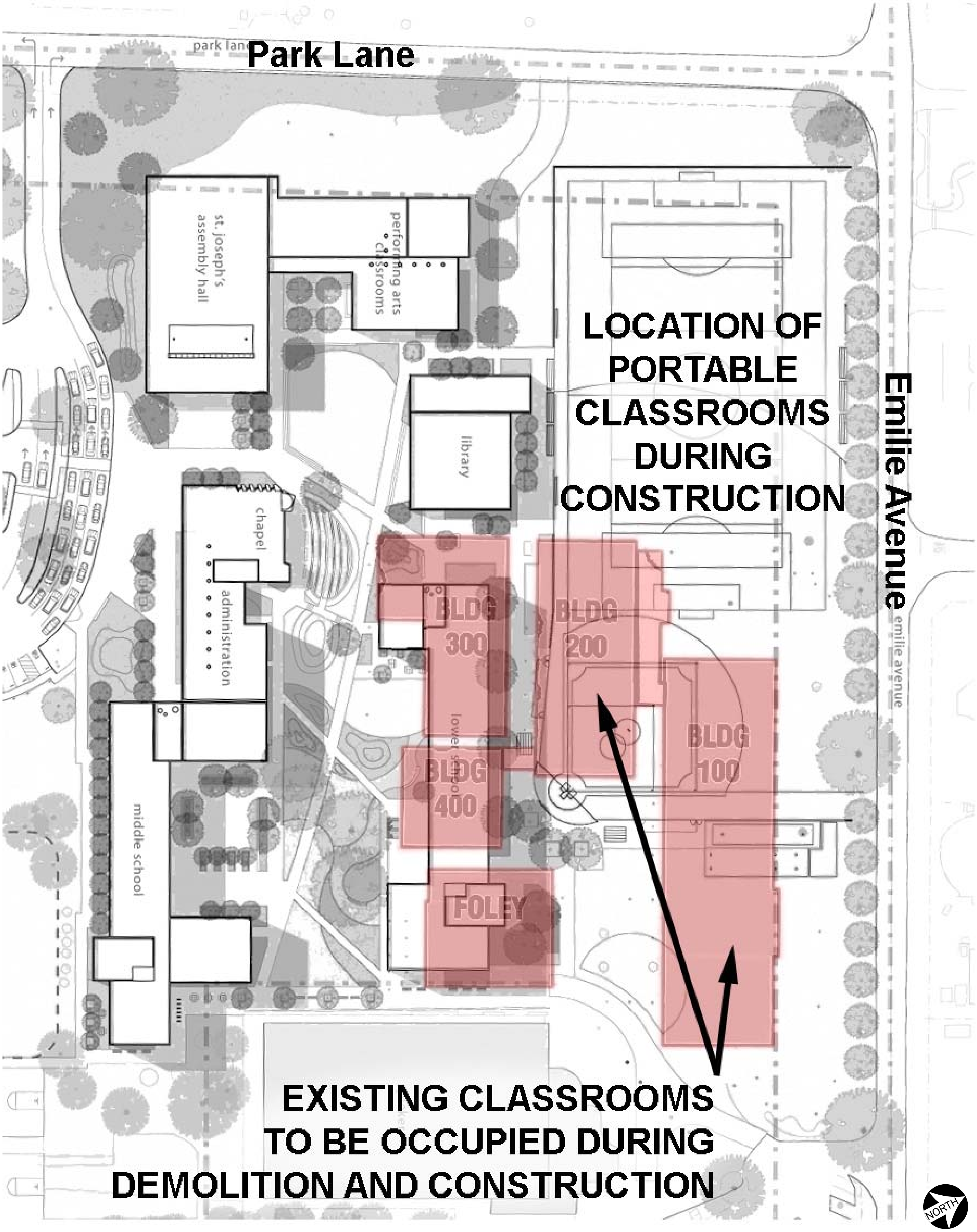
For the St. Joseph's campus, demolition would last about four weeks. The construction of all four buildings would take 15 to 18 months. Noise from construction has the potential to affect the surrounding residences. Since the school would operate during construction, noise would also have the potential to affect classrooms and other noise-sensitive spaces.

When students are present during the St. Joseph's campus construction period they will use Buildings 100 and 200 which would remain until the new elementary school is built. The Spieker Pavilion and the Preschool buildings would also be used during the construction period. Students relocated from the other school buildings have classes in about 25 portable classrooms for the duration of the construction activities. The portables would be located on the fields at the corner of Emilie Avenue and Park Lane. Figure IV.F-7 shows the proposed layout of the St. Joseph's Campus with the existing buildings to be demolished shown in light red.

Most machinery used in the construction of the Project would produce maximum noise levels of up to 85 dBA at a distance of 50 feet. This machinery includes concrete mixer trucks, cranes, bulldozers, dump trucks, graders, pavers and pneumatic tools. It is expected that there will be very limited use of impact tools such as jackhammers and hoe rams which can generate noise levels of up to 90 dBA at 50 feet. No pile driving is expected to occur.

Noise levels decrease with distance from the construction equipment at a rate of 6 dBA per doubling of distance. Construction noise levels were calculated for the various noise sensitive buildings based on heavy construction activity that generates a noise level of 85 dBA at 50 feet with an adjustment for the distance between the construction activity and the nearest noise sensitive buildings. Table IV.F-7 shows the construction noise levels at the nearest residences directly across Emilie and Park Avenues from the St. Joseph's Campus. For the demolition and building construction activities, the distance between the residential property line and the footprint of the new school building is used to calculate typical construction noise levels. For the new field construction, grading equipment will be more evenly distributed around the fields and the distance to the center of the nearest field is used to calculate the construction noise levels.

Construction noise levels across Elena Avenue and Valparaiso would be comparable to typical vehicle passbys on local roads. Construction noise levels at residences across Emilie and Park Avenues would be comparable to the loudest existing vehicle passbys as measured at these residential property lines. Similar to existing loud vehicle passbys, construction noise levels would occasionally be loud enough to interfere with speech communication outdoors at residential yards closest to the Project site.



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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Figure IV.F-7
St. Joseph's Buildings Proposed Layout

Table IV.F-7
Construction Noise Levels at Off-Site Sensitive Uses

Receiver	L_{max} (dBA)		
	Existing Building Demolition	New Building Construction	New Field Construction
Residences across Emilie Avenue	79	70	76
Residences across Park Avenue	68	78	71
Residences across Elena Avenue (Morey)	73	--	73
Residences across Elena Avenue (McGanney)	66	66	--
Residences across Valparaiso Avenue (McGanney)	70	70	--
Source: R,G,D &L, 2010.			

Because the effect of construction noise on the residential neighbors is temporary and the construction hours will conform to the Town's Noise Ordinance, impacts from construction noise would be ***less than significant*** at the existing residences.

The learning environment is particularly sensitive to noise related disturbance. The American National Standards Institute (ANSI) suggests that intrusive noises in classrooms should not exceed 40 dBA for more than 10 percent of any given hour. Similarly the State of California Streets and Highways Code Section 216 has a recommended interior hourly L_{eq} of 52 dBA for schools near highways which is less restrictive than the ANSI standard. Both the ANSI and Section 216 standards are intended for use by schools that are exposed to on-going and regular noises from sources such as roadways and airports whereas the proposed Project construction noise will vary considerably and have a finite duration. Regardless, a comparison of Project construction noise with the ANSI standard is informative and can help put the impact into perspective.

Interior noise levels are typically 15 dBA less than exterior noise levels when the windows are open and about 25 dBA less than exterior noise levels when the windows are closed. Therefore, construction noise levels would be expected to interfere with school activities when the outdoor noise level is above 67 dBA when the windows are open and 77 dBA when the windows are closed. Assuming construction equipment generates a noise level of 85 dBA at 50 feet, a level of 67 dBA would be reached when the equipment is within 400 feet of the classrooms and a level of 77 dBA when the equipment is within 125 feet of the classrooms. Since demolition and construction activities will take place within these distances from occupied classrooms (Building 100, Building 200 and the portable classrooms) impacts from construction noise would be ***significant*** at the St. Joseph's campus. Therefore, the following mitigation measures are recommended.

Mitigation Measure NOISE-1: In order to reduce noise impacts, the following mitigation measures shall be implemented:

- Notify neighboring residences of the schedule for heavy construction activities (such as demolition, grading and foundations).
- To the extent practical, schedule the noisiest phases of construction (demolition, grading and foundations) during periods when students will not be occupying the closest classrooms to the construction areas (e.g. summer and seasonal breaks).
- If it is not practical to schedule the heavy construction and demolition activities during summer months, work with the Town to evaluate the acceptability of working on some weekends, particularly for noisy activities that will occur close to classrooms. At these locations, equipment will be relatively far from homes and the noise would be further reduced by the acoustical shielding provided by the classroom buildings.
- To the extent feasible, erect 8-foot tall continuous plywood barriers between the occupied school classrooms and the heavy construction activities.
- Schedule construction, as feasible, so that the new structures can be partially finished for use as a noise buffer.
- Ensure that mufflers in good condition are installed on internal combustion engine-equipment;
- Locate stationary equipment such as generators and compressors away from nearby sensitive land uses (i.e., residences and classrooms).
- Perform noisy procedures at an off-site location, as practicable.
- Designate a site noise disturbance coordinator whose name will be prominently displayed in signage on the site. The coordinator will be responsible to address neighborhood and school concerns regarding noise and take appropriate actions, where feasible, to reduce noise levels.

The incorporation of the above mitigation measures would reduce the noise impact of construction to a ***less than significant*** level.

Impact NOISE-2: Implementation of the proposed Project would not result in exposure of persons to or generation of noise in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Traffic Noise at New Classrooms

The new classrooms buildings at the St. Josephs Campus would be 285 feet from the centerline of Emile Avenue and 100 feet from the centerline of Park Avenue. To assess the compatibility of the new classroom building with the traffic noise, the traffic noise levels were calculated using the Federal Highway Administration's Traffic Noise Model (TNM 2.5) using future year (2030) traffic volumes. The calculated CNEL is up to 51 dBA at the nearest buildings. A CNEL of 55 dBA or less is considered normally acceptable for schools and libraries based on the Town of Atherton's General Plan Noise Standards. Therefore, impacts from traffic noise on the new classrooms are ***less than significant***.

HVAC Noise at Existing Homes

The new buildings at the St. Josephs Campus would have roof mounted HVAC (heating ventilation and air-conditioning) equipment such as exhaust fans and outdoor condensers. The buildings would be approximately 300 feet from the residential property line across Emile Avenue and 125 feet from the residential property line across Park Avenue. The Project applicant (SHS) would be required to achieve Town's Noise Ordinance standards. Based on preliminary design information, the mechanical system noise levels are calculated to be 46 dBA at the nearest residential property line. Since the mechanical noise would comply with the Town's Noise Ordinance standard of 60 dBA during the daytime and 50 dBA at night, this impact would be ***less than significant***.

Athletic Field Noise at Existing Homes

To compare the noise from the new athletic field with the Town's Noise Ordinance it is necessary to consider the ambient roadway noise. The Noise Ordinance specifies that if the ambient noise level equals or exceeds the sound level limit then the limit is to be adjusted to the ambient level plus 5 dBA. Since vehicles on the adjacent roadways currently generate maximum noise levels of 75 dBA (see the measurement results at ST-3 and ST-4), the sound level limit is adjusted to 80 dBA. Based on the noise measurements of activities on the existing sports fields at the SHS site (ST-7 and ST-8), it is expected that maximum noise levels from sources such as voices, whistles and bats would be up to 73 dBA at the residences across the roadways. Although these noise levels would be clearly audible at the residential property during times in between car passbys, they would not exceed the standards of the Noise Ordinance. Therefore, this impact would be ***less than significant***.

Impact NOISE-3: Implementation of the proposed Project would not cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels without the Project.

The major noise sources associated with the daily operation of the school include vehicular traffic, voices of the students outdoors, and stationary noise sources such as HVAC equipment. In general, the Project will not change the use patterns of the school and the existing noise sources at the school will also be present in the future conditions.

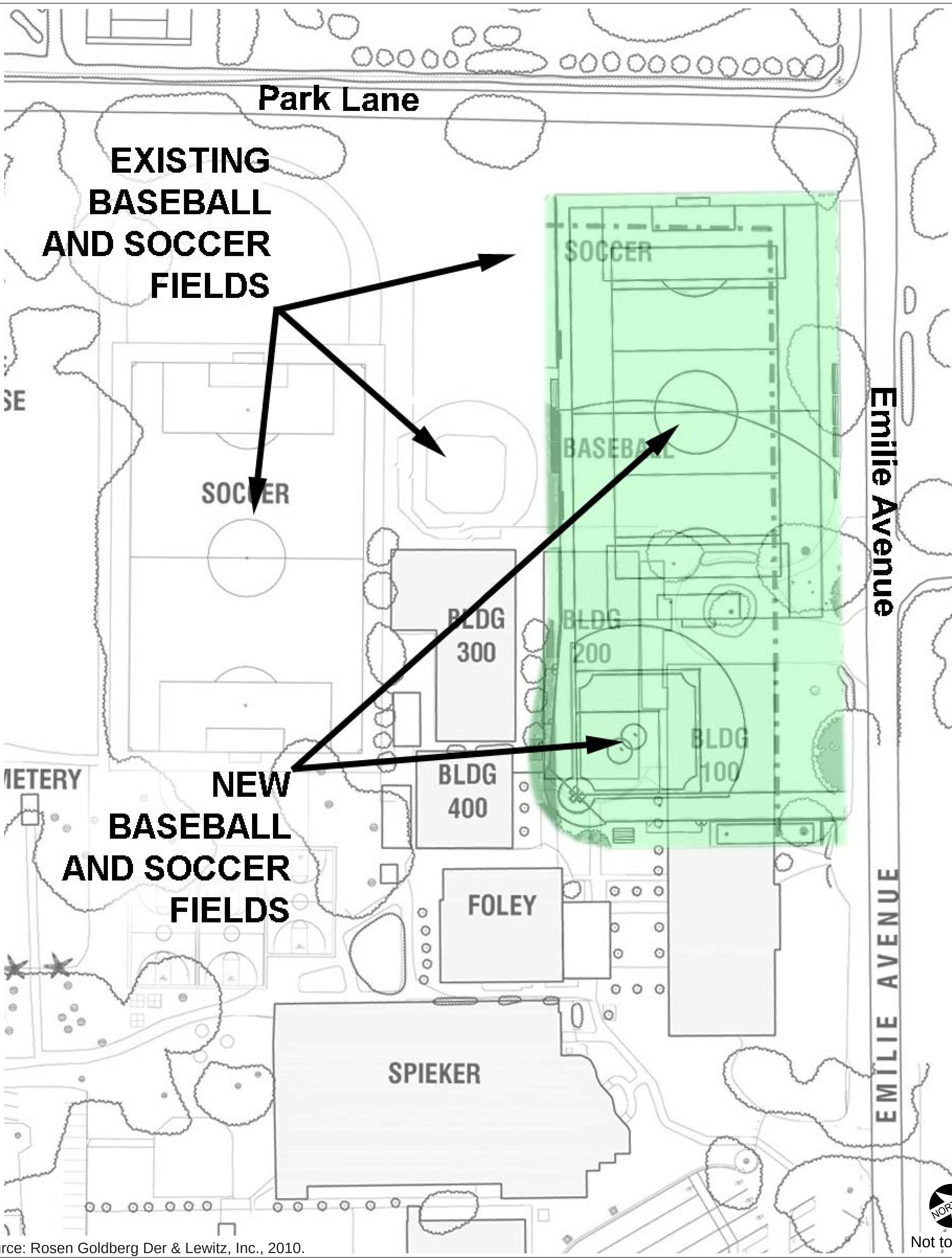
The greatest potential for a noticeable change in school noise is due to the realigned sports fields. In some cases the Project would result in sports fields being closer to homes. For example, at the St. Joseph's campus, the soccer and baseball fields would move farther from the homes across Park Avenue and closer to homes along Emilie Avenue. The center of the soccer field would be 165 feet from the residential property line along Emilie Avenue and the baseball diamond home plate would be 255 feet from the property line (see Figure IV.F-8). The high school baseball diamond is now about 460 feet from the residences across Elena Avenue; with the Project, the distance would be reduced to 230 feet (see Figure IV.F-9).

The existing field house has a built-in public address (PA) system that has been reviewed by the Town for allowable sound levels and SHS expects a similar process for the new PA system. Other fields may use portable PA systems for games. Only SHS events are allowed to use a PA system.

The noise level contribution from the realigned athletic fields was calculated based on the noise measurements made at SHS (see Table IV.F-3) as well as previous measurements conducted at other facilities. For example, the measurement of the baseball game was supplemented with data from another high school varsity game which included a PA system (Albany High School, 2007) and measurements of little league (Garfield Little League Park, Napa, 2004). The soccer data was also supplemented with league play (Napa Sherriff's Activity League, 2004). In general, the highest sound levels from the available data were used and an adjustment was made to account for the distance between the proposed fields and the residential properties. Since the fields could be used for recess, team sports games and league play on Saturdays, it was conservatively assumed that the fields would be active for 12 hours a day.

The existing and future noise levels for the different groups of residences are shown in Table IV.F-8. The residences are grouped based on their proximately to existing and future noise sources. The calculations used to determine the noise exposures include the following factors.

- The change in locations of the play fields.
- The increased enrollment expected under the future conditions with the Project (the current enrollment of 1082 students will increase up to 1196 students in the future).
- The expanded parking area at the corner of Park Avenue and Elena Avenue.
- The noise from HVAC equipment at the new St. Joseph's buildings.
- The increase traffic volumes from the increased enrollment and changes in patterns associated with the relocated parking/drop-off area at the St. Joseph's campus.



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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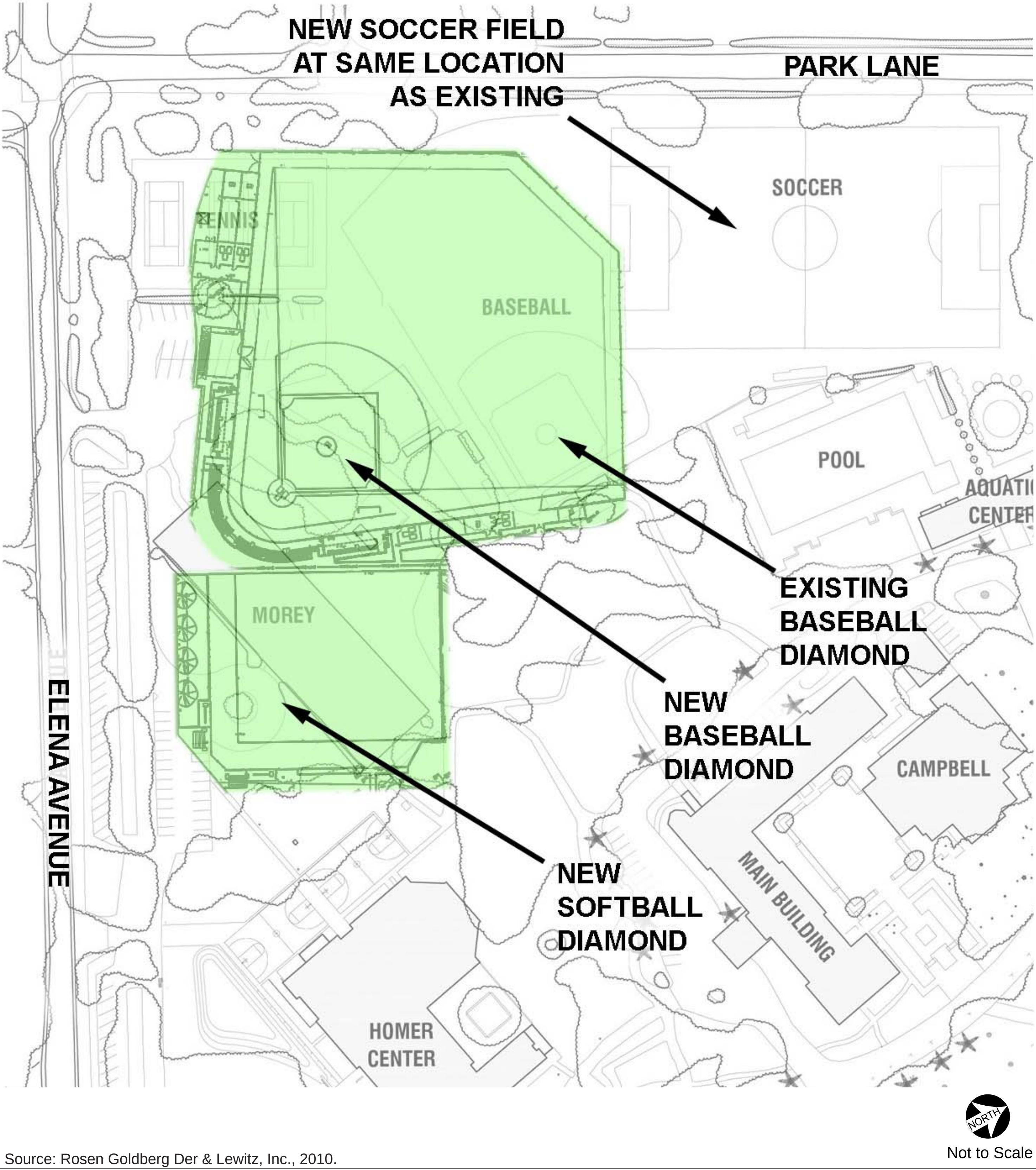
Figure IV.F-8
Location of Realigned Sports Fields
at St. Joseph's Campus



Source: Rosen Goldberg Der & Lewitz, Inc., 2010.

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Figure IV.F-9
Location of Realigned Sports Fields at High School

Table IV.F-8
Future Noise Levels With and Without Project

Existing Land Uses Near Project Site	Community Noise Equivalent Level (CNEL), dBA Future (2014) Without Project	Future (2014) With Project	Increase	Significance Threshold for Increase (dBA)	Significant?
Residences across Park Avenue from existing St. Joseph's sports fields.	58.5	58.0	-0.4	5	No
Residences across Emilie Avenue from existing St. Joseph's sports fields (north of McBain Avenue)	57.2	58.0	0.8	5	No
Residences across Emilie Avenue from new St. Joseph's sports fields (south of McBain Avenue)	56.7	57.8	1.1	5	No
Residence across Elena Avenue from High School Baseball field	64.7	65.5	0.8	1.5	No
Residences and church across Valparaiso Avenue from Project site.	64.7	64.7	0.0	3	No

Source: R,G,D &L, 2010.

The new playfields would incorporate artificial turf in order to allow use sooner after periods of rainy weather. This would allow about five additional contests and ten days of practice during an academic year that are currently canceled as a result of rain. This additional field use represents a relatively small percentage of the use over a year and would not change the findings of Table IV.F-8. Since the increase in noise levels due to the Project would be less than the threshold for significant increase, this impact would be ***less than significant***.

Impact NOISE-4: Implementation of the proposed Project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Table IV.F-9 presents typical vibration levels from the equipment likely to be used at the Project. The buildings would have spread footings so no pile driving would be used. The Project demolition and construction activities would generally occur at distances of over 100 feet from the nearest residences and groundborne vibration levels would be 69 VdB or less. This is a less than 80 VdB threshold of significance. Vibration levels could reach 83 VdB when equipment is within about 35 feet of the existing buildings. Since this would occur for very limited times, impacts from vibration would be ***less than significant***.

Table IV.F-9
Vibration Levels for Construction Equipment at Various Distances

Equipment	Vibration Velocity Level, VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	78	76	73	69
Caisson Drilling	87	78	76	73	69
Loaded Trucks	86	77	75	72	68
Jackhammer	79	70	68	65	61
Small Bulldozer	58	49	47	44	40

Note: VdB = RMS Vibration Velocity Level expressed in decibels re 1 micro-inch per second.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, 2006; Christopher A. Joseph & Associates, May 2009.

CUMULATIVE IMPACTS

Traffic volumes would increase somewhat on the local roads surrounding the Project due to general growth in the region. The noise from this increased traffic would combine with the noise of the Project and result in cumulative noise level increases at the land uses near the Project site. This increase in noise has been calculated based on the existing (2010) and future year (2030) traffic volumes and is shown in Table IV.F-10.

Table IV.F-10
Cumulative Noise Levels Increases

Existing Land Uses Near Project Site	Community Noise Equivalent Level (CNEL), dBA				
	Existing (2008) Without Project	Future (2030) With Project	Cumulative Increase	Significance Threshold for Increase (dBA)	Significant?
Residences across Park Avenue from existing St. Joseph's sports fields.	58.4	58.1	-0.3	5	No
Residences across Emilie Avenue from existing St. Joseph's sports fields (north of McBain Avenue)	57.0	58.2	1.2	5	No
Residences across Emilie Avenue from new St. Joseph's sports fields (south of McBain Avenue)	56.4	58.0	1.5	5	No
Residence across Elena Avenue from High School Baseball field	64.5	65.7	1.2	1.5	No
Residences and church across Valparaiso Avenue from Project site.	64.4	64.8	0.4	3	No
Source: R,G,D &L, 2010.					

Since the cumulative increases in noise level are less than the thresholds for a significant increase, cumulative impacts from noise would be ***less than significant***.

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IV. ENVIRONMENTAL IMPACT ANALYSIS
G. TRANSPORTATION/TRAFFIC

INTRODUCTION

This section of the Draft EIR describes the transportation and traffic conditions on the Project site and in the surrounding area. It also evaluates the potential for transportation and traffic impacts associated with implementation of the proposed Project. A regulatory framework is provided in this section describing applicable agencies and regulations related to the proposed Project.

Preparation of this section used data from various sources. These sources include Sacred Heart Schools 2009 Master Plan Traffic Study by Crane Transportation Group, which included, where appropriate, excerpts and findings from the following studies: Sacred Heart Schools 2007 Master Plan Traffic Study by Hexagon Transportation Consultants, Inc., December 2007; Circulation System Assessment (CSA Report) by the City of Menlo Park, January 2010, by Benson Lee; New Hillview Middle School Draft EIR for the Menlo Park City School District, February 2009; 1706 El Camino Real Medical Offices Transportation Impact Analysis by DKS Associates, February 2009; and 1300 El Camino Real Project EIR by LSA Associates, Inc., March 2009.

ENVIRONMENTAL SETTING

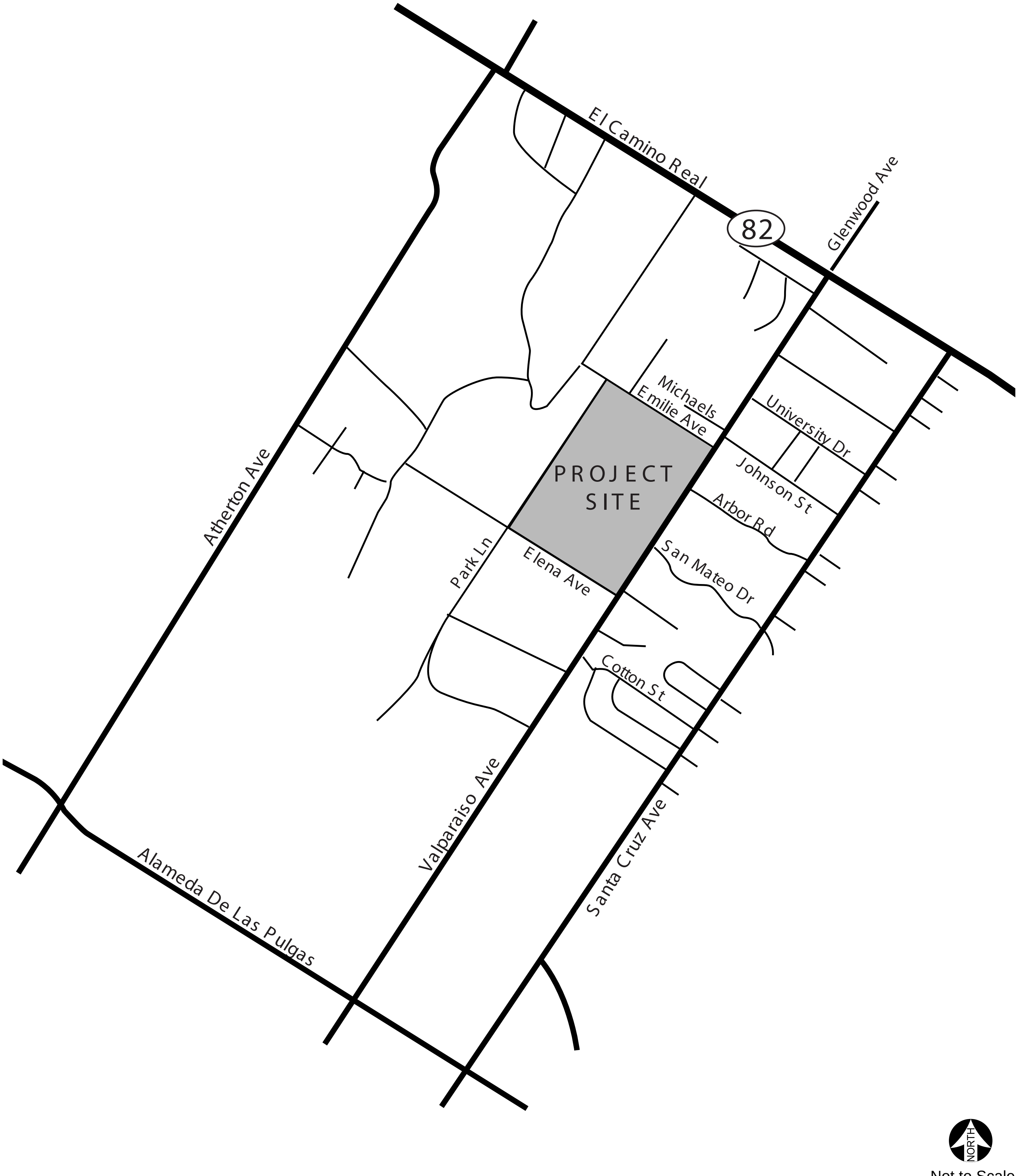
Roadways

The Sacred Heart Schools campus is bordered by Valparaiso Avenue, Emilie Avenue, Elena Avenue and Park Lane (see Figure IV.G-1). Subregional access to the Project site is provided by El Camino Real (State Route 82), just under one half mile east of the campus via Valparaiso Avenue, and Alameda de las Pulgas, one mile west of the campus via Valparaiso Avenue. In addition, a variety of other two-lane local streets provide connections from Valparaiso Avenue southerly into the City of Menlo Park (Crane Street, University Drive, Arbor Road, San Mateo Drive, Johnson Street and Cotton Street).

For purposes of identification in this report, Valparaiso Avenue and Park Lane are designated to run east-west, with all other streets running in a north-south direction. Each roadway is briefly described below, while a schematic presentation of existing intersection approach lanes and control is presented in Figure IV.G-2.

The Sacred Heart Schools campus has the following driveway connections to the local street system:

- **Valparaiso Avenue**. 1 driveway: access to the Oakwood community, administrative facilities and Sacred Heart Preparatory ("high school") grades 9-12; connects internally to driveways along Elena Avenue and Park Lane



Source: Crane Transportation Group, 2010.

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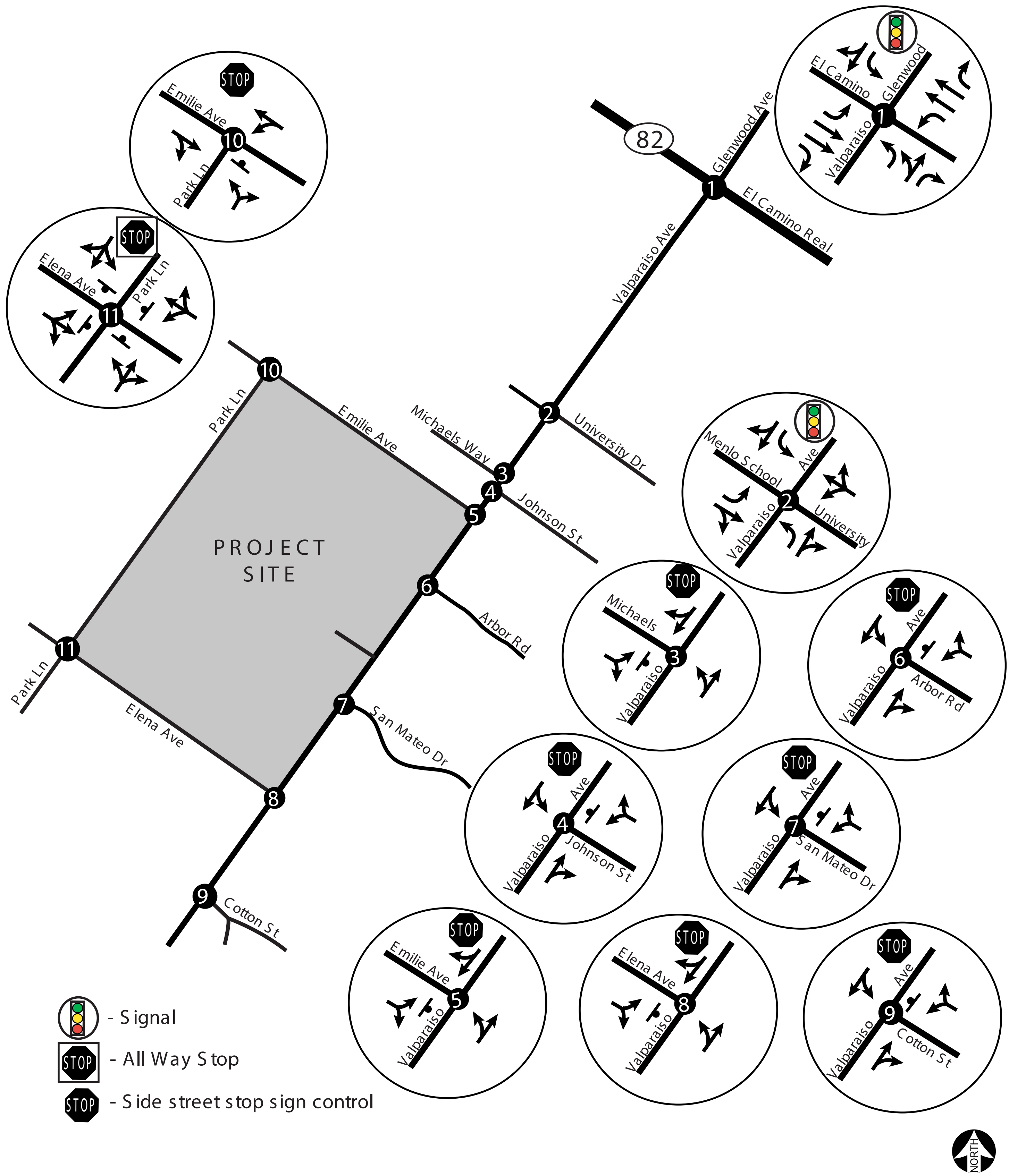
Figure IV.G-1
Area Map



Source: Crane Transportation Group, 2010.

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Figure IV.G-2
Existing Lane Intersection Geometrics and Control

- **Elena Avenue.** 3 driveways: access primarily to Sacred Heart Preparatory high school

- **Park Lane.** 1 driveway: access to staff parking/administrative facilities and the Oakwood community

- **Emilie Avenue.** 3 driveways: access to St. Joseph's Montessori preschool and kindergarten ("Montessori") and to St. Joseph's School of the Sacred Heart ("St. Joseph's") grades 1-8

Valparaiso Avenue is a two-lane roadway with bike lanes bordering the south side of the campus. The posted speed limit is 35 miles per hour, with the exception of 25 miles per hour in the vicinity of the school during pre- and post-school periods. It forms the border between the Town of Atherton (on the north) and the City of Menlo Park (on the south). It is classified as a collector street by the Town of Atherton and a minor arterial by the City of Menlo Park. In the Project vicinity, Valparaiso Avenue is signal controlled at the El Camino Real and University Drive intersections east of the campus and at Alameda de las Pulgas to the west. All other local streets in the vicinity of the Project are stop sign controlled on their approaches to Valparaiso Avenue, as is the one driveway connection from the Sacred Heart Schools campus. Neither left nor right turn deceleration lanes are provided on the Valparaiso Avenue approaches to any of the streets serving the Sacred Heart Schools campus (Elena Avenue and Emilie Avenue) nor on the approach to the campus driveway connection.

El Camino Real, which is also designated **State Route 82**, runs in a north-south direction from the South Bay through most of the Peninsula cities. North of Encinal Avenue, El Camino Real is a six-lane divided arterial. Between Encinal Avenue and Valparaiso/Glenwood Avenue, El Camino Real has five lanes (two lanes northbound, three lanes southbound). El Camino Real narrows to a four-lane roadway at Valparaiso/Glenwood Avenue and widens again to become a six-lane roadway south of Ravenswood/Menlo Avenue.

Alameda de las Pulgas is a two-lane arterial that operates primarily in a north-south direction within the Project vicinity. There is on-street parking along both sides of this arterial and an intermittent two-way left turn lane. Alameda de las Pulgas runs northerly from Santa Cruz Avenue in Menlo Park to the City of San Carlos, where it terminates at San Carlos Avenue.

Park Lane is a two-lane, east-west residential street adjacent to the Project site. The posted speed limit is 25 miles per hour. It stretches from Emilie Avenue on the east to Valparaiso Avenue. Park Lane is lined by single family homes west of the Project site. Park Lane is stop sign controlled on its approach to Emilie Avenue and has all-way stop control at its intersection with Elena Avenue. Neither left nor right turn deceleration lanes are provided on the approaches to Elena or Emilie avenues nor on the approaches to the Sacred Heart Schools driveway connection. Park Lane is classified as a "local street" in the Town of Atherton.

Elena Avenue is a two-lane north-south street extending between Valparaiso Avenue and Atherton Avenue. It is lined by the Project site and by residential uses. The posted speed limit is 25 miles per hour. Neither left nor right turn deceleration lanes are provided on the approaches to the three Sacred Heart Schools campus driveway connections nor on the approaches to Park Lane or Valparaiso Avenue. Elena Avenue is classified as a "local street" in the Town of Atherton.

Emilie Avenue is a two-lane north-south street extending between Valparaiso Avenue and Alexandra Avenue. It is lined by the Project site and by residential uses. Neither left nor right turn deceleration lanes are provided on the approaches to the three Sacred Heart Schools campus driveway connections nor on the approaches to Park Lane or Valparaiso Avenue. Emilie Avenue is classified as a "local street" in the Town of Atherton.

Volumes

Weekday AM peak period (7:00-9:00) and mid afternoon post school (2:00-4:00 PM) traffic counts were conducted by Crane Transportation Group[1] in March and/or early December 2009 at eight intersections along Valparaiso Avenue (from El Camino Real to Cotton Avenue). In addition, year 2007 counts at each school driveway and at the intersections at the four corners of the school campus were obtained from the Sacred Heart Schools 2007 Master Plan Traffic Study and adjusted upwards to match the newer count levels that reflected local area growth over the past two years as well as an increase in school enrollment from 1,050 students in 2007 up to 1,080 students in 2009. Resultant weekday AM and mid afternoon peak hour volumes at analysis intersections are presented in Figures IV.G-3 and IV.G-4, while AM and mid afternoon peak hour volumes on school driveways are presented in Figures IV.G-5 and IV.G-6.

School traffic during the morning commute peaks between 7:30 and 8:15 AM, while during the mid afternoon it peaks between 2:50 and 3:20 PM. School-related traffic levels are generally higher during the AM peak hour than during the mid afternoon after school peak hour. This is particularly the case at the high school, where a significant number of students participate in after school activities and depart the campus over an extended time period. Descriptions of traffic operations at school driveway intersections are contained in Appendix J. Overall, the Sacred Heart Schools campus currently generates 979 inbound and 565 outbound trips during the AM (school drop off) peak traffic hour, with 402 inbound and 436 outbound trips during the mid afternoon (school pickup) peak traffic hour.

Intersection Operation

Analysis Methodology

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free flow traffic conditions with

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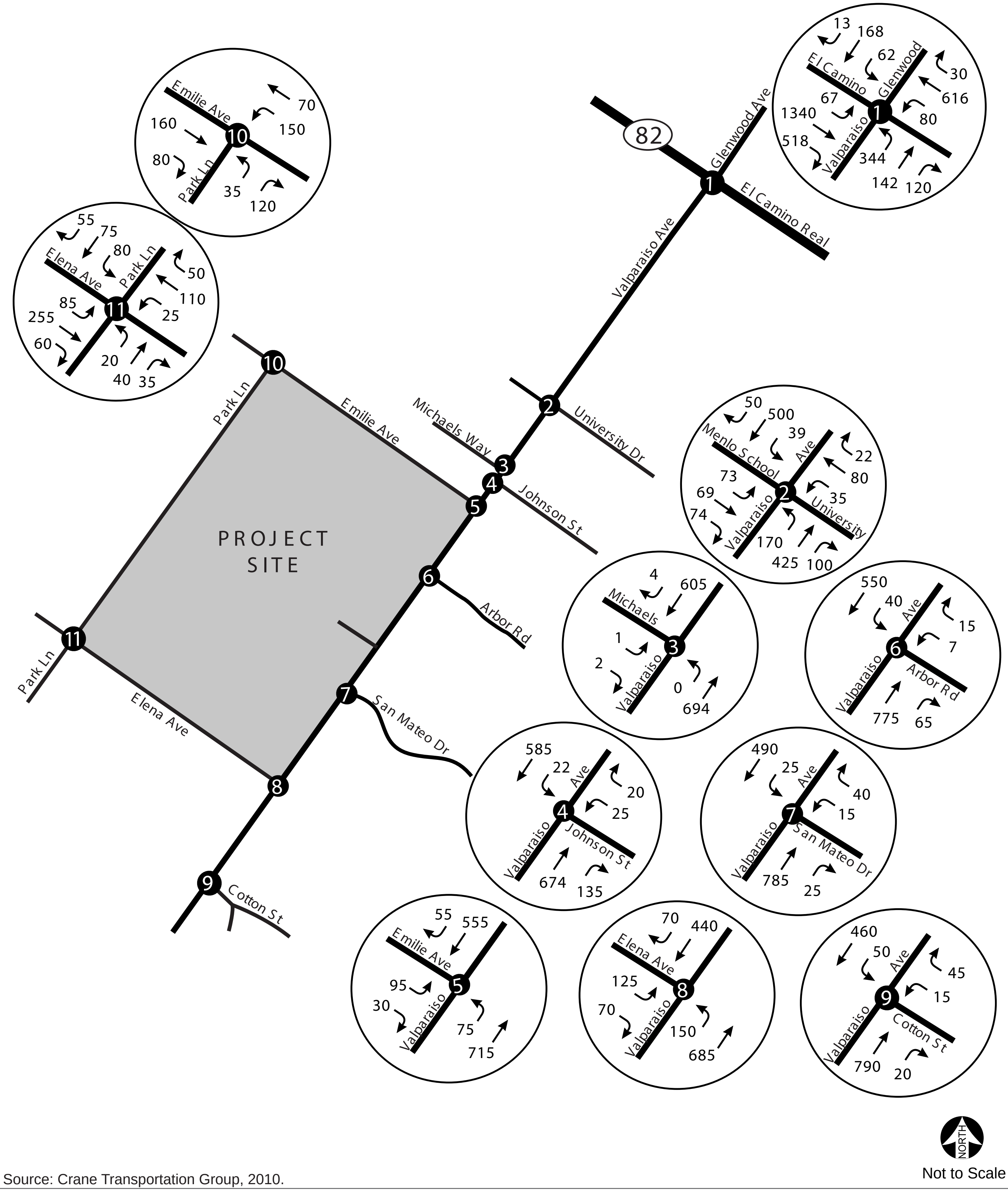
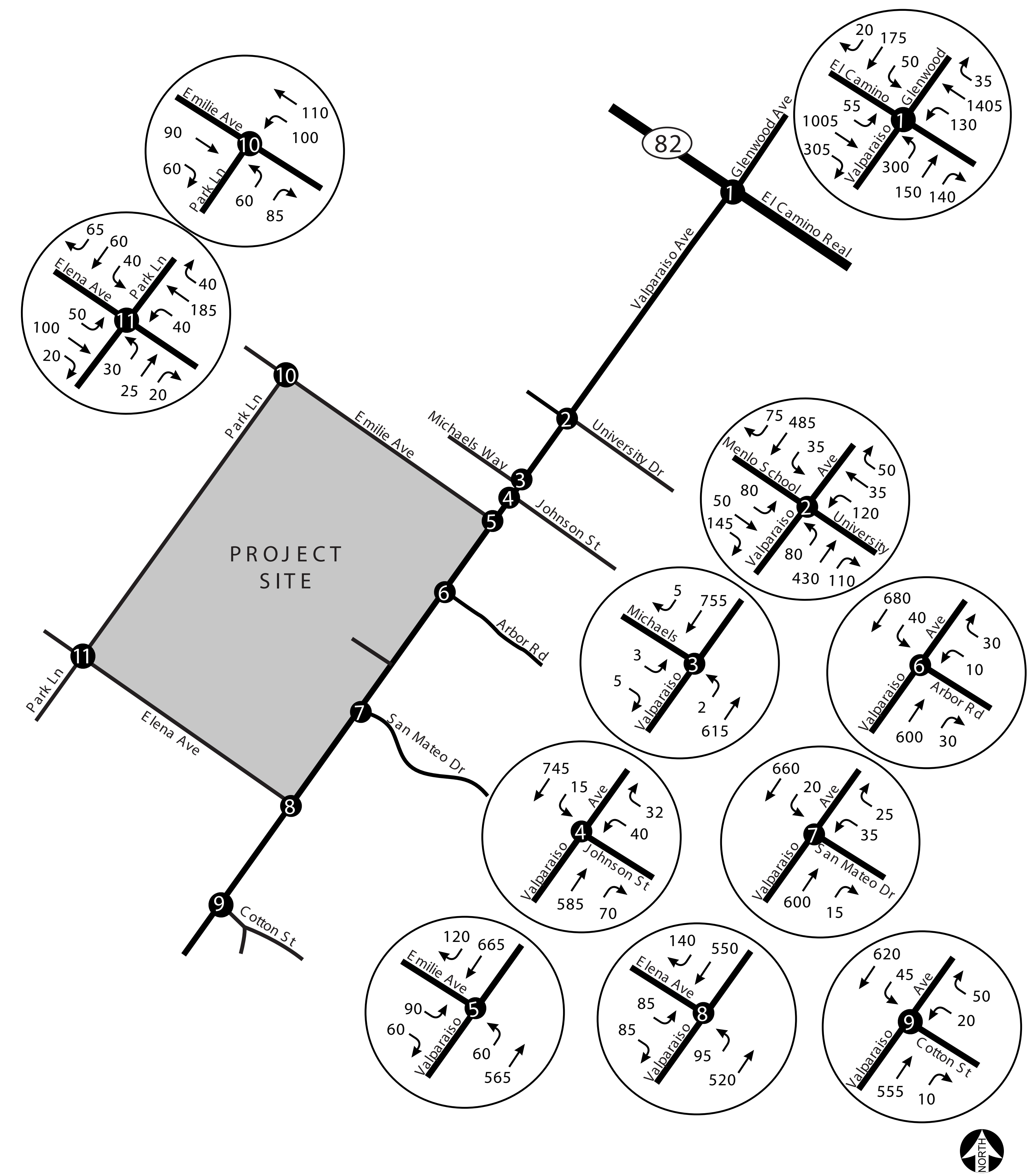
[1] *National Data Surveying.*



Source: Crane Transportation Group, 2010.

Figure IV.G-3
Year 2009 AM Peak Hour Volumes



Source: Crane Transportation Group, 2010.

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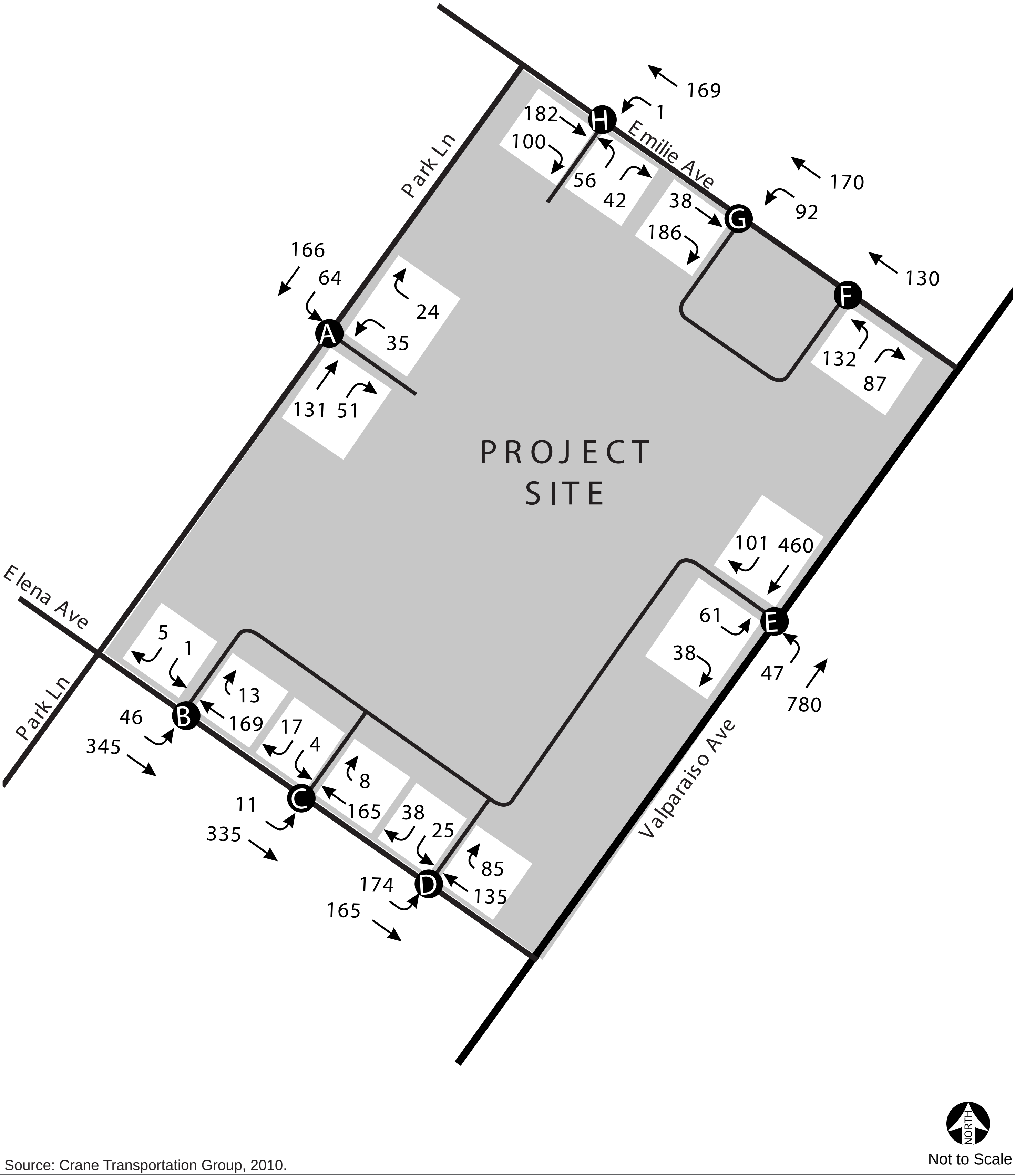
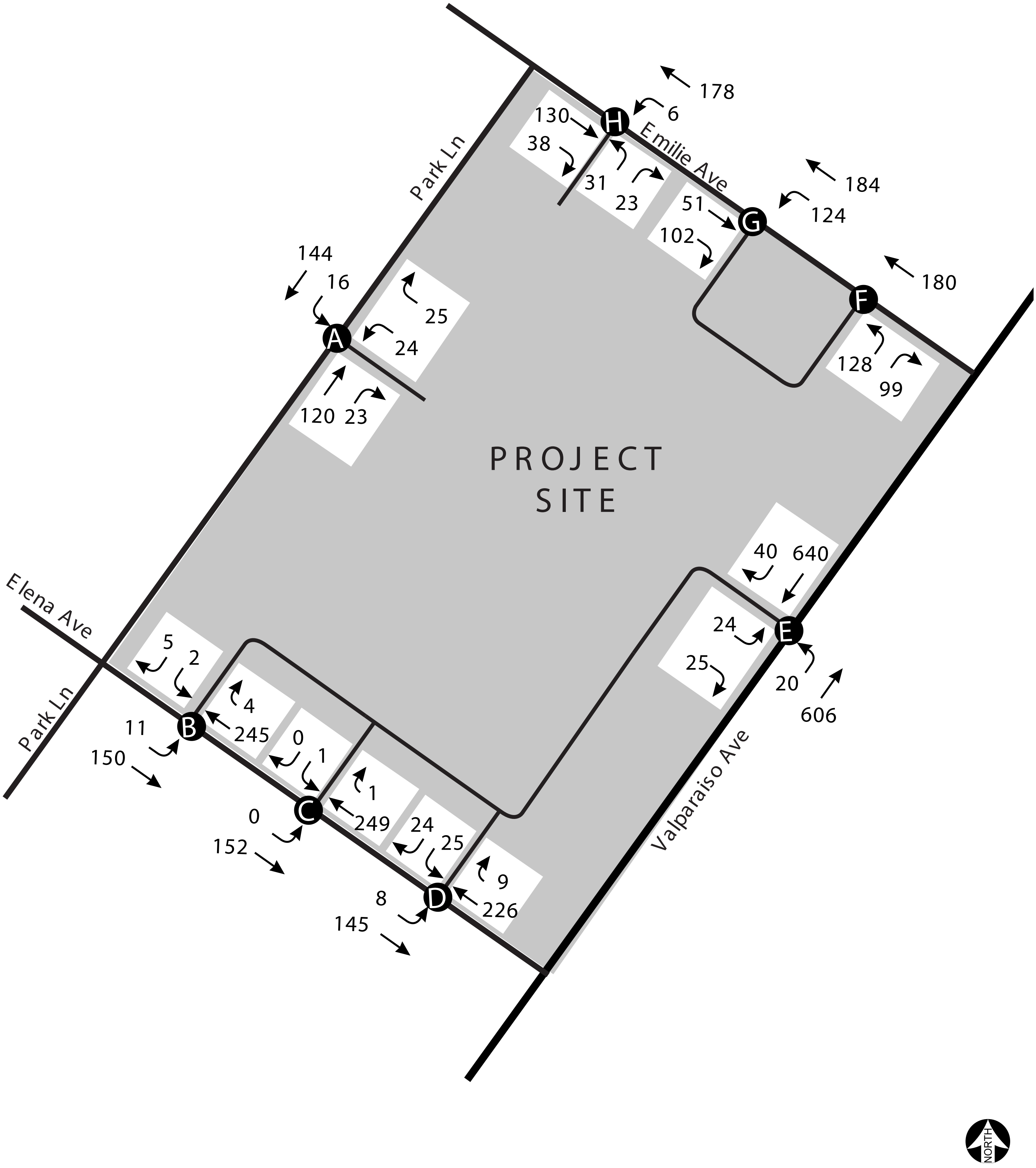
Figure IV.G-4
Year 2009 Mid Afternoon (Post School) Peak Hour Volumes



Source: Crane Transportation Group, 2010.

Figure IV.G-5
Year 2009 AM Peak Hour Project Driveway Volumes



Source: Crane Transportation Group, 2010.

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Figure IV.G-6
Year 2009 Mid Afternoon (Post School) Peak Hour
Project Driveway Volumes

little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

Signalized Intersections

For signalized intersections, the *2000 Highway Capacity Manual*[2] methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table IV.G-1 summarizes the relationship between delay and LOS for signalized intersections.

Table IV.G-1
Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: Transportation Research Board, 2000 Highway Capacity Manual.

Unsignalized Intersections

For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the *2000 Highway Capacity Manual*[3] methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per

[2] *Transportation Research Board, National Research Council.*

[3] *Ibid.*

vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements, although overall delay is also typically reported for intersections along state highways. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table IV.G-2 summarizes the relationship between delay and LOS for unsignalized intersections.

Table IV.G-2
Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	< 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0
Source: 2000 Highway Capacity Manual (Transportation Research Board, 2000).		

Traffix (version 8.0) traffic analysis software was used to determine intersection levels of service (LOS) and is based on the "Operations" methodology of the *Highway Capacity Manual*[4] and is also consistent with the City of Menlo Park's methodology. At most intersections, vehicles arrive in a somewhat uniform pattern over the entire peak hour. However, in the vicinity of schools there is typically a much more concentrated arrival/departure pattern of traffic over a 30- to 45-minute period. Input to the intersection level of service analysis (peak hour factor) has utilized local intersection survey findings in order to incorporate the specific vehicle arrival patterns by local school traffic.

Minimum Acceptable Criteria

Town of Atherton

The Town of Atherton has no minimum acceptable level of service standards. However, they are using Menlo Park standards in this study for consistency of evaluation results. LOS D is the poorest acceptable operation at public road intersections evaluated in this study.

[4] *Ibid.*

<u>City of Menlo Park</u>

The City of Menlo Park Transportation Impact Analysis Guidelines uses LOS D as the poorest acceptable operation at City arterial intersections or for approaches to unsignalized state-controlled intersections. LOS C is the poorest acceptable operation at all collector and local street intersections.

Standards of Significance for Intersections

The criteria for determining if the proposed Project would create a significant adverse impact on intersections are described below.

- A project is considered to have a potentially "significant" traffic impact if the addition of project traffic causes an intersection on a collector street operating at LOS A through C to operate at an unacceptable level (LOS D, E or F) or have an increase of 23 seconds or greater in average vehicle delay, whichever comes first. A potentially "significant" traffic impact would also occur if a project causes an intersection on arterial streets or local approaches to State-controlled signalized intersections operating at LOS A through D to operate at an unacceptable level (LOS E or F) or have an increase of 23 seconds greater in average vehicle delay, whichever comes first.

- A project is also considered to have a potentially "significant" traffic impact if the addition of project traffic causes an increase of more than 0.8 seconds (4 seconds for intersections in the Town of Atherton) of average delay to vehicles on all critical movements for intersections operating at a near term LOS D through F for collector streets and at a near term LOS E or F for arterial streets. For local approaches to State-controlled intersections, a project is considered to have a potentially "significant" impact if the addition of project traffic causes an increase of more than 0.8 seconds of delay to vehicles on the most critical movements for intersections operating at a near term LOS E or F.

Existing Intersection Operation

The following intersections have been evaluated in this study.

- Valparaiso Avenue/El Camino Real
- Valparaiso Avenue/University Drive
- Valparaiso Avenue/Michaels Way
- Valparaiso Avenue/Johnson Street
- Valparaiso Avenue/Emilie Avenue
- Valparaiso Avenue/Arbor Road

- Valparaiso Avenue/San Mateo Drive
- Valparaiso Avenue/Elena Avenue
- Valparaiso Avenue/Cotton Street
- Park Lane/Emilie Avenue
- Park Lane/Elena Avenue

AM Peak Hour

Table IV.G-3 shows that all intersections are currently operating acceptably during the AM peak hour with the exception of Valparaiso Avenue/Johnson Street, Valparaiso Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, and Valparaiso Avenue/Elena Avenue (shown in bold).

Mid Afternoon Peak Hour

Table IV.G-3 shows that all intersections are currently operating acceptably during the mid afternoon peak hour with the exception of Valparaiso Avenue/Johnson Street, Valparaiso Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, and Valparaiso Avenue/Elena Avenue (shown in bold).

Table IV.G-3
Intersection LOS Existing

Intersection	AM Peak Hour	Mid-Afternoon Peak Hour
Valparaiso Ave/El Camino Real (Signalized)	C-34.3(1)	D-38.7
Valparaiso Ave/University Dr. (Signalized)	C-20.8(1)	C-20.7
Valparaiso Ave/Michaels Way (Unsignalized)	C-20.0(2)	D-27.1
Valparaiso Ave/Johnson St. (Unsignalized)	**E-45.5(2)**	**F-109**
Valparaiso Ave/Emilie Ave. (Unsignalized)	**F-536(2)**	**F-300**
Valparaiso Ave/Arbor Rd. (Unsignalized)	**F-55.0(2)**	**E-37.5**
Valparaiso Ave./San Mateo Dr. (Unsignalized)	**E-39.8 (2)**	**E-49.9**
Valparaiso Ave./Elena Ave. (Unsignalized)	**F-915(2)**	**F-366**
Valparaiso Ave./Cotton St. (Unsignalized)	C-22.2(2)	B-11.2
Park Lane/Emilie Ave. (Unsignalized)	C-16.2(3)	B-14.7
Park Lane/Elena Ave. (All Way Stop)	C-20.6(4)	B-11.7

Table IV.G-3
Intersection LOS Existing

Intersection	AM Peak Hour	Mid-Afternoon Peak Hour
(1) Signalized level of service – average vehicle control delay in seconds.		
(2) Unsignalized level of service – average vehicle control delay in seconds. Stop sign controlled approach to Valparaiso Ave.		
(3) Unsignalized level of service – average vehicle control delay in seconds. Park Lane stop sign controlled approach to Emilie Ave.		
(1) All way stop level of service – average vehicle control delay in seconds.		
Year 2000 Highway Capacity Manual Analysis Methodology, TRAFFIX software program.		
Source: Crane Transportation Group, 2010.		

Vehicle Queuing

Weekday AM and after school peak period queuing surveys were conducted by Crane Transportation Group in early December 2009 at the following four locations.

- Emilie Avenue approach to Valparaiso Avenue.
- Elena Avenue approach to Valparaiso Avenue.
- Valparaiso Avenue eastbound traffic backing up from the University Drive signal past the Emilie Avenue intersection.
- Emilie Avenue approaches to the two school inbound driveways.

Results showed that:

1. There were virtually no extended queues along Emilie Avenue by vehicles waiting to turn into the school campus.
2. There were virtually no occasions when eastbound traffic on Valparaiso Avenue backed up from the University Drive signal to the Emilie Avenue intersection.
3. There were significant vehicle queues on both the Emilie and Elena avenue approaches to Valparaiso Avenue (see Appendix Table B).

Queues on both approaches were greater during the AM peak hour than during the mid afternoon peak hour (up to 21 AM peak hour vehicles versus 9 mid afternoon peak hour vehicles on the Elena Avenue approach to Valparaiso Avenue and up to 18 AM peak hour vehicles versus 14 mid afternoon peak hour vehicles on the Emilie Avenue approach to Valparaiso Avenue). Also, the maximum queue on the Elena Avenue approach to Valparaiso Avenue was greater than the maximum queue on the Emilie Avenue approach to Valparaiso Avenue (21 vehicles versus 18 vehicles during the AM peak hour). Maximum AM peak hour queues on both the Emilie and Elena Avenue approaches to Valparaiso Avenue (10 or more vehicles) extended from about 7:50 to 8:08 AM. Maximum mid afternoon peak hour queues (5 or more vehicles) extended from about 3:25 to 3:35 and 3:40 to 3:45 PM on the Emilie Avenue approach and from about 3:27 to 3:31 PM on the Elena Avenue approach to Valparaiso Avenue.

Intersection Signalization Needs

Analysis Methodology

Traffic signals are used to provide an orderly flow of traffic through an intersection. Many times they are needed to offer side street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. They do not, however, increase the capacity of an intersection (i.e., increase the overall intersection's ability to accommodate additional vehicles) and, in fact, often slightly reduce the number of total vehicles that can pass through an intersection in a given period of time. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are 8 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. The intersection volume data together with the available collision histories were compared to warrants contained in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD), *2003*, Revision 1 as amended for use in California *Manual on Uniform Traffic Control Devices* (California MUTCD), *September 2006*. Section 4C of the California MUTCD provides guidelines, or warrants, which may indicate need for a traffic signal at an unsignalized intersection. As indicated in the California MUTCD, satisfaction of one or more warrants does not necessarily require immediate installation of a traffic signal. It is merely an indication that the local jurisdiction should begin monitoring conditions at that location and that a signal may ultimately be required.

Warrant 3, the peak hour volume warrant, is often used as an initial check of signalization needs since peak hour volume data is typically available and this warrant is usually the first one to be met. Warrant 3 is based on a curve and takes only the hour with the highest volume of the day into account. To meet this warrant, a minimum of 100 vehicles per hour must approach the intersection on one of the side streets.

Warrant Criteria Evaluation

The following unsignalized analysis intersections currently have weekday AM peak hour and mid afternoon peak hour volumes exceeding peak hour signal warrant criteria levels.

- Valparaiso Avenue/Emilie Avenue

- Valparaiso Avenue/Elena Avenue
- Please see Appendix X for the warrant criteria chart.

Local Roadway Operation

Analysis Methodology

Atherton and Menlo Park both have methodologies to evaluate impacts on local streets. Atherton evaluates impacts to local street segments only, while Menlo Park evaluates impacts to minor arterial streets, collector streets and local streets.

Significance Criteria

Town of Atherton (General Plan Circulation Section)

Local streets – maximum acceptable two-way daily volume is 1,000 vehicles.

City of Menlo Park (Transportation Impact Analysis Guidelines)

On minor arterial streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.

On collector streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.

On local streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project-related traffic increases the ADT by 25 percent.

Existing Conditions

The following local street segments were evaluated in Atherton.

- Emilie Avenue north of Valparaiso Avenue
- Emilie Avenue north of Park Lane
- Elena Avenue north of Valparaiso Avenue
- Elena Avenue north of Park Lane
- Park Lane west of Emilie Avenue
- Park Lane west of Elena Avenue

Table IV.G-4 shows that currently all local streets in Atherton adjacent to the Sacred Heart Schools campus have daily volumes well in excess of the Town's 1,000 vehicle per day limit for local streets: Park Lane at 1,500 to 2,265 vehicles per day, Emilie Avenue at 1,890 to 2,030 vehicles per day, and Elena Avenue at 3,075 to 3,440 vehicles per day.

The following local street segments were evaluated in Menlo Park.

- University Drive south of Valparaiso Avenue
- Johnson Street south of Valparaiso Avenue
- Arbor Road south of Valparaiso Avenue
- San Mateo Drive south of Valparaiso Avenue
- Cotton Street south of Valparaiso Avenue
- Valparaiso Avenue-El Camino Real to University Drive
- Valparaiso Avenue-University Drive to Emilie Avenue
- Valparaiso Avenue-Emilie Avenue to Elena Avenue
- Valparaiso Avenue-Elena Avenue to Cotton Street

Table IV.G-4 shows that average daily two-way volumes ranged from about 2,875 vehicles on University Drive down to 875 vehicles on San Mateo Drive. Along Valparaiso Avenue, the average daily two-way volume was 13,090 vehicles between El Camino Real and University Drive, and 13,281 vehicles between University Drive and Cotton Street.

All current and future daily two-way traffic volumes along local streets in Atherton were projected using the relationship of AM peak hour versus daily volumes found in a series of hourly counts conducted for more than a week in 2003 on the streets adjacent to the Sacred Heart Schools campus. The average of survey results for four to five weekdays showed that AM peak hour volumes were ±13.5 percent of daily volumes just north of Valparaiso Avenue and ± 17 percent of daily volumes on or near Park Lane. Local streets in Menlo Park just south of Valparaiso Avenue were projected to have AM peak hour volumes at 12 percent of daily volumes due to the decreased impact of school traffic peaking on these facilities during the AM peak hour.

Along Valparaiso Avenue, AM peak hour volumes were about 10.5 to 10.7 percent of average daily volumes (as supplied by the City of Menlo Park).

Transit Services

There is no public transit that directly serves the streets adjacent to the Sacred Heart Schools campus with the exception of SamTrans Route 83, which runs three buses at the end of the school day. There is a stop on eastbound Valparaiso Avenue at Arbor Road (opposite the Project site). The nearest routes with regular service throughout the day are also operated by SamTrans, and run along El Camino Real: Routes 390 and 296.

There are 72 staff members, faculty and students that utilize Caltrain. Sacred Heart Schools provide a van service to and from the Caltrain Menlo Park station. According to Sacred Heart staff, there are approximately 6 to 7 vans each morning and one van in the afternoon.

Table IV.G-4
Local and Minor Arterial Street Daily Traffic Volumes

			2-Way Average Daily Traffic*			
			2014		2030	
LOCAL						
LINK	**JURISDICTION**	**EXISTING**	**W/O PROJECT**	**WITH PROJECT**	**W/O PROJECT**	**WITH PROJECT**
Emilie Ave. – North of Valparaiso Ave.	Atherton	1890	2000	1987	2135	2122
Emilie Ave. – North of Park Lane	Atherton	2030	2120	2187	2260	2327
Elena Ave. – North of Valparaiso Ave.	Atherton	3075	3195	3317	3450	3572
Elena Ave. – North of Park Lane	Atherton	3440	3580	3640	3755	3815
Park Lane – Between Elena Ave & Emilie Ave.	Atherton	2265	2350	2546	2390	2586
Park Lane – West of Elena Ave.	Atherton	1500	1590	1623	1640	1673
University Dr. – South of Valparaiso Ave.	Menlo Park	2875	3070	3083	4475	4488
Johnson St. – South of	Menlo Park	1685	1785	1788	1920	1923

Table IV.G-4
Local and Minor Arterial Street Daily Traffic Volumes

Valparaiso Ave.						
Arbor Rd. – South of Valparaiso Ave.	Menlo Park	1060	1125	1126	1220	1221
San Mateo Dr. – South of Valparaiso Ave.	Menlo Park	875	945	949	1045	1049
Cotton St. – South of Valparaiso Ave.	Menlo Park	1085	1160	1167	1225	1232
MINOR ARTERIAL						
Valparaiso Ave.: El Camino-University	Atherton Menlo Park	13,090	14,343	14,405	16,240	16,300
Valparaiso Ave.: University-Emilie	Atherton Menlo Park	13,281	14,515	14,593	15,075	15,153
Valparaiso Ave.: Emilie-Elena	Atherton Menlo Park	13,281	14,085	14,033	14,590	14,538
Valparaiso Ave.: Elena-Cotton	Atherton Menlo Park	13,281	13,675	13,737	14,095	14,157
Source: Crane Transportation Group, 2010.						

Pedestrian and Bicycle Facilities

A limited number of students do walk or bike to school, although the majority of Sacred Heart Schools students arrive in vehicles. Pedestrian access to the site is provided by a series of existing sidewalks or pathways on nearby public streets. However, there are no paved pathways or sidewalks along any of the schools' Valparaiso Avenue, Emilie Avenue, Elena Avenue or Park Lane frontages. There is a pedestrian crossing signal located on Valparaiso Avenue adjacent to the Project site and there is an intermittent paved pathway on the south side of Valparaiso Avenue opposite the campus.

Class II bike lanes are provided on Valparaiso Avenue.

Base Case (Without Project) Conditions

This section details the Base Case (without Project) volumes and operating conditions on the local roadway network for the nearest time horizon that the school could expect its maximum student enrollment (year 2014) and a longer time horizon currently used for circulation system evaluation purposes by the City/County Association of Governments (year 2030).

Year 2014 (Near Term Horizon)

Volumes

Year 2014 volumes were developed based upon data provided by the Town of Atherton and City of Menlo Park regarding approved but not constructed or under construction development that would likely add traffic to the local roadway network.

Town of Atherton

There are no approved or pending developments within Atherton that Town staff[5] considered likely to add traffic to the local roadway network by 2014.

City of Menlo Park

Review was conducted of the City's most recent Circulation System Assessment (CSA) document to obtain traffic projections of the incremental growth of all approved and pending projects likely to be constructed and occupied by 2011. In addition, a 1 percent per year growth rate for five years was projected for all analysis locations to reflect regional traffic growth not included in the CSA document.

Resultant year 2014 AM peak hour and mid afternoon peak hour volumes at analysis intersections are presented in Figures IV.G-7 and IV.G- 8, respectively. Overall, only minor growth in traffic is expected by 2014 along Valparaiso Avenue and on the local streets intersecting Valparaiso Avenue.

Intersection Operation

No capacity-related improvements are programmed and funded for any intersection analyzed in this study.[6]

AM Peak Hour

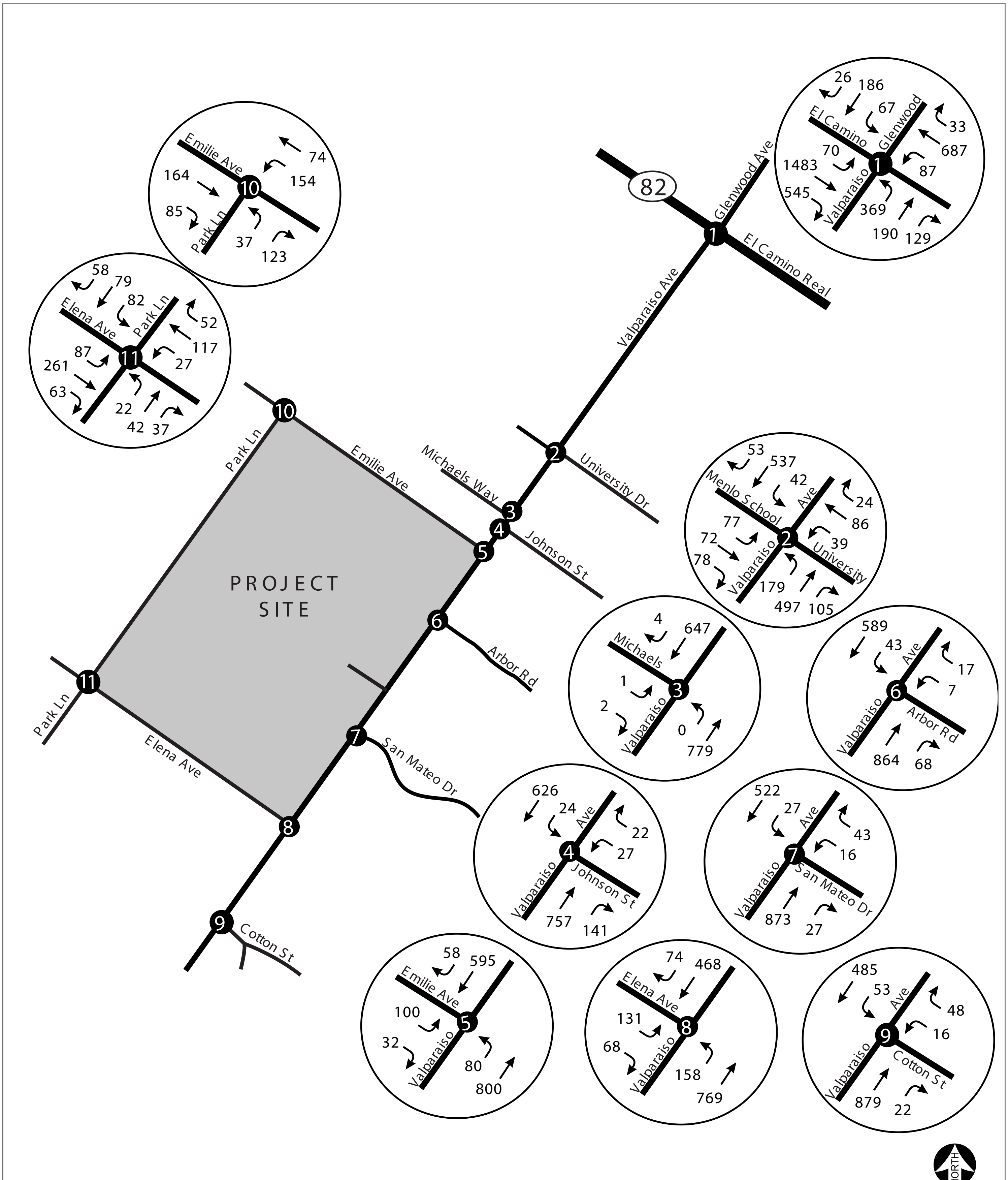
Table IV.G-5 shows that all intersections are projected to be operating at acceptable levels of service during the AM peak hour with the exception of Valparaiso/Johnson Street, Valparaiso Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, Valparaiso Avenue/Elena Avenue.

PM Peak Hour

Table IV.G-5 shows that all intersections are projected to be operating at acceptable levels of service during the mid afternoon peak hour with the exception of Valparaiso Avenue/Johnson Street, Valparaiso

[5] Personal Communication with Mr. Neal Martin, Town Planner, Town of Atherton.

[6] Personal Communication with Mr. Duncan Jones, Public Works Director, Town of Atherton; Mr. Rene Baile, Traffic Engineer, City of Menlo Park.



Source: Crane Transportation Group, 2010.

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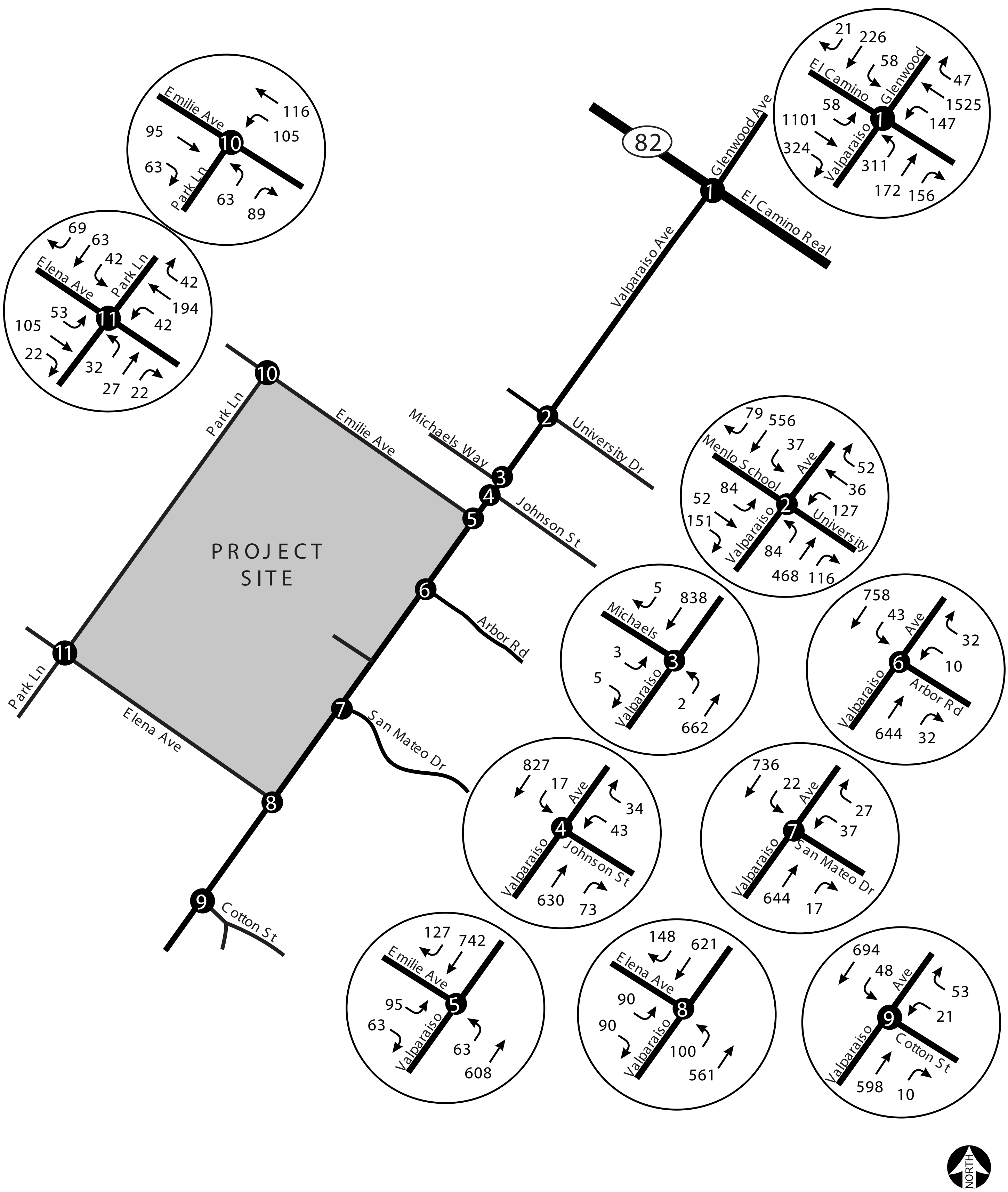
Figure IV.G-7
Year 2014 AM Peak Hour
Base Case (Without Project) Volumes



Source: Crane Transportation Group, 2010.

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Figure IV.G-8
Year 2014 Mid Afternoon (Post School) Peak Hour
Base Case (Without Project) Volumes

Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, Valparaiso Avenue/Elena Avenue.

Intersection Signalization Needs

The following two intersections would continue to have weekday AM peak hour and mid afternoon Base Case peak hour volumes exceeding peak hour signal warrant criteria levels.

- Valparaiso Avenue/Elena Avenue
- Valparaiso Avenue/Emilie Avenue

Table IV.G-5
Intersection Level of Service
Year 2014

	AM Peak Hour		Mid-Afternoon Peak Hour	
Intersection	**Base Case**	**Base Case + Project**	**Base Case**	**Base Case + Project**
Valparaiso Ave./El Camino Real (Signalized)	D-37.8(1)	D-38.5	D-43.9	D-44.5
Valparaiso Ave./University Dr. (Signalized)	C-22.3(1)	C-23.0	C-23.0	C-23.4
Valparaiso Ave./Michaels Way (Unsignalized)	C-22.5(2)	C-24.0	D-30.6	D-31.6
Valparaiso Ave./Johnson St. (Unsignalized)	**F-60.9**	**F-66.9**	**F-165**	**F-181**
Valparaiso Ave./Emilie Ave. (Unsignalized)	**F-753(2)**	**F-817**	**F-445**	**F-475**
Valparaiso Ave./Arbor Rd. (Unsignalized)	**F-68.3(2)**	**F-66.9**	**E-41.6**	**E-39.2**
Valparaiso Ave./San Mateo Dr. (Unsignalized)	**F-51.2(2)**	**E-49.8**	**F-65.1**	**F-59.5**
Valparaiso Ave./Elena Ave. (Unsignalized)	**F-1242(2)**	**F-1623**	**F-511**	**F-622**
Valparaiso Ave./Cotton St. (Unsignalized)	D-26.0(2)	D-28.1	B-12.4	C-17.2
Park Lane/Emilie Ave. (Unsignalized)	C-17.1(3)	C-20.0	C-15.5	C-18.2
Park Lane/Elena Ave. (All Way Stop)	C-23.5(4)	D-34.2	B-12.4	B-13.9

(1) Signalized level of service – average vehicle control delay in seconds.

(2) Unsignalized level of service – average vehicle control delay in seconds. Stop sign controlled approach to Valparaiso Ave.

(3) Unsignalized level of service – average vehicle control delay in seconds. Park Lane stop sign controlled approach to Emilie Ave.

(4) All way stop level of service – average vehicle control delay in seconds.

Year 2000 Highway Capacity Manual Analysis Methodology, TRAFFIX software program.

Source: Crane Transportation Group

Local Street Volumes

Table IV.G-4 presents projected year 2014 daily volumes on all local streets evaluated for this study as well as along Valparaiso Avenue. In Atherton, volumes on Emilie Avenue would be expected to increase by about 6 percent to 2,000 vehicles just north of Valparaiso Avenue and by about 4 percent to 2,120 vehicles just north of Park Lane, while volumes on Elena Avenue would be expected to increase by about 4 percent to 3,195 vehicles just north of Valparaiso Avenue and by about 4 percent to 3,580 vehicles just north of Park Lane. Volumes on Park Lane would be expected to increase by about 4 percent to 2,350 vehicles between Elena and Emilie avenues and by about 6 percent to 1,590 vehicles west of Elena Avenue. All Atherton locations would have daily volumes well in excess of the Town's 1,000 vehicle per day limit for local streets.

In Menlo Park, daily two-way volumes on local streets extending south of Valparaiso Avenue would range from 3,070 vehicles on University Drive down to 945 vehicles on San Mateo Drive. Daily volumes on Valparaiso Avenue would be expected to range from 14,345 vehicles between El Camino Real and University Drive down to 13,675 vehicles between Elena Avenue and Cotton Street.

Year 2030 (Long Term Horizon)

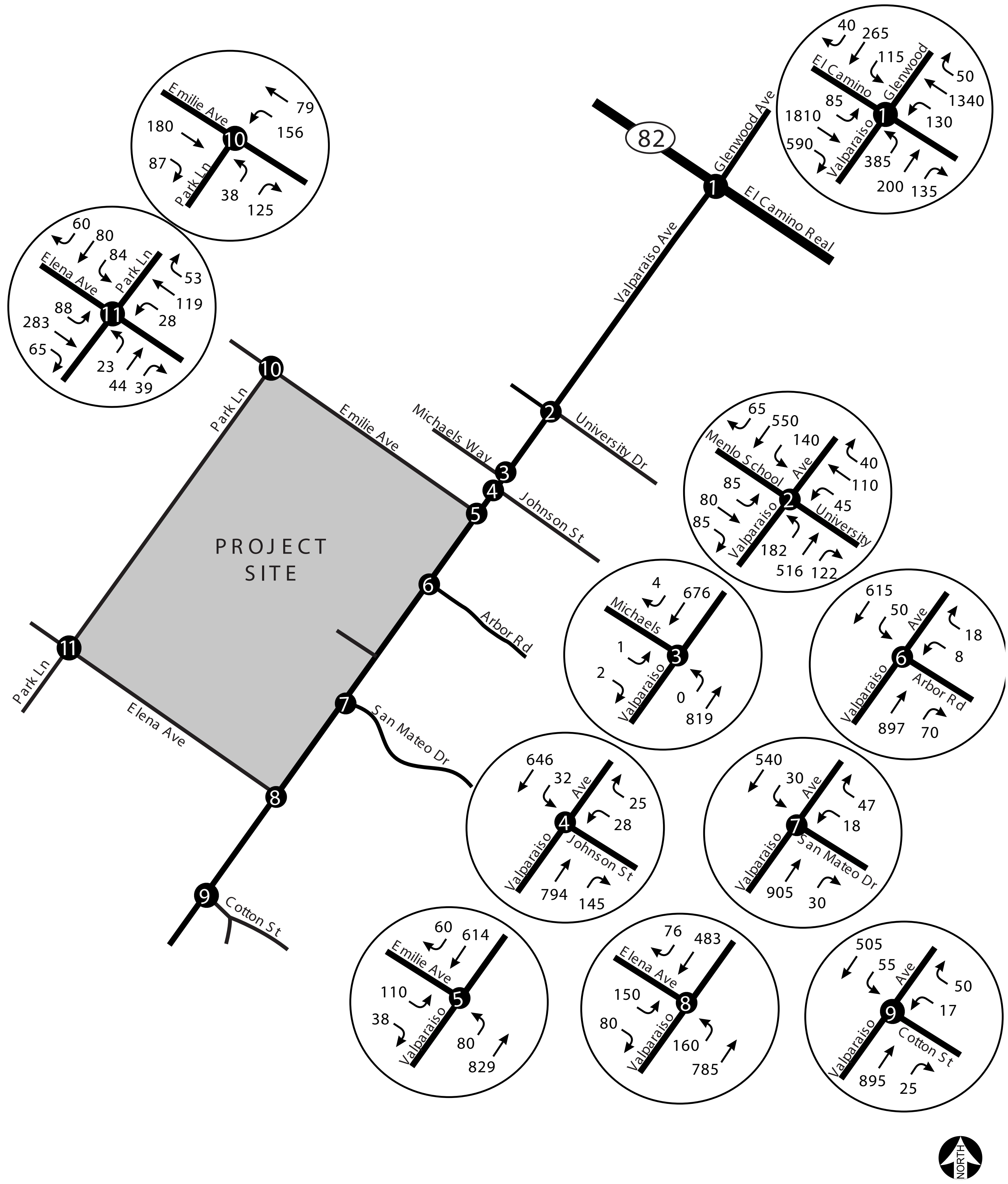
Volumes

Year 2030 volumes were developed from traffic modeling projections provided by C/CAG, which reflect traffic conditions based upon future land use projections supplied by each of the jurisdictions within the County. Traffic projections were provided for various segments of major roads, with more limited data presented for collector and local streets. In the site area, projections were available for El Camino Real and Valparaiso Avenue, while projections for individual local streets were not available. However, volume projections for several parallel local streets were presented as a projection on a single representative street. In these cases, volume increases shown on the one representative local street have then been distributed over the reality of the local street system. C/CAG year 2030 projections assumed no growth in traffic related to the Sacred Heart Schools. C/CAG modeling projections were available for the weekday AM and PM peak traffic periods. Mid afternoon 2030 projections were developed using the existing relationship between mid afternoon and commute PM peak hour volumes at the El Camino Real/Valparaiso Avenue intersection.

Resultant year 2030 AM peak hour and mid afternoon peak hour volumes are presented in Figures IV.G-9 and IV.G-10, respectively.

Intersection Operation

No capacity improvements are programmed and funded for any intersection evaluated in this study.



Source: Crane Transportation Group, 2010.

Not to Scale

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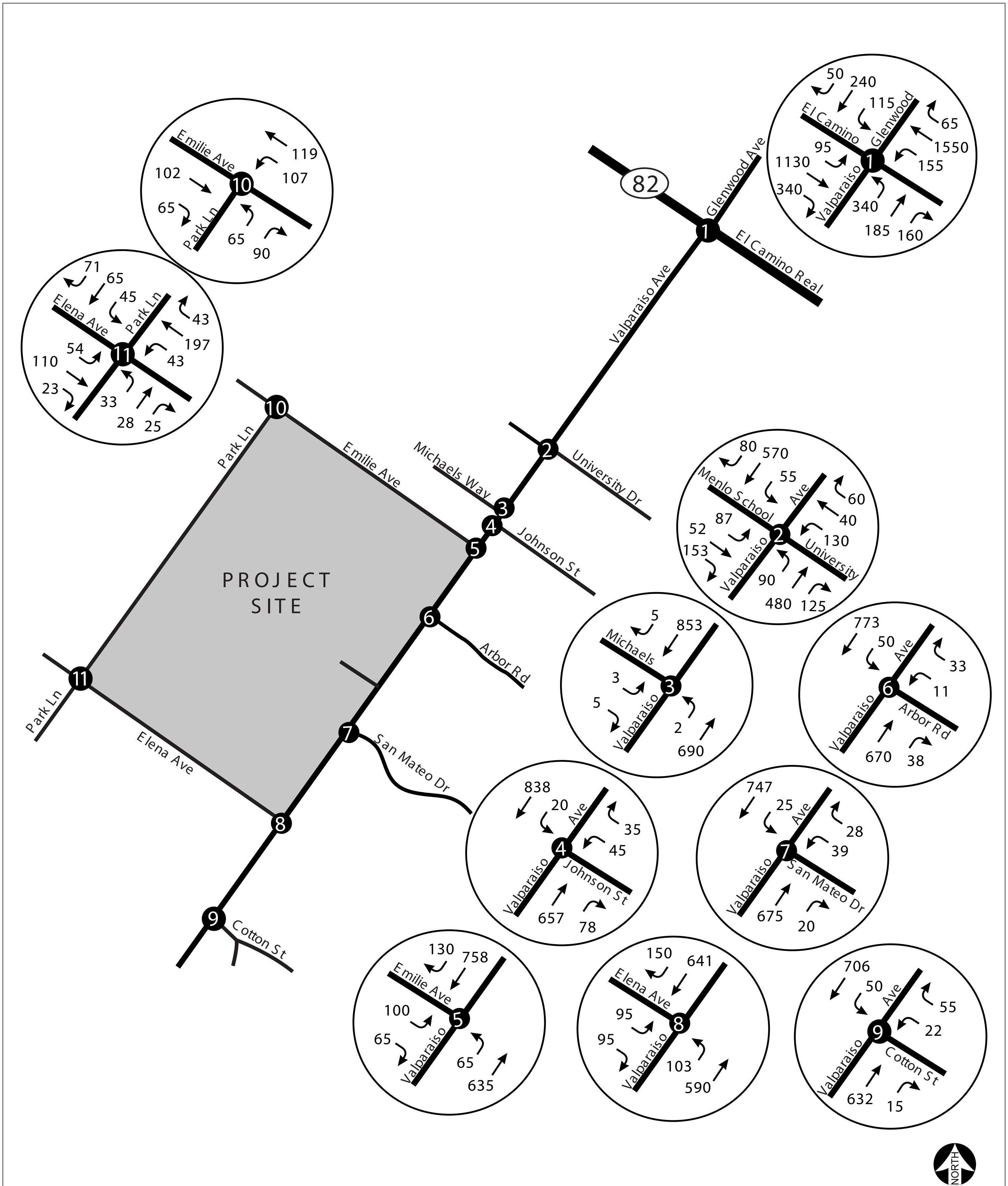
Environmental Planning and Research

Figure IV.G-9
Year 2030 AM Peak Hour
Base Case (Without Project) Volumes



Source: Crane Transportation Group, 2010.

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Environmental Planning and Research

Figure IV.G-10
Year 2030 Mid Afternoon (Post School) Peak Hour
Base Case (Without Project) Volumes

AM Peak Hour

Table IV.G-6 shows that all intersections are projected to be operating at acceptable levels of service during the AM peak hour with the exception of Valparaiso Avenue/Johnson Street, Valparaiso Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, and Valparaiso Avenue/Elena Avenue.

PM Peak Hour

Table IV.G-6 shows that all intersections are projected to be operating at acceptable levels of service during the mid afternoon peak hour with the exception of Valparaiso Avenue/Johnson Street, Valparaiso Avenue/Emilie Avenue, Valparaiso Avenue/Arbor Road, Valparaiso Avenue/San Mateo Drive, and Valparaiso Avenue/Elena Avenue.

Intersection Signalization Needs

The following two intersections would continue to have weekday AM peak hour and mid afternoon Base Case peak hour volumes exceeding peak hour signal warrant criteria levels.

- Valparaiso Avenue/Elena Avenue
- Valparaiso Avenue/Emilie Avenue

Local Street Volumes

Table IV.G-4 presents year 2030 projected daily volumes on all local streets evaluated for this study as well as along Valparaiso Avenue compared to existing traffic levels.

Table IV.G-6
Intersection Level of Service
Year 2030

	AM Peak Hour		Mid-Afternoon Peak Hour	
Intersection	**Base Case**	**Base Case + Project**	**Base Case**	**Base Case + Project**
Valparaiso Ave./El Camino Real (Signalized)	D-48.5(1)	D-49.8	D-51.0	D-51.7
Valparaiso Ave./University Dr. (Signalized)	C-26.2(1)	C-27.2	C-24.7	C-25.3
Valparaiso Ave./Michaels Way (Unsignalized)	C-23.9(2)	C-24.9	D-32.3	D-33.3
Valparaiso Ave./Johnson St. (Unsignalized)	**F-79.3(2)**	**F-88.2**	**F-218**	**F-239**
Valparaiso Ave./Emilie Ave. (Unsignalized)	**F-968(2)**	**F-1034**	**F-553**	**F-584**
Valparaiso Ave./Arbor Rd. (Unsignalized)	**F-99.6(2)**	**F-97.2**	**F-50.3**	**E-47.1**
Valparaiso Ave./San Mateo Dr. (Unsignalized)	**F-68.4(2)**	**F-66.3**	**F-82.6**	**F-74.8**
Valparaiso Ave./Elena Ave. (Unsignalized)	**F-1612(2)**	**F-2086**	**F-655**	**F-785**
Valparaiso Ave./Cotton St. (Unsignalized)	D-29.6(2)	D-32.0	C-18.7	C-19.1
Park Lane/Emilie Ave. (Unsignalized)	C-18.3(3)	C-21.7	C-16.2	C-19.2

Table IV.G-6
Intersection Level of Service
Year 2030

Park Lane/Elena Ave. (All Way Stop)	D-29.2 (4)	E-43.3	B-12.9	B-14.5

(1) Signalized level of service – average vehicle control delay in seconds.

(2) Unsignalized level of service – average vehicle control delay in seconds. Stop sign controlled approach to Valparaiso Ave.

(3) Unsignalized level of service – average vehicle control delay in seconds. Park Lane stop sign controlled approach to Emilie Ave.

(4) All way stop level of service – average vehicle control delay in seconds.

Year 2000 Highway Capacity Manual Analysis Methodology, TRAFFIX software program.
Source: Crane Transportation Group

In Atherton, compared to existing traffic levels, volumes on Emilie Avenue would be expected to increase by about 13 percent to 2,135 vehicles just north of Valparaiso Avenue and by about 11 percent to 2,260 vehicles just north of Park Lane, while volumes on Elena Avenue would be expected to increase by about 12 percent to 3,450 vehicles just north of Valparaiso Avenue and by about 9 percent to 3,755 vehicles just north of Park Lane. Volumes on Park Lane would be expected to increase by about 6 percent to 2,390 vehicles between Elena and Emilie avenues and by about 9 percent to 1,640 vehicles west of Elena Avenue. All Atherton locations would have daily volumes well in excess of the Town's 1,000 vehicle per day limit for local streets.

In Menlo Park, daily two-way volumes on local streets extending south of Valparaiso Avenue would range from 4,475 vehicles on University Drive down to 1,045 vehicles on San Mateo Drive. Daily volumes on Valparaiso Avenue would be expected to range from 16,240 vehicles between El Camino Real and University Drive down to 14,095 vehicles between Elena Avenue and Cotton Street.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

CEQA Guidelines – Appendix G Section XVI Effective March 18, 2010

The proposed Project would have a significant effect on the environment if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

- Result in inadequate emergency access.

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Standards of Significance for Intersection Level of Service and Delay (Menlo Park & Atherton (Menlo Park Transportation Impact Analysis Guidelines & Town of Atherton Public Works Department)

The criteria for determining if the proposed Project would create a significant adverse impact on intersections are described below:

- A project is considered to have a potentially “significant” traffic impact if the addition of project traffic causes an intersection on a collector street operating at LOS A through C to operate at an unacceptable level (LOS D, E or F) or have an increase of 23 seconds or greater in average vehicle delay, whichever comes first. A potential “significant” traffic impact would also occur if a project causes an intersection on arterial streets or local approaches to State-controlled signalized intersections operating at LOS A through D to operate at an unacceptable level (LOS E or F) or have an increase of 23 seconds greater in average vehicle delay, whichever comes first.

- A project is also considered to have a potentially “significant” traffic impact if the addition of project traffic causes an increase of more than 0.8 seconds (4 seconds for intersections in the Town of Atherton) of average delay to vehicles on all critical movements for intersections operating at a near term LOS D through F for collector streets and at a near term LOS E or F for arterial streets. For local approaches to State-controlled intersections, a project is considered to have a potentially “significant” impact if the addition of project traffic causes an increase of more than 0.8 seconds of delay to vehicles on the most critical movements for intersections operating at a near term LOS E or F.

  It should be noted that software projected delays greater than 120 to 150 seconds on stop sign controlled intersection approaches are not totally reliable nor likely to occur on a regular basis, as drivers will find alternate routes to travel. However, they have been reported in this study as the change in delay is a referenced significance criteria for both Atherton and Menlo Park.

Standards of Significance for Roadway Segments

Menlo Park (Transportation Impact Analysis Guidelines). The criteria for determining if the proposed project would create a significant adverse impact on roadway segments are described below:

- On minor arterial streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.

- On collector streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.

- On local streets, a traffic impact may be considered potentially significant if the existing Average Daily Traffic Volume (ADT) is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350 and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project-related traffic increases the ADT by 25 percent.

Atherton (General Plan Circulation Element). A project is considered to have a potentially significant impact on local street operation if Average Daily Traffic is increased to more than 1,000 vehicles (two-way flow). If the Base Case daily volume is already greater than 1,000 vehicles, any increase in traffic is considered a potentially significant impact.

Standards of Significance for Intersection Signal Warrant. The proposed project would create a significant impact if it increases peak hour Base Case volumes at an unsignalized intersection above peak hour (Warrant #3) criteria levels. If Base Case volumes already exceed peak hour warrant criteria levels, project traffic would result in a significant impact if it increases volumes by 1 percent or more.

Standards of Significance for Pedestrian and Bicycle Facilities. The proposed project would create a significant impact related to pedestrian or bicycle facilities if one or more of the following criteria are met or exceeded:

- The project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system, or

- Vehicles would cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards, or

- The project design would cause increased potential for bicycle/vehicle conflicts

Project Trip Generation

The expected increase in AM and mid afternoon peak hour traffic due to the proposed Master Plan increase in students at Sacred Heart Schools was based upon trip rates determined using traffic count surveys conducted at each school driveway in 2007,[7] when attendance was 1,050 students. As shown in Table IV.G-7, trip generation rates (trips per student) were determined for the entire campus as well as for those driveways specifically used by high school traffic (on Elena and Valparaiso avenues) and those driveways specifically used by traffic associated with the preschool/kindergarten and grades 1 to 8 (on Emilie Avenue). Based upon input from Sacred Heart Schools, there are no significant changes planned as part of the Master Plan that would alter travel mode for students accessing the campus. Therefore, the 116 new students would be expected to generate traffic at a rate similar to the 1,050 students that were surveyed in 2007.

Table IV.G-8 shows that the proposed Master Plan would result in 105 new inbound and 61 new outbound vehicle trips during the AM peak hour, with 43 new inbound and 47 new outbound vehicle trips during the mid afternoon peak hour. During the AM peak hour, about 40 percent of the new trips would be associated with the high school, while during the mid afternoon only about 20 percent of the trips would be associated with the high school. This follows the existing pattern of significantly less traffic being associated with the high school during the mid afternoon peak hour (when compared to the AM peak hour) due to the large number of high school students remaining for after school activities. Table IV.G-9 presents the difference in total campus AM and mid afternoon peak hour trip generation due to the proposed master plan. Overall, AM peak hour two-way trip generation would be expected to increase from 1,544 up to 1,710 vehicles, with mid afternoon peak hour two-way trip generation increasing from about 838 up to 928 vehicles.

[7] *Sacred Heart Schools Master Plan, by Hexagon Transportation Consultants, December 2007.*

Table IV.G-7
Sacred Heart Schools Master Plan Trip Generation Rates

	AM Peak Hour (Trips/Student)		Mid-Afternoon Peak Hour (Trips/Student)	
	Inbound	**Outbound**	**Inbound**	**Outbound**
High School (Elena Ave. & Valparaiso Ave. Driveways)	.89	.35	.17	.19
Preschool – Grade 8 (Emilie Ave. Driveways)	.70	.59	.50	.525
Overall Campus	**.906**	**.52**	**.37**	**.40**

Source: Crane Transportation Group, based upon counts in Sacred Heart Schools' 2007 Master Plan Traffic Study by Hexagon Transportation Consultants, Inc., December 2007.

Table IV.G-8
Sacred Heart Schools Master Plan Trip Generation Rate Increase
116 New Students

	New Students	AM Peak Hour		Mid-Afternoon Peak Hour	
		Inbound	**Outbound**	**Inbound**	**Outbound**
High School (Grades 9-12)	54	48	19	9	10
Preschool – Grade 8	62	44	36	31	33
Staff/Deliveries (Park Lane Driveway)		13	6	3	4
Total	**116**	**105**	**61**	**43**	**47**

Source: Crane Transportation Group, 2010.

Table IV.G-9
Sacred Heart Schools Net Change in Total Trip Generation Due to Master Plan

	AM Peak Hour		Mid-Afternoon Peak Hour	
	Inbound	**Outbound**	**Inbound**	**Outbound**
2009	979	565	402	436
With Master Plan Completed	1084	626	445	483
Net Change	**105**	**61**	**43**	**47**

Source: Crane Transportation Group, based upon counts in Sacred Heart Schools' 2007 Master Plan Traffic Study by Hexagon Transportation Consultants, Inc., December 2007.

Project Trip Distribution

Based upon discussion with school administration, project-related traffic would be expected to distribute to the regional street network in a pattern similar to existing school volumes (see Table IV.G-10). During the AM peak hour, there is little similarity in inbound versus outbound distribution along most streets, whereas during the mid afternoon peak hour there is great similarity. Potentially, this indicates that during the AM peak hour many parents are dropping off their children on the way to work, while during the mid afternoon peak hour more trips are specifically being made by parents from home to pick up a student and then returning directly to home.

Table IV.G-10
Sacred Heart Schools Master Plan Project Trip Distribution

	AM Peak Hour		Mid-Afternoon Peak Hour	
Location	**Inbound**	**Outbound**	**Inbound**	**Outbound**
Valparaiso Ave (East of University Dr.)	13%	23%	27%	24%
Valparaiso Ave. (West of Elena Ave.)	21%	16%	19%	19%
Emilie Ave. (North of Park Lane)	24%	15%	21%	23%
Elena Ave. (North of Park Lane)	24%	20%	19%	15%
Park Lane (West of Elena Ave.)	10%	16%	5%	6%
Local Streets South of Valparaiso Ave.	8%	10%	9%	13%
Total	**100%**	**100%**	**100%**	**100%**

Source: Crane Transportation Group, based upon review of existing traffic flow at school driveways.

Overall, during the AM peak hour more new traffic would be expected to access the school campus via Emilie and Elena avenues combined from the north (± 48 percent of inbound flow) than from Valparaiso Avenue east and west of the campus (± 34 percent of inbound flow combined). Outbound flow would be more balanced, with Emilie and Elena avenues combined receiving ± 35 percent of the outbound traffic and Valparaiso Avenue (east and west of the campus combined) receiving ± 39 percent of outbound traffic. All nearby local streets within Menlo Park south of Valparaiso Avenue (combined) would be expected to receive no more than 10 percent of all new school traffic, with no one street receiving more than 2 percent of total project traffic.

During the mid afternoon peak hour, slightly more project traffic would be expected to use Valparaiso Avenue to access the campus (± 45 percent) compared to Elena and Emilie avenues combined (± 40 percent). All local streets within Menlo Park south of Valparaiso Avenue (combined) would be expected to receive about 10 percent of new inbound school traffic and 13 percent of new outbound school traffic.

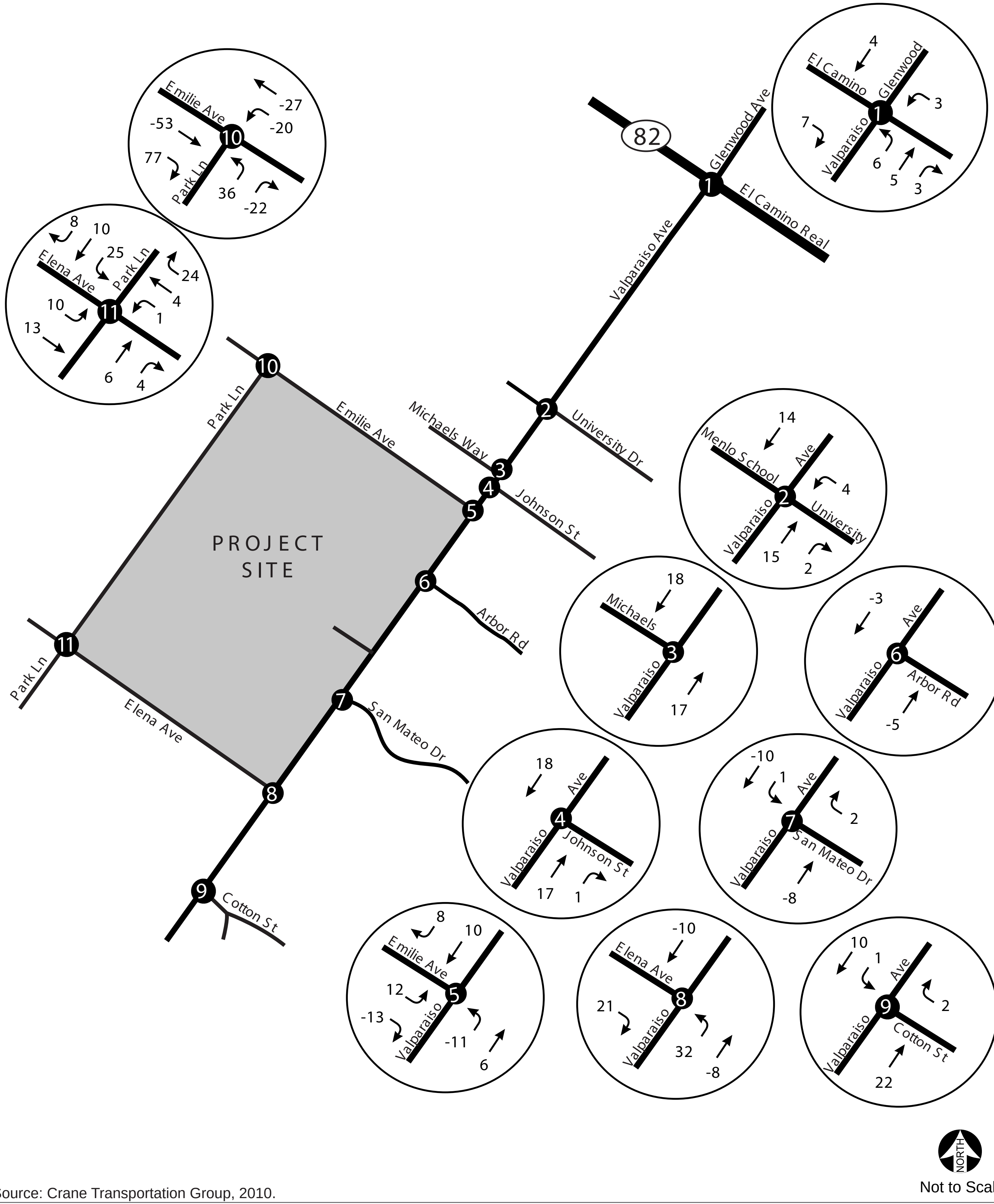
The proposed Master Plan would shift driveway access for grade 4 to 8 parents from Emilie Avenue to Park Lane, using the two-way driveway now serving staff/delivery traffic for inbound parent traffic flow and providing a new "outbound only" driveway between Emilie Avenue and the existing two-way flow driveway. A new drop off/pickup area and parking lot for grade 4 to 8 parents would be provided between these two driveways. Access for preschool/kindergarten and grade 1 to 3 parents would be maintained along Emilie Avenue using the one-way inbound and one-way outbound driveways closest to Valparaiso Avenue. The existing two-way driveway near MacBain Avenue would be eliminated.

The revised access plan and increased project enrollment would result in a 12 percent increase in AM peak hour traffic along Elena Avenue near Valparaiso Avenue (± 53 vehicles), an 18 percent increase in AM peak hour traffic along Park Lane near Emilie Avenue (± 71 vehicles), and a 1 percent decrease in AM peak hour traffic along Emilie Avenue near Valparaiso Avenue (-4 vehicles). The net change in traffic due to the proposed Master Plan project is presented in Figures IV.G-11 and IV.G-12 for the AM and mid afternoon peak traffic hours. Figures IV.G-13 and IV.G-14 present year 2014 AM and mid afternoon peak hour Base Case + Project volumes at all analysis intersections, while Figures IV.G-15 and IV.G-16 present year 2014 Base Case + Project volumes at all school access driveway intersections. Figures IV.G-17 and IV.G-18 present year 2030 AM and mid afternoon peak hour Base Case + Project volumes at all analysis intersections, while Figures IV.G-19 and IV.G-20 present year 2030 Base Case + Project volumes at all school access driveway intersections.

Project Impacts and Mitigation Measures

Mitigation Measure Alternatives Overview

As shown in Table. IV.G-11.Alternative mitigations are presented for the Valparaiso Avenue intersections with Elena Avenue, Emilie Avenue and Johnson Street. Each Alternative at each location would mitigate the Project's location-specific significant impact to a less than significant level. In



Source: Crane Transportation Group, 2010.

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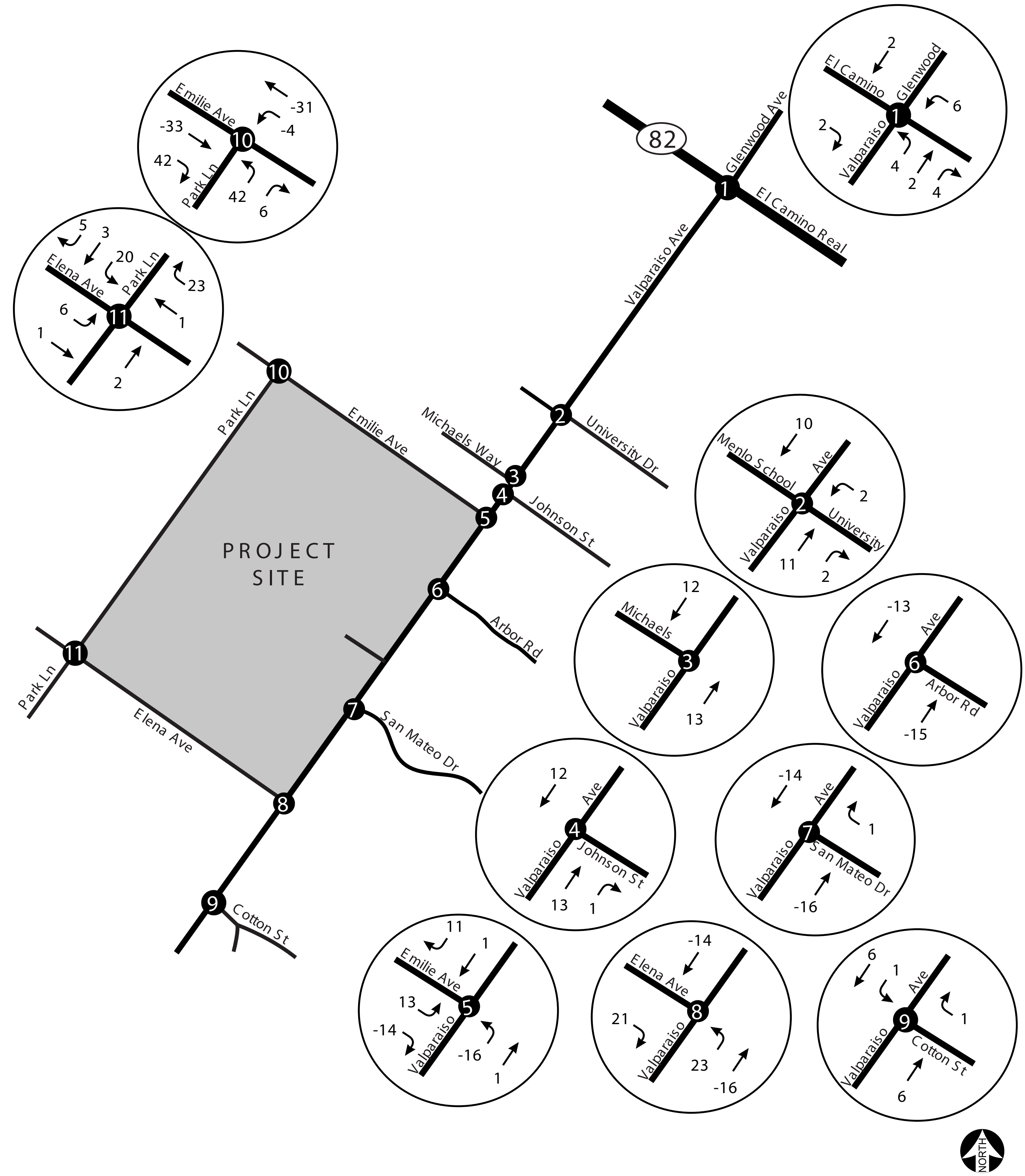
Figure IV.G-11
AM Peak Hour Project Increment



Source: Crane Transportation Group, 2010.

Not to Scale

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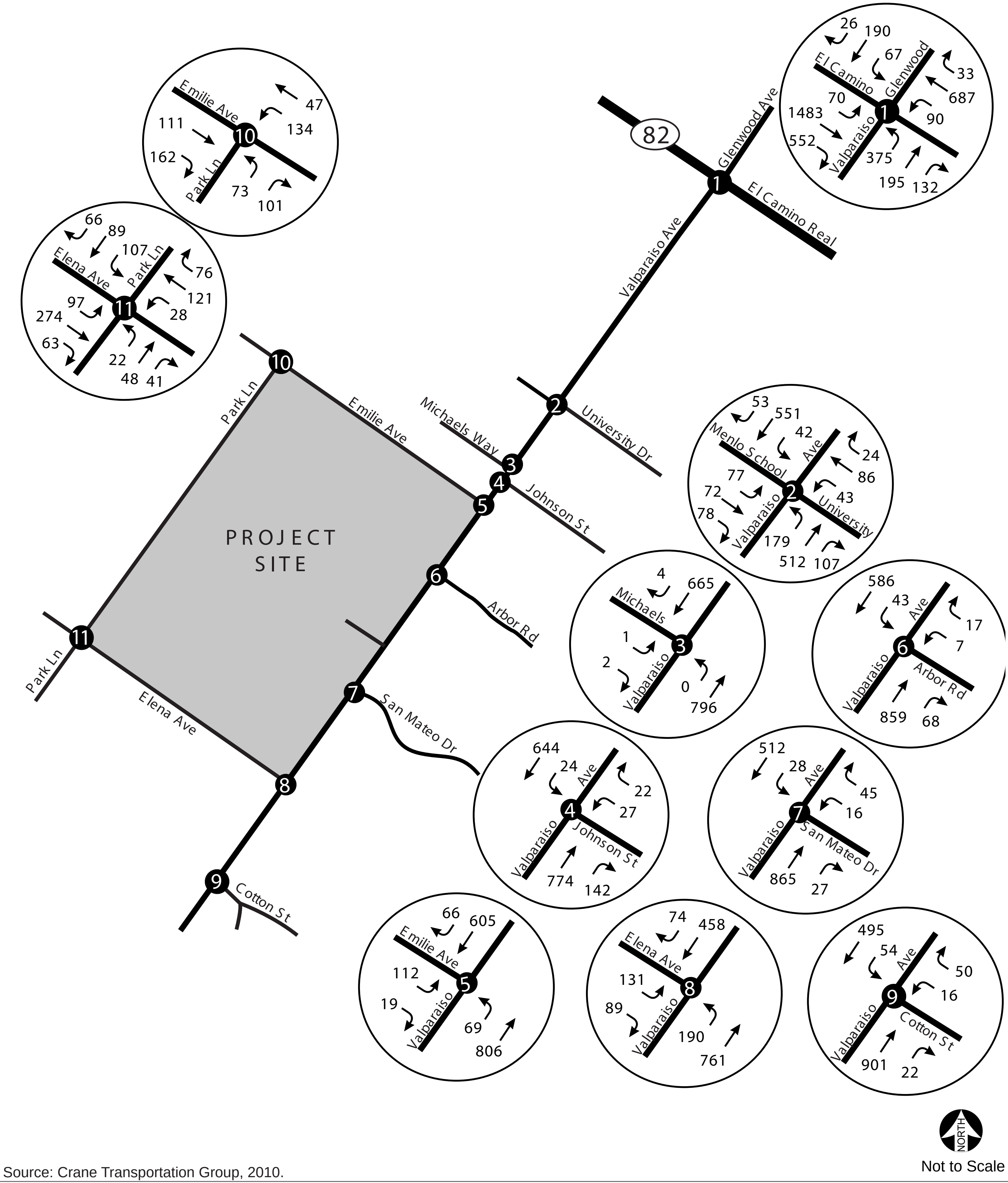
Figure IV.G-12
Mid Afternoon (Post School) Peak Hour Project Increment



Source: Crane Transportation Group, 2010.

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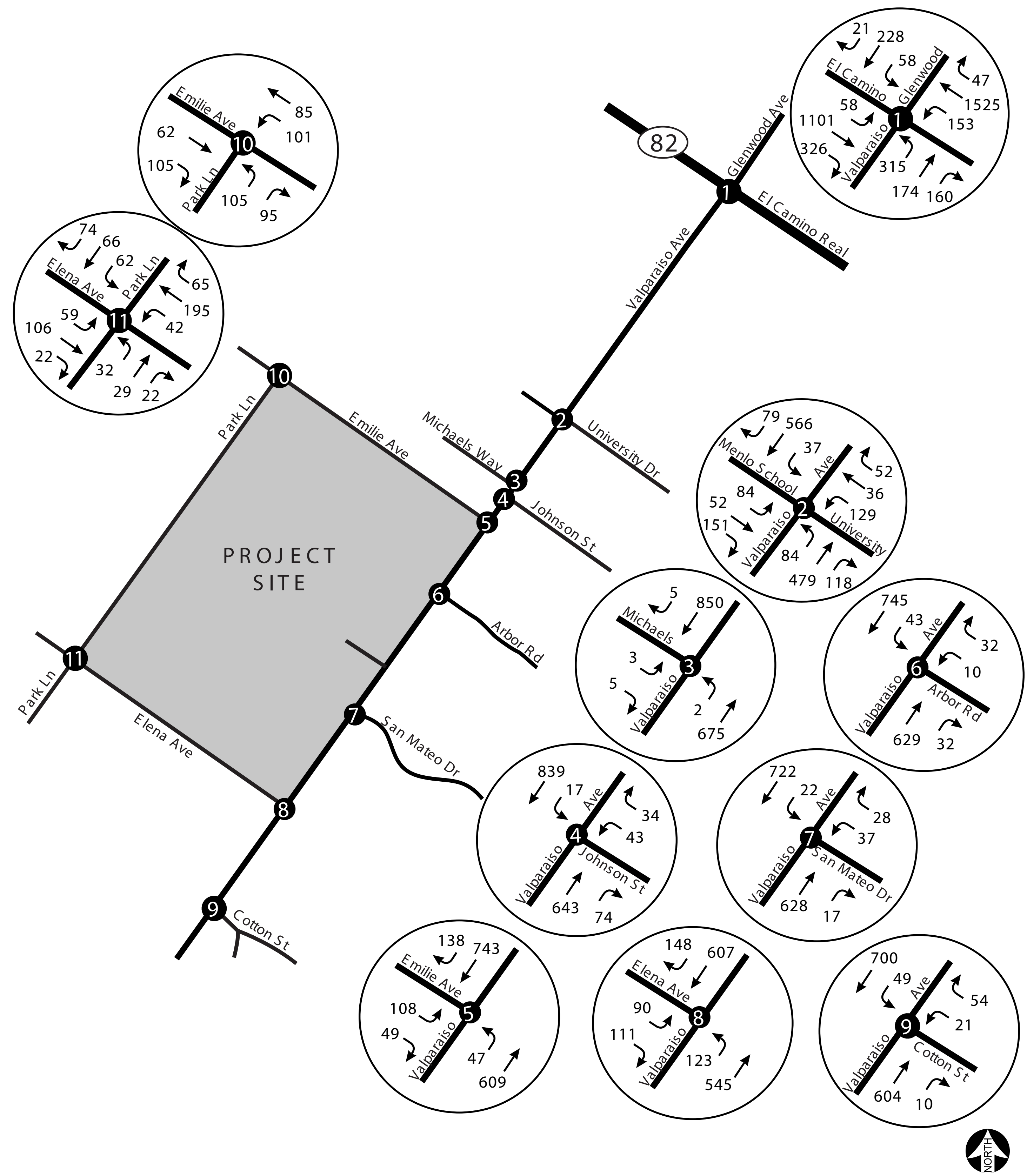
Figure IV.G-13
Year 2014 AM Peak Hour
Base Case + Project Volumes



Source: Crane Transportation Group, 2010.

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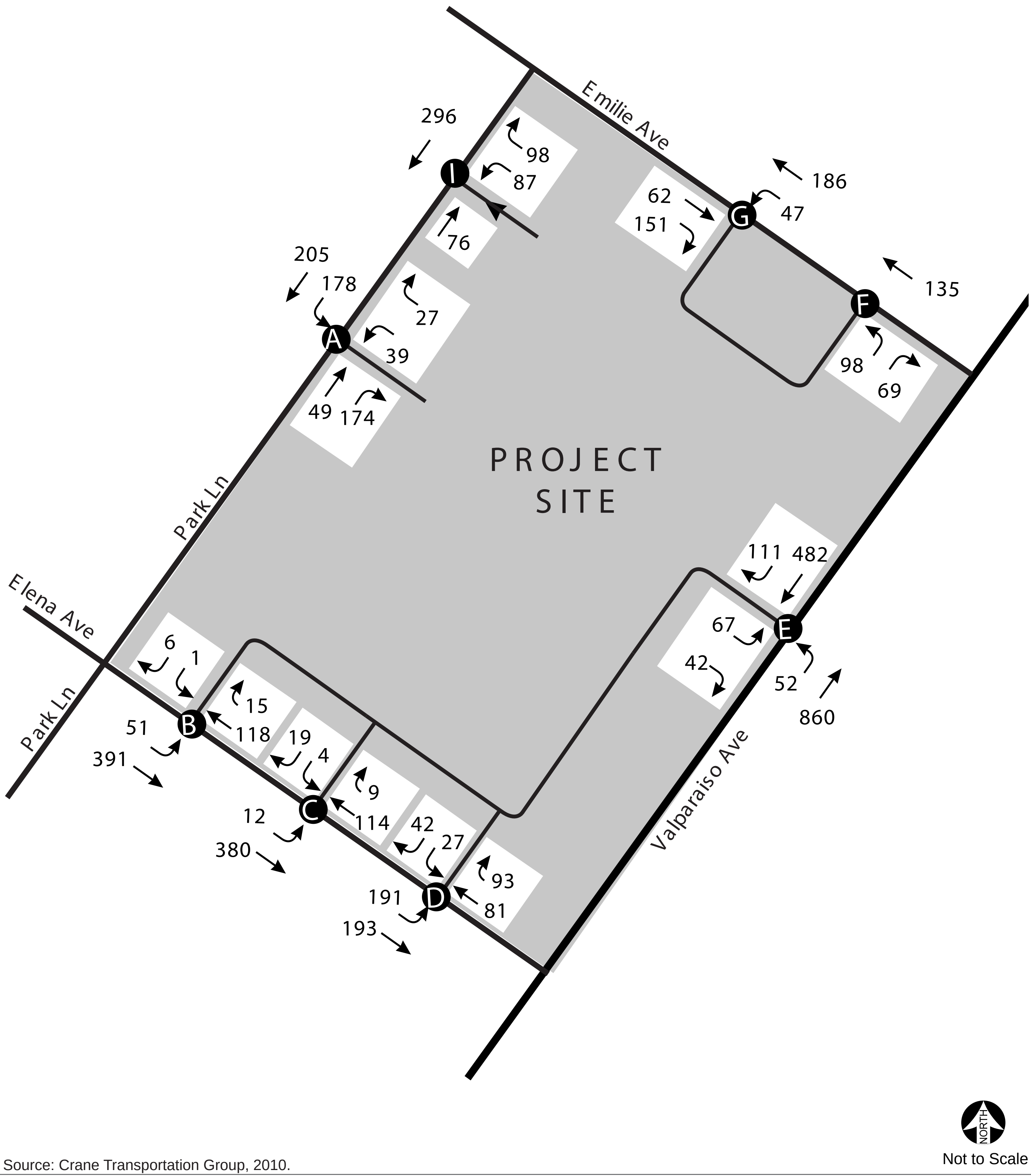
Environmental Planning and Research

Figure IV.G-14
Year 2014 Mid Afternoon (Post School) Peak Hour
Base Case + Project Volumes



Source: Crane Transportation Group, 2010.

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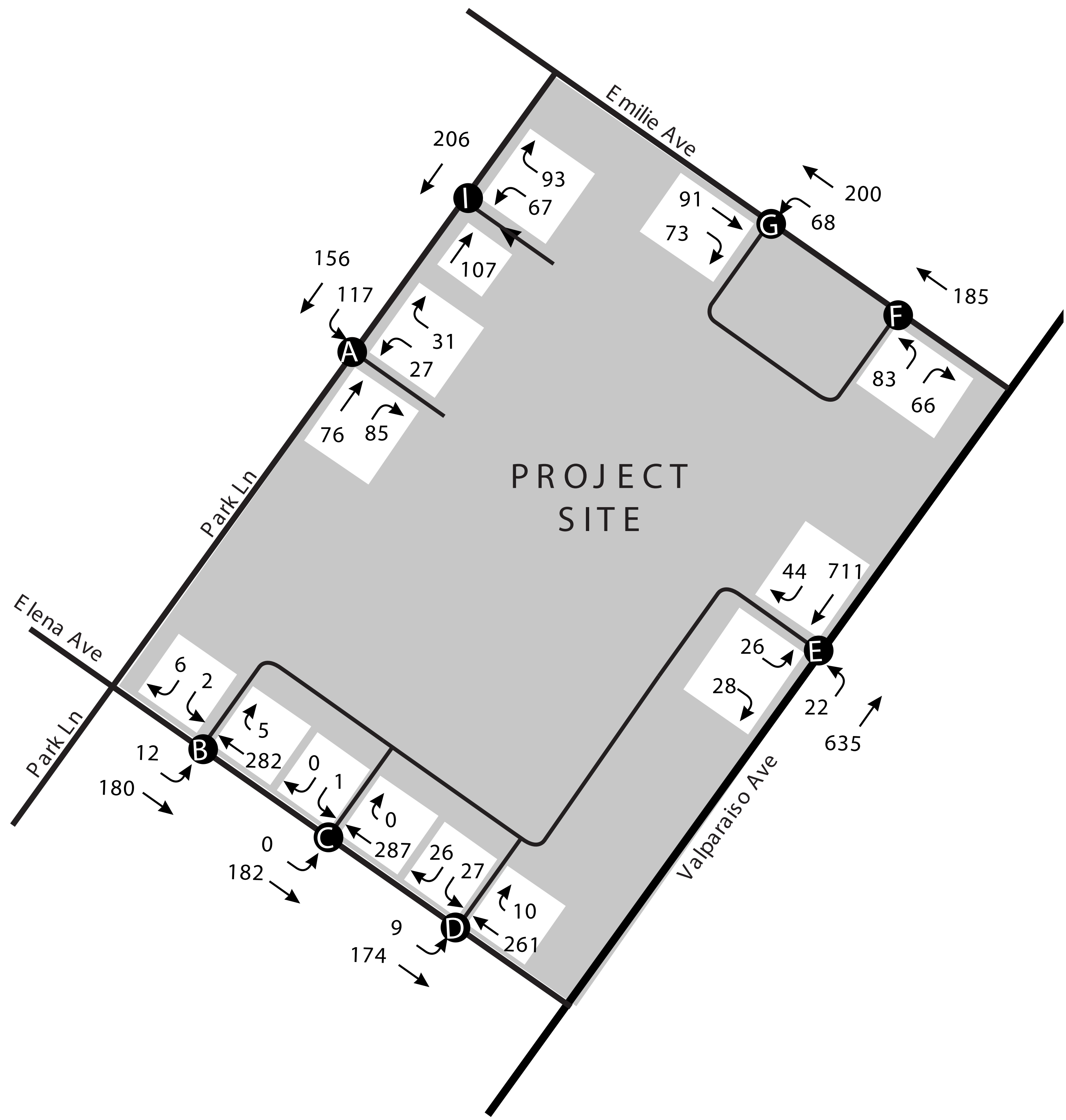
Environmental Planning and Research

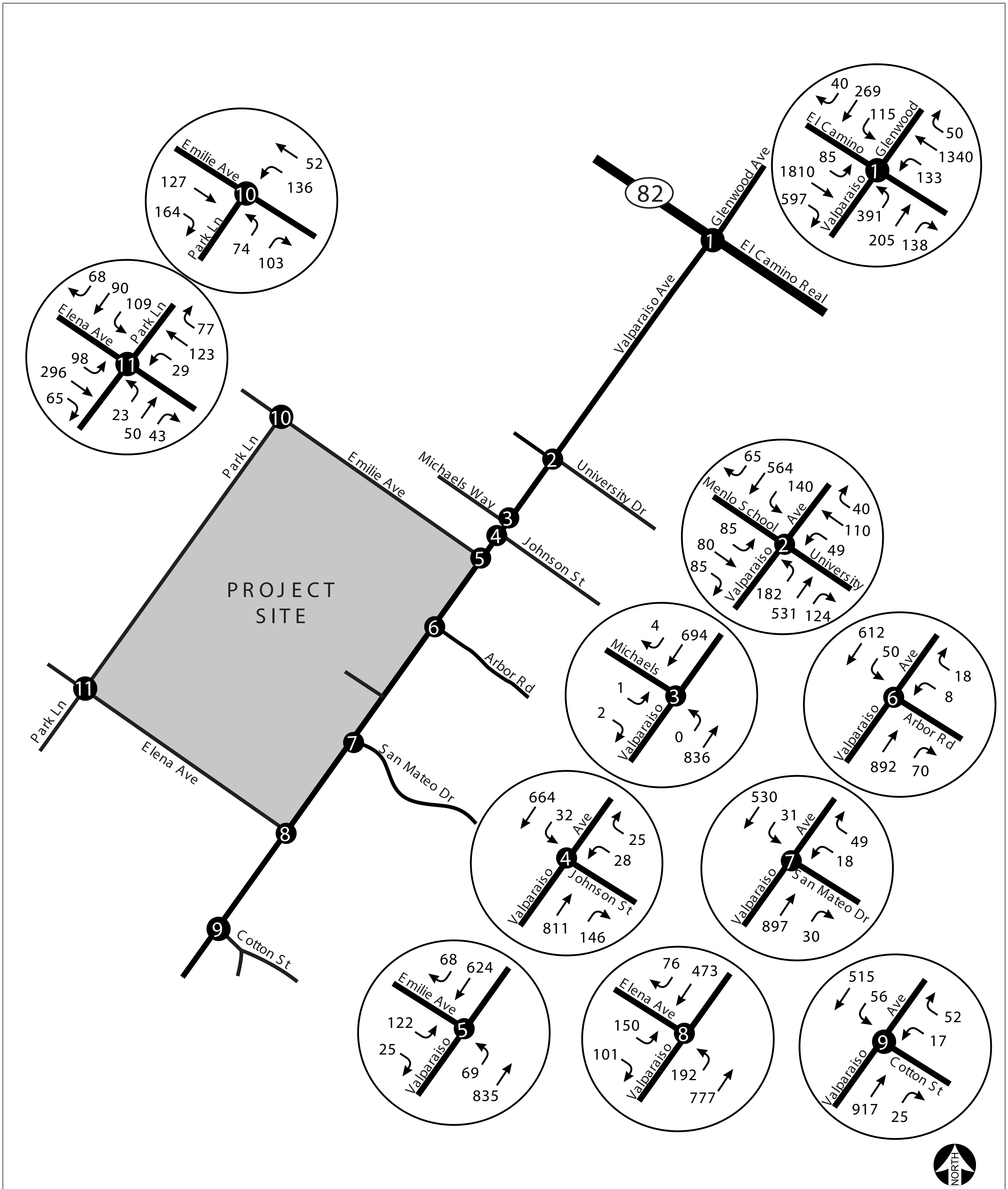
Figure IV.G-15
Year 2014 AM Peak Hour
Base Case + Project Driveway Volumes



Source: Crane Transportation Group, 2010.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure IV.G-16
Year 2014 Mid Afternoon (Post School) Peak Hour
Base Case + Project Driveway Volumes



Source: Crane Transportation Group, 2010.

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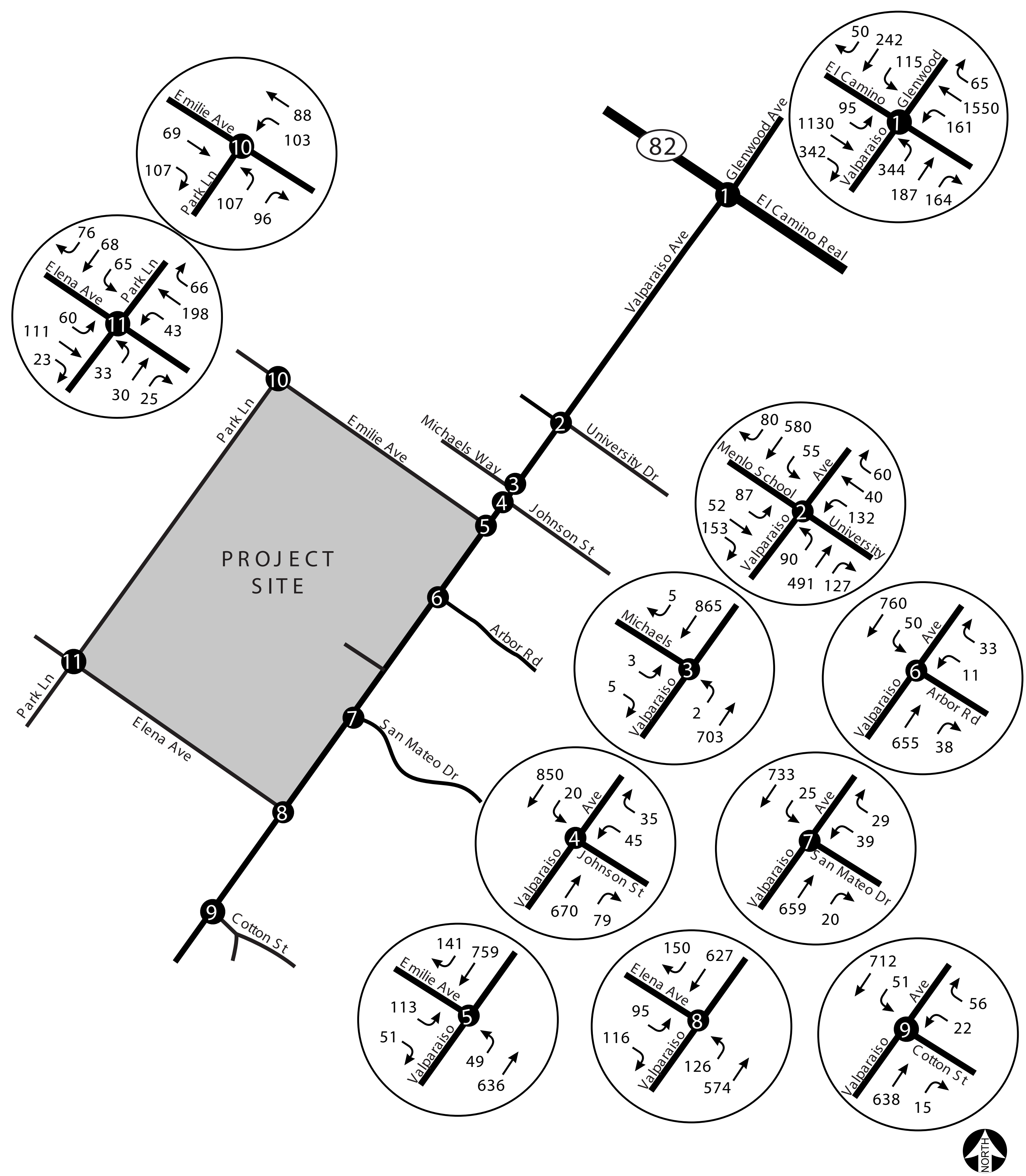
Figure IV.G-17
Year 2030 AM Peak Hour
Base Case + Project Volumes



Not to Scale

Source: Crane Transportation Group, 2010.

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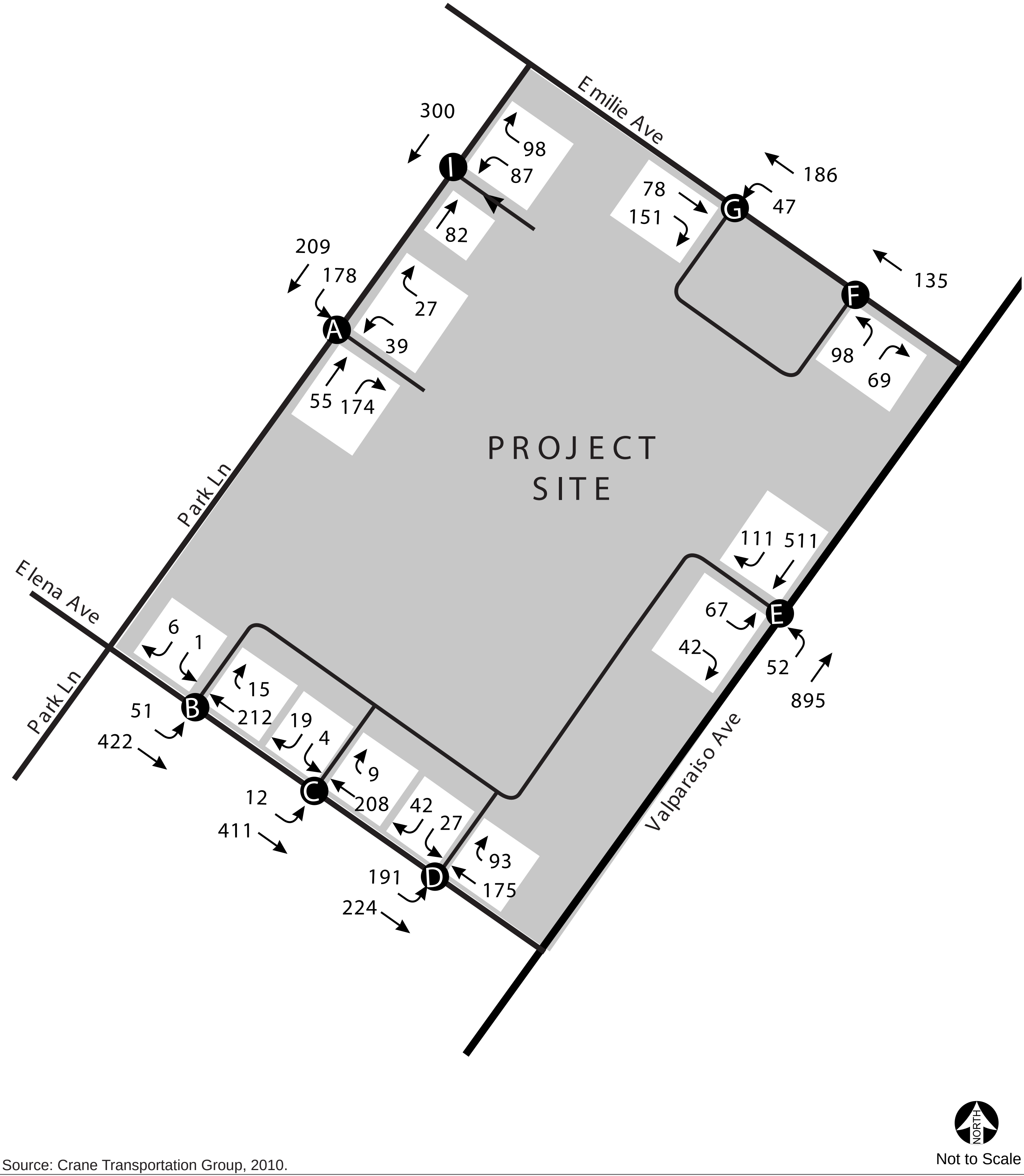
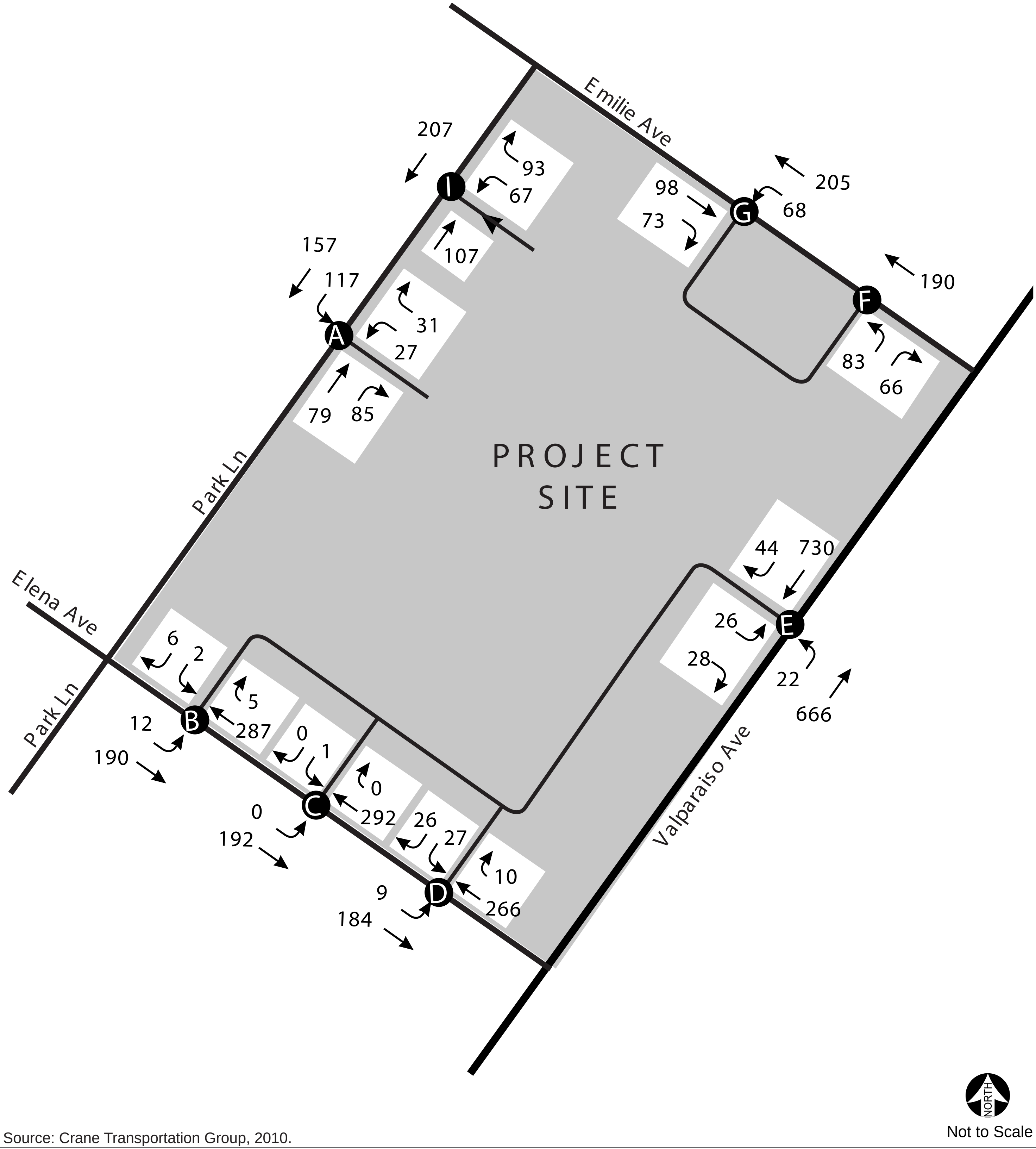
Figure IV.G-18
Year 2030 Mid Afternoon (Post School) Peak Hour
Base Case + Project Volumes



Source: Crane Transportation Group, 2010.

Figure IV.G-19
Year 2030 AM Peak Hour
Base Case + Project Driveway Volumes



Source: Crane Transportation Group, 2010.

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Figure IV.G-20
Year 2030 Mid Afternoon (Post School) Peak Hour
Base Case + Project Driveway Volumes

Table IV.G-11
Sacred Heard Schools Project
Summary of Mitigation Measure Alternatives 2014 or 2030

Mitigation Measures		
Intersection	**Alternative**	**Description**
Valparaiso Avenue/ Emilie Avenue	A	Add a second lane on the Emilie Avenue intersection approach. Stripe the approach for one left and one right turn lane. (Reduces impact to level of insignificance,)
	B	Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Emilie Avenue. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than Alternative A.)
	C	Combine Alternatives A&B. (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than A or B individually.)
Valparaiso Avenue/ Elena Avenue	A	Add a second lane on the Elena Avenue intersection approach. Stripe the approach for one left and one right turn lane. (Reduces impact to level of insignificance).
	B	Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Elena Avenue. (Reduces impact to level of insignificance. Provides a greater improvement in traffic flow than Alternative A.)
	C	Combine Alternatives A&B. (Reduces impact to level of insignificance. Provides a greater improvement in traffic flow than A or B individually.)
	D	Signalize the intersection and provide a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach. (Reduces impact to level of insignificance. Does not require Alt. A or C; requires the "left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach" portion of B.
Valparaiso Avenue/ Johnson Street	A	Widen the Johnson Street intersection approach to provide room for a right turning vehicle to separate from a left turning vehicle. (Reduces impact to level of insignificance,)
	B	Add a refuge area in the median area of Valparaiso Avenue just west of the intersection to assist left turns from Johnson Street (Reduces impact to level of insignificance, Provides a greater improvement in traffic flow than Alternative A.)
Park Lane/ Elena Avenue		Add a second lane to the southbound Elena Avenue intersection approach. (Reduces impact to level of insignificance.
Source: Crane Transportation Group, 2010.		

addition, combining Alternatives would provide overall superior operation to any individual Alternative mitigation. One or more mitigations at each location may be selected by the Town for implementation.

Year 2014 Impacts

Impact TRAF-1: 2014 Intersection Level of Service Impacts

Atherton Intersections

1A. Valparaiso Avenue/Emilie Avenue

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 64 seconds (from 753 to 817 seconds). The volume increase would be 0.7 percent. It should be noted that software projected delays greater than 120 to 150 seconds on stop sign controlled intersection approaches are not totally reliable nor likely to occur on a regular basis, as drivers will find alternate routes to travel. However, they have been reported in this study as the change in delay is a referenced significance criteria for both Atherton and Menlo Park.

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 30 seconds (from 445 to 475 seconds). The volume change would be -0.2 percent.

1B. Valparaiso Avenue/Elena Avenue

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 381 seconds (from 1242 to 1623 seconds). The volume increase would be 2.1 percent.

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 111 seconds (from 511 to 622 seconds). The volume increase would be 0.9 percent.

Menlo Park Intersections

1C. Valparaiso Avenue/Johnson Street

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 6.0 seconds (from 60.9 to 66.9 seconds).

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 16.0 seconds (from 165 to 181 seconds).

Impacts to these intersections would be ***significant.***

Mitigation Measure TRAF-1A: (Valparaiso Avenue/Emilie Avenue Level of Service and Delay Impact– see Figure IV.G-21)

ALTERNATIVE A

Add a second lane on the Emilie Avenue stop sign controlled intersection approach. Stripe the approach for one left and one right turn lane.

Resultant Operation:

AM Peak Hour: LOS F-684 seconds control delay, which would be better than Base Case LOS F-753 seconds control delay operation. (Delay would be 9.2 percent less than Base Case operation, while the project volume increase would be 0.7 percent.)

Mid Afternoon Peak Hour: LOS F-292 seconds control delay, which would be better than Base Case LOS F-445 seconds control delay operation. (Delay would be 34.4 percent less than Base Case operation, while the project volume change would be -0.2 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE B

Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Emilie Avenue. Extend the refuge area ± 130 feet to Johnson Street to assist left turns from this street to Valparaiso Avenue.

Resultant Operation:

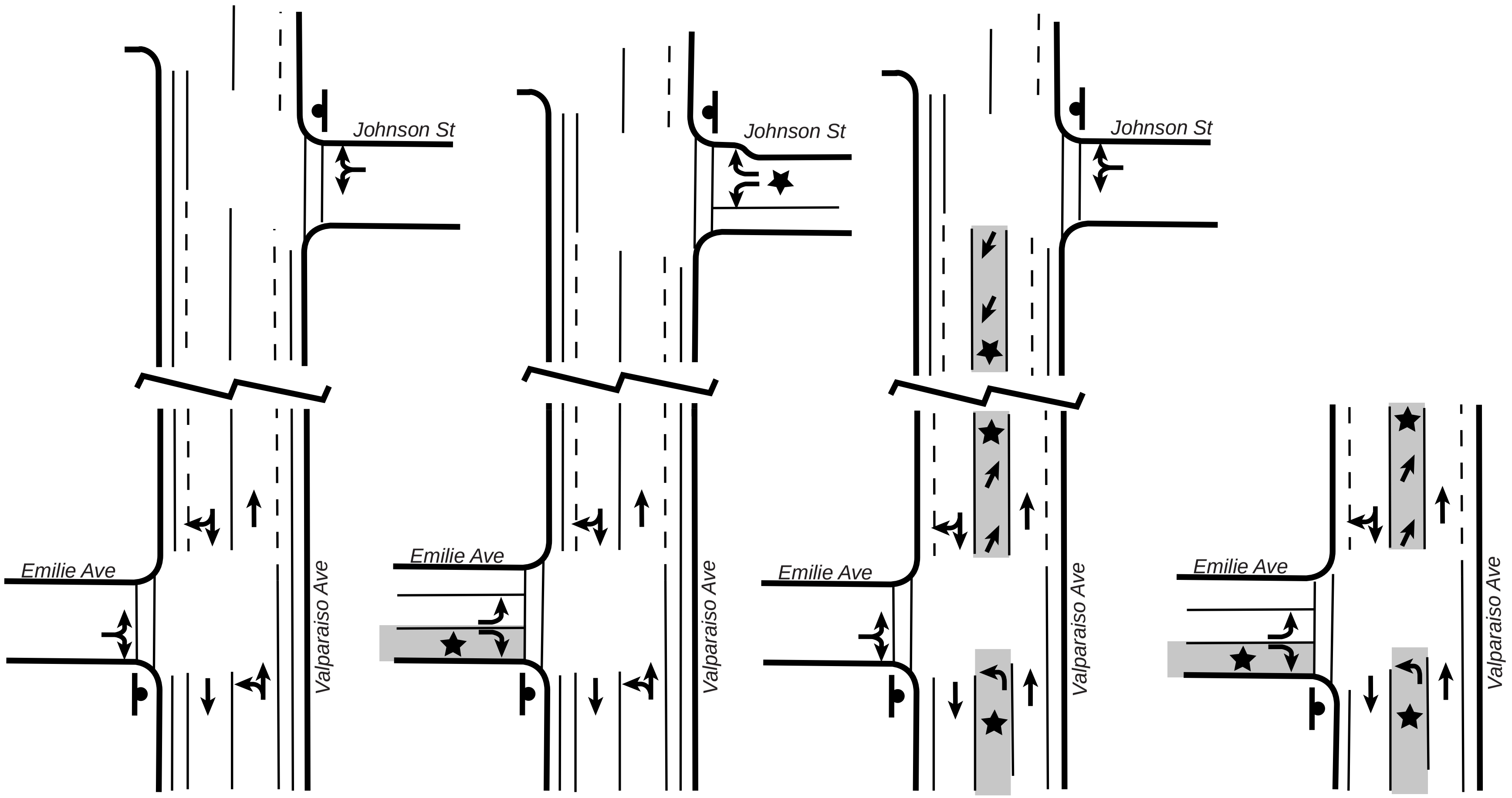
AM Peak Hour: LOS F-112 seconds control delay, which would be better than Base Case LOS F-753 seconds control delay operation. (Delay would be 85 percent less than Base Case operation, while the project volume increase would be 0.7 percent.)

Mid Afternoon Peak Hour: LOS F-70.2 seconds control delay, which would be better than Base Case LOS F-445 seconds control delay operation. (Delay would be 84 percent less than Base Case operation, while the project volume change would be -0.2 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE C

Combine Alternatives A & B.



Existing lane geometrics

Mitigation Alt "A"
Valparaiso Ave/Emilie Ave

★ Add 2nd lane on Emilie Ave approach and stripe for separate left and right turns

Valparaiso Ave/Johnson St

★ Add flare on Johnson St approach and allow room for one left turn vehicle to seperate

Mitigation Alt "B"
Valparaiso Ave/Emilie Ave

★ Add median left turn deceleration lane on Valparaiso Ave and median refuge area (for left turns from Emilie Ave)

Valparaiso Ave/Johnson St

★ Add median refuge area on Valparaiso Ave for left turns from Johnson St

Mitigation Alt "C"
Valparaiso Ave/Emilie Ave

★ Combine mitigation Alternatives A + B at Valparaiso Ave/Emilie Ave

Source: Crane Transportation Group, 2010.

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Figure IV.G-21
Proposed Mitigations for Emilie Avenue and Johnson Street at Valparaiso Avenue

Resultant Operation:

AM Peak Hour: LOS F-86.7 seconds control delay, which would be better than Base Case LOS F-753 seconds control delay operation. (Delay would be 88.5 percent less than Base Case operation, while the project volume increase would be 0.7 percent.)

Mid Afternoon Peak Hour: LOS E-39.2 seconds control delay, which would be better than Base Case LOS F-445 seconds control delay operation. (Delay would be 91.2 percent less than Base Case operation, while the project volume change would be -0.2 percent.)

Impact reduced to ***less than significant***.

Mitigation Measure TRAF-1B: (Valparaiso Avenue/Elena Avenue Level of Service and Delay Impact– see Figure IV.G-22)

ALTERNATIVE A

Add a second lane on the Elena Avenue intersection approach. Stripe the approach for one left and one right turn lane.

Resultant Operation:

AM Peak Hour: LOS F-886 seconds control delay, which would be better than Base Case LOS F-1,242 seconds control delay operation. (Delay would be 29 percent less than Base Case operation, while the project volume increase would be 2.1 percent.)

Mid Afternoon Peak Hour: LOS F-189 seconds control delay, which would be better than Base Case LOS F-511 seconds control delay operation. (Delay would be 63 percent less than Base Case operation, while the project volume increase would be 0.9 percent.)

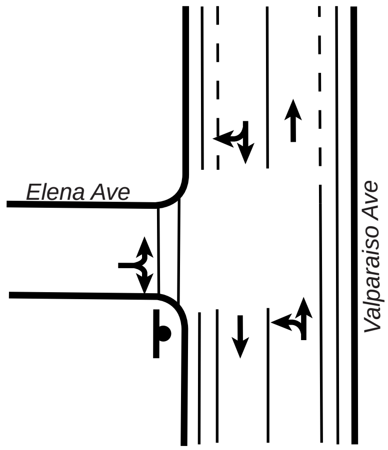
Impact reduced to ***less than significant***.

ALTERNATIVE B

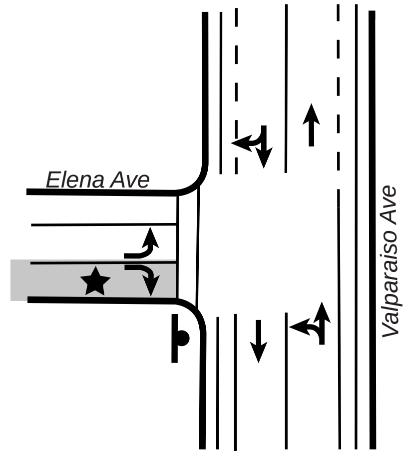
Add a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Elena Avenue.

Resultant Operation:

AM Peak Hour: LOS F-386 seconds control delay, which would be better than Base Case LOS F-1,242 seconds control delay operation. (Delay would be 69 percent less than Base Case operation, while the project volume increase would be 2.1 percent.)

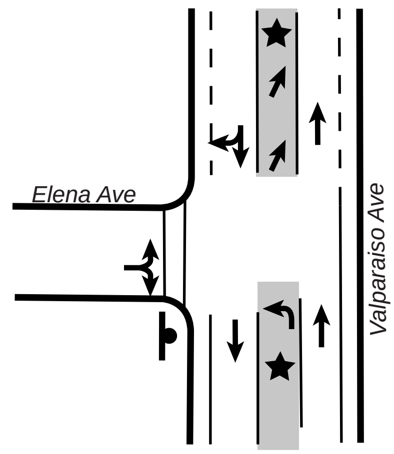


Existing lane geometrics



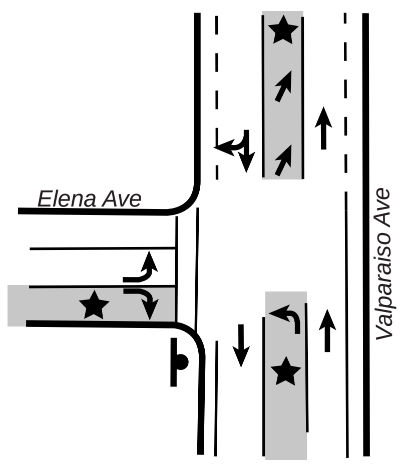
Mitigation Alt "A"
Valparaiso Ave/Elena Ave

★ Add 2nd lane on Elena Ave approach and stripe for separate left and right turns



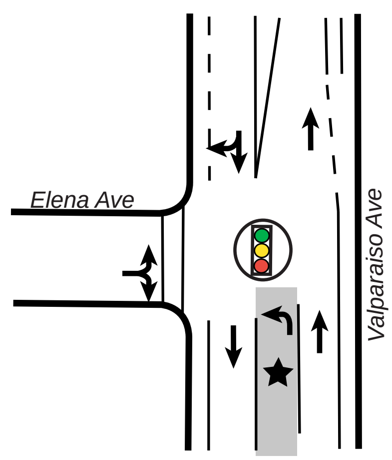
Mitigation Alt "B"
Valparaiso Ave/Elena Ave

★ Add median left turn deceleration lane on Valparaiso Ave and median refuge area (for left turns from Elena Ave)



Mitigation Alt "C"
Valparaiso Ave/Elena Ave

★ Combine mitigation Alternatives A + B at Valparaiso Ave/Elena Ave



Mitigation Alt "D"
Valparaiso Ave/Elena Ave

★ Signalize intersection and add median left turn deceleration lane on Valparaiso Ave

- Signal

NORTH
Not to Scale

Source: Crane Transportation Group, 2010.

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Figure IV.G-22
Proposed Mitigations for
Elena Avenue and Valparaiso Avenue

Mid Afternoon Peak Hour: LOS F-134 seconds control delay, which would be better than Base Case LOS F-511 seconds control delay operation. (Delay would be 74 percent less than Base Case operation, while the project volume increase would be 0.9 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE C

Combine Alternatives A & B.

Resultant Operation:

AM Peak Hour: LOS F-181 seconds control delay, which would be better than Base Case LOS F-1242 seconds control delay operation. (Delay would be 85.4 percent less than Base Case operation, while the project volume increase would be 2.1 percent.)

Mid Afternoon Peak Hour: LOS E-35.2 seconds control delay, which would be better than Base Case LOS F-511 seconds control delay operation. (Delay would be 93.1 percent less than Base Case operation, while the project volume increase would be 0.9 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE D

Signalize the intersection and provide a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach.

Resultant Operation:

AM Peak Hour: LOS C-23.0 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS C-29.8 seconds control delay, which would be acceptable operation.

Impact reduced to ***less than significant***.

Please note that signalization of the Valparaiso Avenue/Elena Avenue intersection will provide drivers easier access to Valparaiso Avenue. This will result in a minor rerouting of traffic associated with Sacred Heart Schools driveways as well as a rerouting of non-school-related traffic on the streets north of Valparaiso Avenue. The secondary impacts and needed mitigations due to this rerouting are presented at the end of the traffic impact/mitigation section.

Mitigation Measure TRAF-1C: (Valparaiso Avenue/Johnson Street Level of Service and Delay Impact– see Figure IV.G-21)

ALTERNATIVE A

Widen the Johnson Street intersection approach to provide room for a right-turning vehicle to separate from a left-turning vehicle.

Resultant Operation:

AM Peak Hour: LOS D-29.6 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS F-102 seconds control delay, which would be better than Base Case LOS F-165 seconds control delay operation.

Impact reduced to ***less than significant***.

ALTERNATIVE B

Add a refuge area in the median of Valparaiso Avenue just west of the intersection to assist left turns from Johnson Street.

Resultant Operation:

AM Peak Hour: LOS D-26.1 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS D-33.2 seconds control delay, which would be acceptable operation.

Impact reduced to ***less than significant***.

Impact TRAF-2: 2014 Intersection Signal Warrant Impacts

The proposed project would increase peak hour volumes at the following unsignalized intersections, where Base Case volumes would already be exceeding peak hour signal warrant criteria levels.

<u>2A. Valparaiso Avenue/Emilie Avenue</u>

AM Peak Hour: Project traffic would increase volumes by 0.7 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

Mid Afternoon Peak Hour: Project traffic would decrease volumes by 0.2 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

<u>2B. Valparaiso Avenue/Elena Avenue</u>

AM Peak Hour: Project traffic would increase volumes by 2.1 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels. This increase would exceed the Town's 1 percent significance criteria level.

Mid Afternoon Peak Hour: Project traffic would increase volumes by 0.9 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

Impacts to the Elena Avenue/Valparaiso Avenue intersection would be ***significant.***

Mitigation Measure TRAF-2B: (Valparaiso Avenue/Elena Avenue Signal Warrant Impact–see Figure IV.G-22)

Mitigation Measure 1B is the recommended mitigation. (Alternative A or B or a combination of A&B if remaining unsignalized and Alternative D if signalized.)

ALTERNATIVE A

Add a second lane on the Elena Avenue intersection approach.

ALTERNATIVE B

Add a left turn deceleration lane on the eastbound Valparaiso Avenue approach as well as a refuge area in the median of Valparaiso Avenue just east of the intersection to assist left turns from Elena Avenue.

ALTERNATIVE C

Combine Alternatives A & B.

ALTERNATIVE D

Signalize and add a left turn deceleration lane on the Valparaiso Avenue eastbound approach.

Resultant Unsignalized Operation of Alternatives A, B or A+B is listed under Mitigation 1B, as is Signalized Operation of Alternative D.

Impact reduced to ***less than significant***.

Impact TRAF-3: 2014 Local Road Impacts

The following local roadway segments would receive a significant impact due to the addition of traffic from the proposed Project.

Atherton

3A. Emilie Avenue – North of Park Lane

The daily two-way volume would be increased from 2,120 up to 2,187 vehicles (a 3.2 percent increase).

3B. Elena Avenue – North of Valparaiso Avenue

The daily two-way volume would be increased from 3,195 up to 3,317 vehicles (a 3.8 percent increase).

3C. Elena Avenue – North of Park Lane

The daily two-way volume would be increased from 3,580 up to 3,640 vehicles (a 1.7 percent increase).

3D. Park Lane – Between Emilie & Elena Avenues

The daily two-way volume would be increased from 2,350 up to 2,546 vehicles (an 8.3 percent increase).

3E. Park Lane – West of Elena Avenue

The daily two-way volume would be increased from 1,590 up to 1,623 vehicles (a 2.1 percent increase).

Any increase in traffic on a local street where the Base Case daily two-way volume is already exceeding 1,000 vehicles is considered a significant impact.

Impacts to these intersections would be ***significant.***

Menlo Park

None of the streets evaluated in Menlo Park (just south of Valparaiso Avenue) would receive a significant impact due to Project traffic based upon Menlo Park criteria. In addition, Valparaiso Avenue would not receive a significant impact due to the addition of Project traffic. Daily volume changes would range from a 0.4 percent decrease (between Emilie and Elena avenues) to increases of 4.5 to 5.4 percent west and east of the school, respectively. Year 2014 daily volumes along Valparaiso Avenue would range between 13,740 to 14,595 vehicles per day.

Impacts to these intersections would be ***less than significant.***

Mitigation Measures TRAF-3A to 3C: **(**Emilie Avenue and Elena Avenue Local Street Impacts)

The Town of Atherton has directed that no widening be considered for either Elena Avenue or Emilie Avenue. However, they have also directed that intersection improvements along each roadway that would reduce delay and improve level of service would be considered adequate mitigation for any project volume increases along local streets where Base Case daily volumes would already be greater than 1,000 vehicles.

Mitigation Measures 1A and 1B (Valparaiso Avenue/Emilie Avenue and Valparaiso Avenue/Elena Avenue intersections) would provide acceptable mitigation for Project traffic impacts to Emilie Avenue and Elena Avenue.

Mitigation Measures TRAF-3D & 3E (Park Lane Local Street Impacts)

The Town of Atherton has directed based upon General Plan Circulation Element direction that no widening be considered for Park Lane. However, improvements to Park Lane intersections would be acceptable mitigation.

Add a second lane to the southbound Elena Avenue approach to the Park Lane all-way stop intersection.

Resultant Operation:

AM Peak Hour: LOS D-27.3 seconds control delay, which would be better than unmitigated Base Case + Project LOS D-34.2 seconds control delay operation.

Impacts to these intersections would be ***less than significant.***

Year 2030 Impacts

Impact TRAF-4: 2030 Intersection Level of Service Impacts

The following intersections would receive a significant impact due to traffic from the proposed Project.

Atherton

4A. Valparaiso Avenue/Emilie Avenue

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 66 seconds. The volume increase would be 0.7 percent.

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 31 seconds. The volume change would be -0.2 percent.

4B. Valparaiso Avenue/Elena Avenue

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 474 seconds. The volume increase would be 2.0 percent.

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 130 seconds. The volume increase would be 0.8 percent.

4C. Park Lane/Elena Avenue

AM peak hour: Acceptable Base Case LOS D all-way stop operation would be degraded to unacceptable LOS E operation and control delay would be increased by 14.1 seconds. The volume increase would be 11.0 percent.

Menlo Park

4D. Valparaiso Avenue/Johnson Street

AM Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 8.9 seconds.

Mid Afternoon Peak Hour: Unacceptable Base Case LOS F operation of the stop sign controlled approach to Valparaiso Avenue would have average control delay increased by 21 seconds.

Impacts to these intersections would be ***significant.***

Mitigation Measure TRAF-4A: (Valparaiso Avenue/Emilie Avenue Level of Service and Delay Impact– see Figure IV.G-21)

ALTERNATIVE A

Add a second lane on the Emilie Avenue stop sign controlled approach. Stripe the approach for one left and one right turn lane.

Resultant Operation:

AM Peak Hour: LOS F-836 seconds control delay, which is better than Base Case LOS F-968 seconds control delay operation. (Delay would be 13.6percent less than Base Case operation, while the Project volume increase would be 0.7percent.)

Mid Afternoon Peak Hour: LOS F-364 seconds control delay, which is better than Base Case LOS F-553 seconds control delay operation. (Delay would be 34.2percent less than Base Case operation, while the Project volume change would be -0.2 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE B

Add a left turn deceleration lane on the Valparaiso Avenue eastbound intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Emilie Avenue. Extend the refuge area ± 130 feet to Johnson Street to assist left turns from the street to Valparaiso Avenue.

Resultant Operation:

AM Peak Hour: LOS F-160 seconds control delay, which is better than Base Case LOS F-968 seconds control delay operation. (Delay would be 83 percent less than Base Case operation, while the Project volume increase would be 0.7 percent.)

Mid Afternoon Peak Hour: LOS F-87.5 seconds control delay, which is better than Base Case LOS F-553 seconds control delay operation. (Delay would be 84 percent less than Base Case operation, while the Project volume change would be -0.2 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE C

Combine Alternatives A & B.

Resultant Operation:

AM Peak Hour: LOS F-114 seconds control delay, which would be better than Base Case LOS F-968 seconds control delay operation. (Delay would be 88.2 percent less than Base Case operation, while the Project volume increase would be 0.7 percent)

Mid Afternoon Peak Hour: LOS F-45.3 seconds control delay, which would be better than Base Case LOS F-553 seconds control delay operation. (Delay would be 91.8 percent less than Base Case operation, while the Project volume change would be -0.2 percent.)

Mitigation Measure 4B (Valparaiso Avenue/Elena Avenue Level of Service & Delay Impact – see Figure IV.G-22

ALTERNATIVE A

Add a second lane on the Elena Avenue stop sign controlled approach. Stripe the approach for one left and one right turn lane.

Resultant Operation:

AM Peak Hour: LOS F-1,138 seconds control delay, which would be better than Base Case LOS F-1,612 seconds control delay operation. (Delay would be 29 percent less than Base Case operation, while the Project volume increase would be 2.1 percent.)

Mid Afternoon Peak Hour: LOS F-245 seconds control delay, which would be better than Base Case LOS F-655 seconds control delay operation. (Delay would be 63 percent less than Base Case operation, while the Project volume increase would be 0.9 percent.)

Impact reduced to ***less than significant***.

ALTERNATIVE B

Add a left turn deceleration lane on the Valparaiso Avenue eastbound intersection approach as well as a refuge area in the Valparaiso Avenue median just east of the intersection to assist left turns from Elena Avenue.

Resultant Operation:

AM Peak Hour: LOS F-528 seconds control delay, which would be better than Base Case LOS F-1,612 seconds control delay operation. (Delay would be 67 percent less than Base Case operation, while the Project volume increase would be 2.1 percent.)

Mid Afternoon Peak Hour: LOS F-187 seconds control delay, which would be better than Base Case LOS F-655 seconds control delay operation. (Delay would be 71 percent less than Base Case operation, while the Project volume increase would be 0.9 percent)

Impact reduced to ***less than significant***.

ALTERNATIVE C

Combine Alternatives A & B.

Resultant Operation:

AM Peak Hour: LOS F-248 seconds control delay, which would be better than Base Case LOS F-1612 seconds control delay operation. (Delay would be 84.6 percent less than Base Case operation, while the Project volume increase would be 2.1 percent)

Mid Afternoon Peak Hour: LOS F-42.6 seconds control delay, which would be better than Base Case LOS F-655 seconds control delay operation. (Delay would be 93.5 percent less than Base Case operation, while the Project volume change would be 0.9 percent

Impact reduced to ***less than significant***.

ALTERNATIVE D

Signalize the intersection and provide a left turn deceleration lane on the eastbound Valparaiso Avenue intersection approach.

Resultant Operation:

AM Peak Hour: LOS C-26.9 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS C-34.0 seconds control delay, which would be acceptable operation.

Impact reduced to a ***less than significant*** at this location.

Please note that signalization of the Valparaiso Avenue/Elena intersection will provide drivers easier access to Valparaiso Avenue. This will result in a minor rerouting of traffic associated with Sacred Heart Schools driveways as well as a rerouting of non-school-related traffic on the streets north of Valparaiso Avenue. The secondary impacts and needed mitigations due to this rerouting are presented at the end of the traffic impact/mitigation section.

Mitigation Measure 4C (Valparaiso Avenue/Johnson Street Level of Service & Delay Impact – see Figure IV.G-21

ALTERNATIVE A

Widen the Johnson Street intersection approach to provide room for a right-turning vehicle to separate from a left-turning vehicle.

Resultant Operation:

AM Peak Hour: LOS D-34.8 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS F-153 seconds control delay, which would be better than Base Case LOS F-218 seconds control delay operation.

Impact reduced to ***less than significant***.

ALTERNATIVE B

Add a refuge area in the median of Valparaiso Avenue just west of the intersection to assist left turns from Johnson Street.

Resultant Operation:

AM Peak Hour: LOS D-28.9 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS E-37.2 seconds control delay, which would be better than Base Case LOS F-218 seconds control delay operation.

Impact reduced to ***less than significant***.

Impact TRAF-5:2030 Intersection Signal Warrant Impacts

<u>5A. Valparaiso Avenue/Emilie Avenue</u>

AM Peak Hour: Project traffic would increase volumes by 0.7 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

Mid Afternoon Peak Hour: Project traffic would decrease volumes by 0.2 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

<u>5B. Valparaiso Avenue/Elena Avenue</u>

AM Peak Hour: Project traffic would increase volumes by 2.0 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels. This increase would exceed the Town's 1 percent significance criteria level.

Mid Afternoon Peak Hour: Project traffic would increase volumes by 0.8 percent at this location where Base Case volumes would already be well above peak hour signal warrant criteria levels.

This would be a ***significant impact*** at the Valparaiso Avenue/Elena Avenue intersection.

Mitigation Measure 5B (Valparaiso Avenue/Elena Avenue Signal Warrant Impact – see Figure IV.G-22)

Mitigation Measure 4B is the recommended mitigation. (Alternative A or B or a combination of A&B if remaining unsignalized and Alternative D if signalized.)

ALTERNATIVE A

Add a second lane on the Elena Avenue intersection approach.

ALTERNATIVE B

Add a left turn deceleration lane on the eastbound Valparaiso Avenue approach as well as a refuge area in the median of Valparaiso Avenue just east of the intersection to assist left turns from Elena Avenue.

ALTERNATIVE C

Combine Alternative A & B.

ALTERNATIVE D

Signalize and add a left turn deceleration lane on the eastbound Valparaiso Avenue approach.

Resultant Unsignalized Operation of Alternative A, B, or C is listed under Mitigation 4B, as is Signalized Operation of Alternative D.

Impact reduced to ***less than significant***.

Impact TRAF- 6: 2030 Local Road Impacts

The following local roadway segments would receive a significant impact due to the addition of traffic from the proposed Project.

Atherton

6A. Emilie Avenue – North of Park Lane

The daily two-way volume would be increased from 2,260 up to 2,327 vehicles (a 3.0 percent increase).

6B. Elena Avenue – North of Valparaiso Avenue

The daily two-way volume would be increased from 3,450 up to 3,572 vehicles (a 3.5 percent increase).

6C. Elena Avenue – North of Park Lane

The daily two-way volume would be increased from 3,755 up to 3,815 vehicles (a 1.6 percent increase).

6D. Park Lane – Between Emilie & Elena Avenues

The daily two-way volume would be increased from 2,390 up to 2,586 vehicles (an 8.2 percent increase).

6E. Park Lane – West of Elena Avenue

The daily two-way volume would be increased from 1,640 up to 1,673 vehicles (a 2.0 percent increase).

Any increase in traffic on a local street where the Base Case daily two-way volume is already exceeding 1,000 vehicles is considered a significant impact.

Impacts to these intersections would be ***significant.***

Menlo Park

None of the streets evaluated in Menlo Park (just south of Valparaiso Avenue) would receive a significant impact due to Project traffic based upon Menlo Park criteria. In addition, Valparaiso Avenue would not receive a significant impact due to the addition of Project traffic. Daily volume changes would range from a 0.4 percent decrease (between Elena and Emilie avenues) to increases of 4.4 to 5.2 percent west and east of the school, respectively. Year 2030 daily volumes along Valparaiso Avenue would range between 14,160 to 16,300 vehicles per day.

This impact would be a ***less than significant***.

Mitigation Measure 6A to 6C (Emilie Avenue/Elena Avenue Impacts)

The Town of Atherton has directed that no widening be considered for either Elena Avenue or Emilie Avenue. However, they have also directed that intersection improvements along each roadway that would reduce delay and improve level of service would be considered adequate mitigation for any Project volume increases along local streets where Base Case daily volumes would already be greater than 1,000 vehicles.

Mitigation Measures 4A and 4B (Valparaiso Avenue/Emilie Avenue and Valparaiso Avenue/Elena Avenue intersections) would provide acceptable mitigation for Project traffic impacts to Emilie Avenue and Elena Avenue.

Mitigation Measure 6D to 6E (Park Lane Local Street Impacts)

The Town of Atherton has directed that no widening be considered for Park Lane. However, improvements to Park Lane intersections would be acceptable mitigation.

Add a second lane to the southbound Elena Avenue approach to the Park Lane all-way stop intersection.

Resultant Operation:

AM Peak Hour: LOS D-33.9 seconds control delay, which would be better than unmitigated Base Case + Project LOS E-43.3 seconds control delay operation.

Impact reduced to ***less than significant***.

Impact TRAF-7: Construction Traffic Impacts

Master Plan activities would require additional traffic associated with demolition of some existing buildings, off haul trips, provision and removal of 25 portable classrooms and construction of 4 new buildings, new on-site parking and new on-site driveways. The school has provided the following details regarding construction traffic activity.

- Construction Hours
  - 8:00 AM to 5:00 PM
- Construction Days
  - Monday to Friday
- Demolition & Off Haul – Duration
  - 4 weeks

- Construction of 4 New Buildings – Duration
  - 15 to 18 months
- Total Truck or Oversize Vehicle Trips
  - 725 to 775 trucks over the course (demolished building off haul, grading off haul of the Project delivery and removal of portable classrooms, concrete and material delivery)
- Truck Traffic & Construction Worker Access to Campus
  - Valparaiso Avenue to Elena Avenue to Park Lane campus access
- All Construction Traffic Parking
  - On campus

Construction worker traffic should not significantly impact delay for local or school-related traffic on Elena or Emilie avenues or on Park Lane during the school drop off or pickup time periods. However, trucks arriving and particularly departing the campus during peak parent traffic activity times could result in significantly increased delays at the Valparaiso Avenue/Elena Avenue intersection, particularly for turns from Elena Avenue. Trucks leaving the campus could also impact delays for traffic during the evening commute period starting at 4:00 PM. In addition, the possibility exists that Project truck traffic could result in pavement degradation along Park Lane and Elena Avenue.

Mitigation Measure 7: Construction Traffic Impacts

The applicant shall develop and get approval from the Town of Atherton Public Works Department for a construction/demolition traffic management plan before inception of any work.

Project truck traffic or oversize vehicle activity shall be limited to the hours between 8:30 AM and 3:00 PM.

The Town of Atherton Public Works Department and the school shall document pavement conditions on Park Lane and Elena Avenue before and after the Project. The applicant shall be responsible for repair of any pavement degradation due to Project truck activity.

Impact reduced to ***less than significant***.

Impact TRAF-8: Substantially Increase Hazards due to a Design Feature

The proposed Project would shift driveway access for drop-off of Grades 4 to 8 students from Emilie Avenue to Park Lane. A new drop off/pick up area for Grades 4 to 8 students would be provided in the proposed parking lot. This new drop-off area would be accessed using the existing two-way Park Lane driveway, and providing a new "outbound-only" driveway on Park Lane, between Emilie Avenue and the existing two-way flow driveway. Access for drop-off of preschool/kindergarten and Grades 1 to 3 students would be maintained along Emilie Avenue using the one-way inbound and one-way outbound driveways closest to Valparaiso Avenue; the existing two-way driveway along Emilie Avenue near MacBain Avenue (Circle Lot) would be eliminated.

The proposed Project would not result in increasing hazards due to a design feature or incompatible use. The proposed spacing of the new outbound driveway along Park Lane would be approximately 550 feet west of Emilie Avenue. This distance would be sufficient to allow unobstructed turning movements from the Park Lane outbound driveway, even during periods with maximum eastbound vehicle queues along Park Lane (i.e., queues backing up from the Park Lane/Emilie Avenue all-way-stop intersection). The approximate 200-foot distance between the proposed Park Lane outbound driveway and the existing Park Lane (two-way) driveway would be considered sufficient to accommodate anticipated vehicle queues and turning movements, with sufficient distance to allow vehicles to see and be seen between the two driveways. Additionally, the internal drop off/pick up circulation plan appears adequate to accommodate projected demands. The elimination of the existing two-way driveway along Emilie Avenue near MacBain Avenue would improve conditions by reducing traffic turning movements along Emilie Avenue.

This impact would be a ***less than significan***t. No mitigation would be required.

Impact TRAF-9: Result in Inadequate Emergency Access

The proposed project would not result in inadequate emergency access. The new parking lot for Grades 4-8 would be connected internally to other driveways, which in turn, would connect to Park Lane and Valparaiso Avenue. Emergency access on the SHS campus is currently sufficient and none of the proposed parking lot or roadway changes would eliminate existing emergency access. As shown in Figure III-10, the St. Joseph's Campus would be accessible for emergency vehicles from both the proposed Park Lane parking lot and existing Emilie Avenue parking area. Additionally, extension of the parking area along Elena Avenue would facilitate emergency access to the sports fields in that part of the campus. It is anticipated that with the Project there would be good emergency access throughout the campus and there would be no loss or inadequate emergency access resulting from the Project.

This impact would be a ***less than significant***. No mitigation would be required.

Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Transit and pedestrian facilities would not be changed due to the project, and bicycle facilities would be improved as follows: there would be two new bicycle accesses added from Park Lane- one at the corner of Park Lane and Elena Avenue, and the other along the fire lane near Park Lane and Emilie Avenue.

This impact would be a ***less than significant***. No mitigation would be required.

Impact TRAF-10: Result in a Change in Air Traffic Pattern

The closest public airport (San Carlos) is located approximately 5.25 miles from the Project. The Project is not located near any private airstrips. Therefore, the proposed Project would have no effect on air traffic patterns, nor interfere with flight paths, as there are no nearby flight paths.

This impact would be a ***less than significant***. No mitigation would be required.

Secondary Impacts Due to Signalization of the Valparaiso Avenue/Elena Avenue Intersection

Volumes

Signalization of the Valparaiso Avenue/Elena Avenue intersection will provide quicker access from Elena Avenue to Valparaiso Avenue during peak traffic periods. This reduced delay and perceived increase safety for turns (particularly left turns) is likely to result in the following rerouting of traffic.

Sacred Heart Schools

Some high school drivers traveling north of the school on local streets may decide to use Valparaiso Avenue to access El Camino Real (to travel north) due to the ease of access to Valparaiso Avenue.

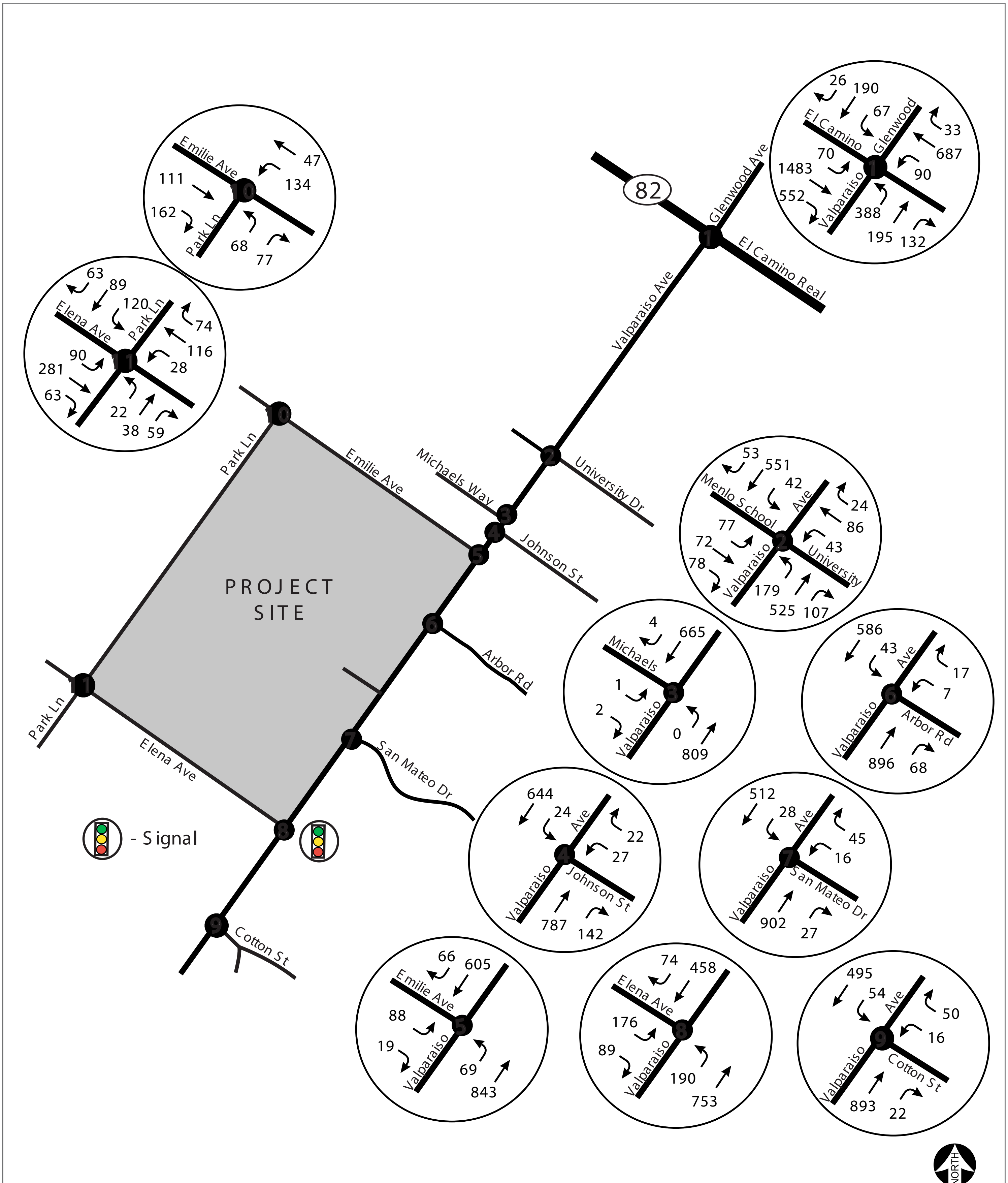
Some grade 4-8 drivers accessing Park Lane and using Emilie Avenue to turn left to eastbound Valparaiso Avenue may choose to use the Elena Avenue signal for easier access to Valparaiso Avenue.

Some grade 4-8 drivers accessing Park Lane using Emilie Avenue and Elena Avenue to travel north of the school on local streets may decide to use Valparaiso Avenue to access El Camino Real (to travel north) due to the ease of access to Valparaiso Avenue.

Local Area Traffic

Some local drivers accessing Valparaiso Avenue via Emilie Avenue, Santiago Avenue or Park Lane will reroute to the Elena Avenue signal. Rerouting will result in more traffic on Elena Avenue (from Park Lane to Valparaiso Avenue), on Valparaiso Avenue (traveling eastbound from Elena Avenue to El Camino Real) and more traffic on northbound El Camino Real. Reductions in traffic will occur on Emilie Avenue north of Valparaiso Avenue as well as on Elena Avenue north of Park Lane.

Resultant year 2014 AM and mid afternoon peak hour volumes are presented in Figures IV.G-23 and IV.G-24, respectively, while year 2030 AM and mid afternoon peak hour volumes are presented in Figures IV.G-25 and IV.G-26, respectively.

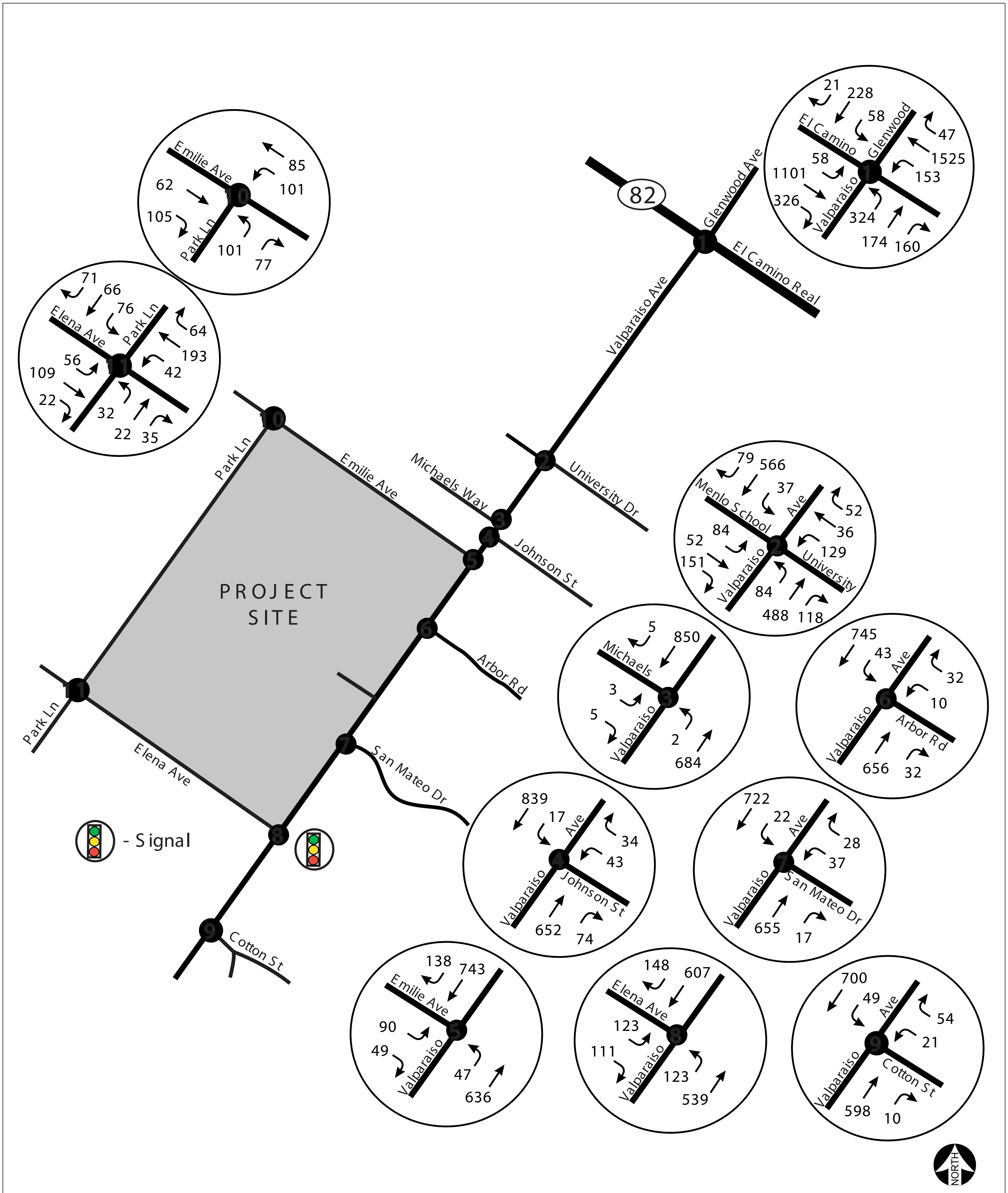


Not to Scale

Source: Crane Transportation Group, 2010.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

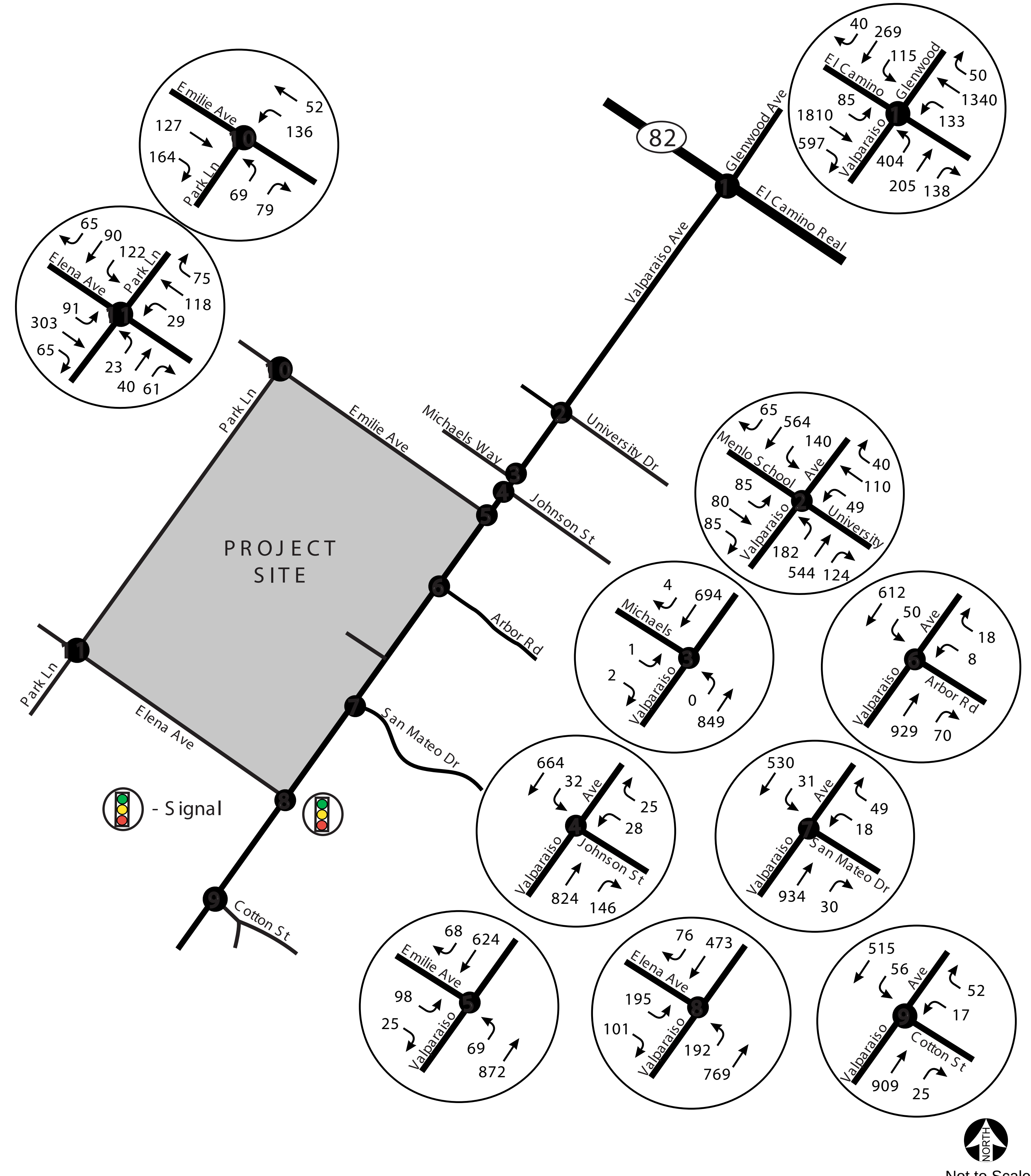
Figure IV.G-23
Year 2014 AM Peak Hour
Base Case + Project Volumes
With Signal at Valparaiso Avenue and Elena Avenue



Source: Crane Transportation Group, 2010.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

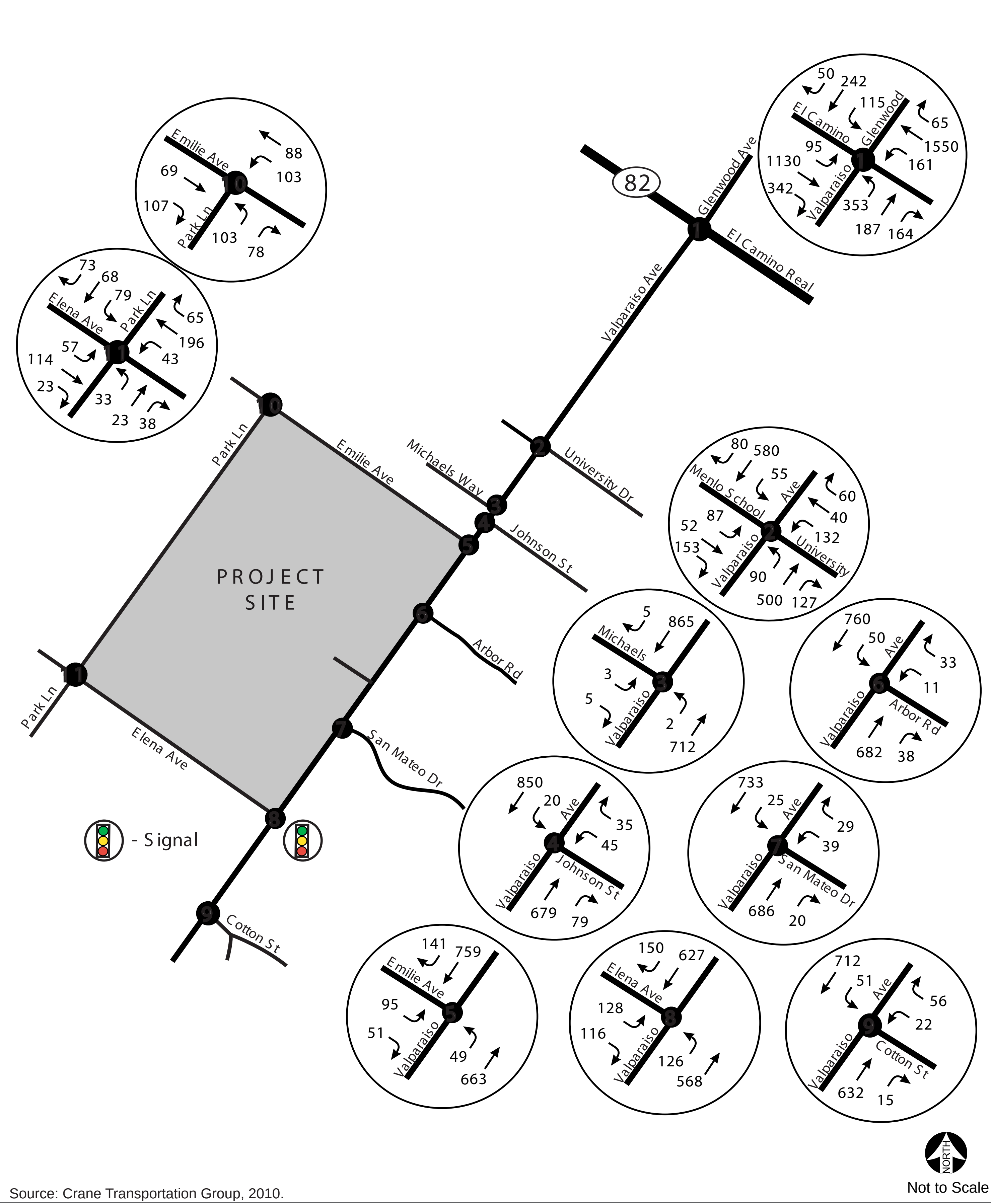
Figure IV.G-24
Year 2014 PM Peak Hour
Base Case + Project Volumes
With Signal at Valparaiso Avenue and Elena Avenue



Source: Crane Transportation Group, 2010.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure IV.G-25
Year 2030 AM Peak Hour
Base Case + Project Volumes
With Signal at Valparaiso Avenue and Elena Avenue



Source: Crane Transportation Group, 2010.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure IV.G-26
Year 2030 PM Peak Hour
Base Case + Project Volumes
With Signal at Valparaiso Avenue and Elena Avenue

2014 Secondary Impacts

Level of Service & Delay Secondary Impacts

Table IV.G-12 presents year 2014 AM and mid afternoon peak hour levels of service for Base Case + Project volumes both with and without signalization of the Valparaiso Avenue/Elena Avenue intersection. As shown, with signalization of the Valparaiso Avenue/Elena Avenue intersection, the added traffic along Valparaiso Avenue would result in secondary significant level of service & delay impacts at the following locations.

- Valparaiso Avenue/Johnson Street: AM & mid afternoon peak hours
- Valparaiso Avenue/Arbor Road: AM & mid afternoon peak hours
- Valparaiso Avenue/San Mateo Drive: AM & Mid afternoon peak hours

Table IV.G-12
Sacred Heart Schools Master Plan Intersection Level of Service Year 2014
With Signal at Valparaiso Avenue/Elena Avenue and No Mitigations at Other Locations

Intersection	AM Peak Hour		Mid-Afternoon Peak Hour	
	Base Case + Project (W/O Signal at Elena Ave.)	Base Case + Project (With Signal at Elena Ave.)	Base Case + Project (W/O Signal at Elena Ave.)	Base Case + Project (With Signal at Elena Ave.)
Valparaiso Ave./El Camino Real (Signalized)	D-38.5(1)	D-38.9	D-44.5	D-44.8
Valparaiso Ave./ University Dr. (Signalized)	C-23.0(1)	C-23.0	C-23.4	C-23.5
Valparaiso Ave./Michaels Way (Unsignalized)	C-24.0(2)	C-24.3	D-31.6	D-31.9
Valparaiso Ave./Johnson St. (Unsignalized)	F-66.9(2)	F-69.7	F-181	F-188
Valparaiso Ave./Emilie Ave. (Unsignalized)	F-817(2)	F-641	F-475	F-388
Valparaiso Ave./Arbor Rd. (Unsignalized)	F-66.9(2)	F-74.3	E-39.2	E-42.9
Valparaiso Ave./San Mateo Dr. (Unsignalized)	E-49.8(2)	F-55.5	F-59.5	F-65.0
Valparaiso Ave./Elena Ave.	F-1623(2) (Unsignalized)	C-23.0(1)(5) (Signal)	F-622(2) (Unsignalized)	C-29.8(1)(5) (Signal)
Valparaiso Ave./Cotton St.	D-28.1(2)	D-27.6	C-17.2	B-12.4

Table IV.G-12
Sacred Heart Schools Master Plan Intersection Level of Service Year 2014
With Signal at Valparaiso Avenue/Elena Avenue and No Mitigations at Other Locations

(Unsignalized)				
Park Lane/Emilie Ave. (Unsignalized)	C-20.0(3)	C-18.8	C-18.2	C-17.5
Park Lane/Elena Ave. (All Way Stop)	D-34.2(4)	E-36.0	B-13.9	B-14.1

(1)Signalized level of service – average vehicle control delay in seconds.

(2) Unsignalized level of service – average vehicle control delay in seconds. Stop sign controlled approach to Valparaiso Ave.

(3) Unsignalized level of service – average vehicle control delay in seconds. Park Lane stop sign controlled approach to Emilie Ave.

(4) All way stop level of service – average vehicle control delay in seconds.

(5) Left turn deceleration lane on Valparaiso eastbound approach/Elena Avenue remains 1 lane approach.

Year 2000 Highway Capacity Manual Analysis Methodology, TRAFFIX software program.

Source: Crane Transportation Group

It should be noted, however, that both AM and mid afternoon peak hour operation of the stop sign controlled Emilie Avenue approach to Valparaiso Avenue would improve due to the reduction in traffic on Emilie Avenue. However, operation would still remain LOS F.

Secondary Mitigations

Valparaiso Avenue/Johnson Street

Widen the Johnson Street approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS D-30.4 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS F-107 seconds control delay, which would be better than Base Case LOS F-165 seconds control delay operation.

Secondary impact reduced to a less-than-significant level.

Valparaiso Avenue/Arbor Road

Widen the Arbor Road approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS D-35.8 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS C-17.5 seconds control delay, which would be acceptable operation.

Secondary impact reduced to ***less than significant***.

Valparaiso Avenue/San Mateo Drive

Widen the San Mateo Drive approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS C-24.1 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS D-29.4 seconds control delay, which would be acceptable operation.

Secondary impact reduced to ***less than significant***.

2030 Secondary Impacts

Level of Service & Delay Secondary Impacts

Table IV.G-13 presents year 2030 AM and mid afternoon peak hour levels of service for Base Case + Project volumes both with and without signalization of the Valparaiso Avenue/Elena Avenue intersection. As shown, with signalization of the Valparaiso Avenue/Elena Avenue intersection, the added traffic along Valparaiso Avenue would result in secondary significant level of service/delay impacts at the following locations.

- Valparaiso Avenue/Johnson Street: AM & mid afternoon peak hours
- Valparaiso Avenue/Arbor Road: AM & mid afternoon peak hours
- Valparaiso Avenue/San Mateo Drive: AM & Mid afternoon peak hours

It should be noted, however, that both AM and mid afternoon peak hour operation of the stop sign controlled Emilie Avenue approach to Valparaiso Avenue would improve due to the reduction in traffic on Emilie Avenue. However, operation would still remain LOS F.

Table IV.G-13
Sacred Heart Schools Master Plan Intersection Level of Service Year 2030
With Signal at Valparaiso Avenue/Elena Avenue and No Mitigations at Other Locations

Intersection	AM Peak Hour		Mid-Afternoon Peak Hour	
	Base Case + Project (W/O Signal at Elena Ave.)	Base Case + Project (With Signal at Elena Ave.)	Base Case + Project (W/O Signal at Elena Ave.)	Base Case + Project (With Signal at Elena Ave.)
Valparaiso Ave./El Camino Real (Signalized)	D-49.8(1)	D-50.5	D-51.7	D-52.1
Valparaiso Ave./ University Dr. (Signalized)	C-27.2(1)	C-27.3	C-25.3	C-25.3
Valparaiso Ave./Michaels Way (Unsignalized)	C-24.9(2)	D-25.2	D-33.3	D-33.6
Valparaiso Ave./Johnson St. (Unsignalized)	F-88.2(2)	F-92.4	F-239	F-247
Valparaiso Ave./Emilie Ave. (Unsignalized)	F-1034(2)	F-847	F-584	F-489
Valparaiso Ave./Arbor Rd. (Unsignalized)	F-97.2(2)	F-110	E-47.1	F-51.4
Valparaiso Ave./San Mateo Dr. (Unsignalized)	F-66.3(2)	F-75.5	F-74.8	F-82.6
Valparaiso Ave./Elena Ave.	F-2086(2) (Unsignalized)	C-26.9(1)(5) (Signal)	F-785(2) (Unsignalized)	C-34.0(1)(5) (Signal)
Valparaiso Ave./Cotton St. (Unsignalized)	D-32.0(2)	D-31.3	C-19.1	C-18.9
Park Lane/Emilie Ave. (Unsignalized)	C-21.7(3)	C-20.2	C-19.2	C-18.4
Park Lane/Elena Ave. (All Way Stop)	E-43.3(4)	E-45.3	B-14.5	B-14.8

(1)Signalized level of service – average vehicle control delay in seconds.

(2) Unsignalized level of service – average vehicle control delay in seconds. Stop sign controlled approach to Valparaiso Ave.

(3) Unsignalized level of service – average vehicle control delay in seconds. Park Lane stop sign controlled approach to Emilie Ave.

(4) All way stop level of service – average vehicle control delay in seconds.

(5) Left turn deceleration lane on Valparaiso eastbound approach/Elena Avenue remains 1 lane approach.

Year 2000 Highway Capacity Manual Analysis Methodology, TRAFFIX software program.

Source: Crane Transportation Group

Secondary Mitigations

Valparaiso Avenue/Johnson Street

Widen the Johnson Street approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS E-35.9 seconds control delay, which would be better than Base Case LOS F-88.2 seconds control delay operation.

Mid Afternoon Peak Hour: LOS F-159 seconds control delay, which would be better than Base Case LOS F-218 seconds control delay operation.

Secondary impact reduced to ***less than significant***.

Valparaiso Avenue/Arbor Road

Widen the Arbor Road approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS E-49.3 seconds control delay, which would be better than Base Case LOS F-99.6 seconds control delay.

Mid Afternoon Peak Hour: LOS C-18.3 seconds control delay, which would be acceptable operation.

Secondary impact reduced to ***less than significant***.

Valparaiso Avenue/San Mateo Drive

Widen the San Mateo Drive approach to provide enough room for right- and left-turning vehicles to separate.

Resultant Operation:

AM Peak Hour: LOS D-27.0 seconds control delay, which would be acceptable operation.

Mid Afternoon Peak Hour: LOS D-34.4 seconds control delay, which would be acceptable operation.

Secondary impact reduced to ***less than significant***.

V. GENERAL IMPACT CATEGORIES

Section 15126 of the CEQA Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the Draft EIR must also identify (1) significant environmental effects that cannot be avoided if the proposed Project is implemented; (2) significant irreversible environmental change that would result from implementation of the proposed Project; and (3) growth-inducing impacts of the proposed Project.

A. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts which cannot be avoided, even with implementation of mitigation measures. Based on the analysis contained in this Draft EIR, implementation of the Project would not result in any significant unavoidable impacts.

B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines states that significant irreversible environmental changes associated with a proposed project shall be discussed, including the following:

- *Uses of nonrenewable resources during the initial and continued phases of the project that may be irreversible because a large commitment of such resources makes removal or nonuse thereafter unlikely;*

- *Primary impacts and, particularly, secondary impacts (such as highway improvement that provides access to a previously inaccessible area), which generally commit future generations to similar uses; and*

- *Irreversible damage that could result from environmental accidents associated with the project.*

The construction and operation of the Project would entail the commitment of energy, human resources, and building materials. Ongoing maintenance and operation of the proposed Project would entail a further commitment of energy resources in the form of natural gas, electricity, and water resources. This commitment of energy, personnel, and building materials would be commensurate with that of other projects of similar magnitude, and there are currently no shortages of these resources to the extent that would preclude the construction and operation of the Project.

The proposed project would result in the construction of replacement facilities and various site improvements consistent with the existing school uses. The Project site is previously developed and continued use of the site with these uses is planned and accounted for in the Town's General Plan. Therefore, implementation of the project would commit future generations to using the Project site for uses similar to the current uses and would not commit future generations to a significant change in land use.

Irreversible changes to the physical environment could occur from accidental releases of hazardous materials associated with this development. However, compliance with hazardous materials regulations, policies and mitigation measures (as outlined in this Draft EIR) is expected to maintain this potential impact as less than significant. No other irreversible changes would result from the adoption and implementation of the proposed Project.

C. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the ways in which a proposed action could be growth inducing. This includes ways in which the project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) of the CEQA Guidelines reads as follows:

> *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

In general, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the criteria identified below:

- The project removes an impediment to population growth (e.g., the establishment or expansion of an essential public service to an area)
- The project results in the urbanization of land in a remote location (leapfrog development)
- The project establishes a precedent-setting action (e.g., a change in zoning or General Plan amendment approval)
- Economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc.)

If a project meets any one of these criteria, it may be considered growth inducing. Generally, growth inducing projects are either located in isolated, undeveloped, or underdeveloped areas, necessitating the extension of major infrastructure such as sewer and water facilities or roadways, or encourage premature or unplanned growth.

Remove an Impediment to Growth

The Project site has been previously developed and is served by public services, including water, sewer, and energy. The Project is a private school that draws students from a larger geographic area and is located in a developed area of Atherton, bordered by residential and institutional development, and surrounded by roadways. These areas have been previously developed as well, and implementation of the Project would not result in an increase in population growth in the Town or surrounding area either through the extension of public services or provision of school services that would draw new residents to the Town.

Urbanization of Land in a Remote Location

The Project would not encourage growth through the urbanization of land in remote locations, resulting in "leapfrog" development. The proposed Project is located in a developed area of Atherton, bordered by residential and institutional development, and surrounded by roadways. Consequently, because the proposed Project is not located in a remote location, no growth inducing impacts related to urbanization of remote locations would occur.

Precedent Setting Action

The Project does not propose any changes in zoning or General Plan amendments. All development on the Project site would be consistent with the existing land use regulations governing the Project site. Therefore, there would be no precedent-setting actions as a result of the Project.

Economic Expansion or Growth

The Project site has been previously developed as a private school. Construction of replacement buildings and various site improvements are proposed to allow an increase in students enrolled at the school and to upgrade facilities. This increase in enrollment could result in the addition of instructors employed on the campus; however, instructors generally live in many parts of the Bay Area and commute to schools where they are employed. Additionally, this increase in instructors would be small and it is not anticipated implementation of the Project would result in an increase in population growth in the Town or surrounding area through the relocation of instructors to the Town.

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VI. ALTERNATIVES TO THE PROPOSED PROJECT

A. PURPOSE

The purpose of the alternatives analysis is to assess a range of reasonable alternatives to the proposed project that would feasibly attain most of the basic objectives of the project while avoiding or substantially lessening any of the significant impacts of the project and to evaluate the comparative merits of each alternative (*CEQA Guidelines* §15126.6). The *Guidelines* state that the selection of alternatives should be governed by a "rule of reason." Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered. (*CEQA Guidelines* §15126.6[a]). When addressing feasibility, Section 15126.6 of the *CEQA Guidelines* states, "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, jurisdictional boundaries.…"

Based on the *CEQA Guidelines*, several factors must be considered in determining the range of alternatives to be analyzed in an EIR and the level of analytical detail that should be provided for each alternative. These factors include (1) the nature of the significant impacts of the proposed project, (2) ability of alternatives to avoid or lessen the significant impacts associated with the project, (3) the ability of the alternatives to meet the objectives of the project, and (4) the feasibility of the alternatives.

CEQA also states that, "[t]he EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." Generally, significant impacts of an alternative are discussed in this section, but in less detail than the proposed project, and should provide decision makers perspective as well as a reasoned choice regarding each alternative.

B. METHODOLOGY

The alternatives analysis is presented as a comparative analysis to the proposed project. A project may have the potential to generate significant impacts, but changes to certain features may also afford the opportunity to avoid or reduce such impacts. The following alternatives analysis compares the potential significant environmental impacts of the two alternatives with those of the proposed project for each of the environmental topics analyzed in Sections IV.A through IV.H (Environmental Impact Analysis) of the EIR.

Selection of a Reasonable Range of Alternatives

Section 15126.6(c) of the CEQA Guidelines states: "The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts."

To determine what range of alternatives should be considered, the impacts identified for the proposed project were considered along with the project objectives. The proposed project is described in detail in Section III, Project Description, and the potential environmental effects of the proposed project are analyzed in Sections IV.A through IV.G.

The project would not result in significant impacts to aesthetics, agriculture and forest resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, population and housing, public services, or recreation. Impacts associated with the air quality, biological resources, noise, and traffic would be significant without the implementation of mitigation measures, but would be reduced to a less-than-significant level if the mitigation measures recommended in this EIR are implemented.

C. PROJECT OBJECTIVES

To develop project alternatives, the EIR preparers considered the project objectives and reviewed the significant impacts in Section IV of this EIR to identify those significant impacts that could be avoided or reduced substantially through an alternative (refer to Table VI-1 at the end of this section).

The objectives of the Project are as follows:

Sacred Heart Master Plan

- Preserve the beauty of the campus environment.
- Create a safe and secure environment for campus students, faculty and visitors.
- Construct new facilities and improvements that will provide the flexibility for the school to increase its enrollment in accordance with projected enrollment demand for Sacred Heart, both in the short-term and long-term.
- Enhance the pedestrian friendly environment within the campus.
- Effectively disperse traffic on and off campus with as minimal impact on neighboring streets as possible.
- Realign SHP playing fields to minimize the potential for hazards associated with dangerous overlap of fields and impact on aquatic center spectators.
- Improve the safety of vehicular entrances/exits.

St. Joseph's School

- Plan and develop the campus to facilitate faculty-student interaction, encourage collaboration within groups and across grade levels for ease and enjoyment of use of academic and other school facilities, and create an environment conducive to learning.

- Create an environment that will deliver the best possible student experience through a campus design that will provide space for all school assemblies, courtyards with seating, playgrounds, fields and two outdoor basketball courts.

- Provide consistent classroom sizes and an adequate number of classrooms to integrate 21st Century technology, learning and flexibility.

- Model environmental stewardship by improving energy efficiency and sustainability of school facilities.

- Provide a designated "sacred space" or small chapel area for quiet reflection on the St. Joseph's campus.

- Reduce project-generated vehicle trips on Emilie Avenue.

- Improve lighting and ventilation in classrooms.

- Provide state-of-the-art structurally safe and fire code compliant classrooms.

- Provide ADA compliant restrooms.

- Provide for upgraded and adequate utilities.

D. SELECTED ALTERNATIVES

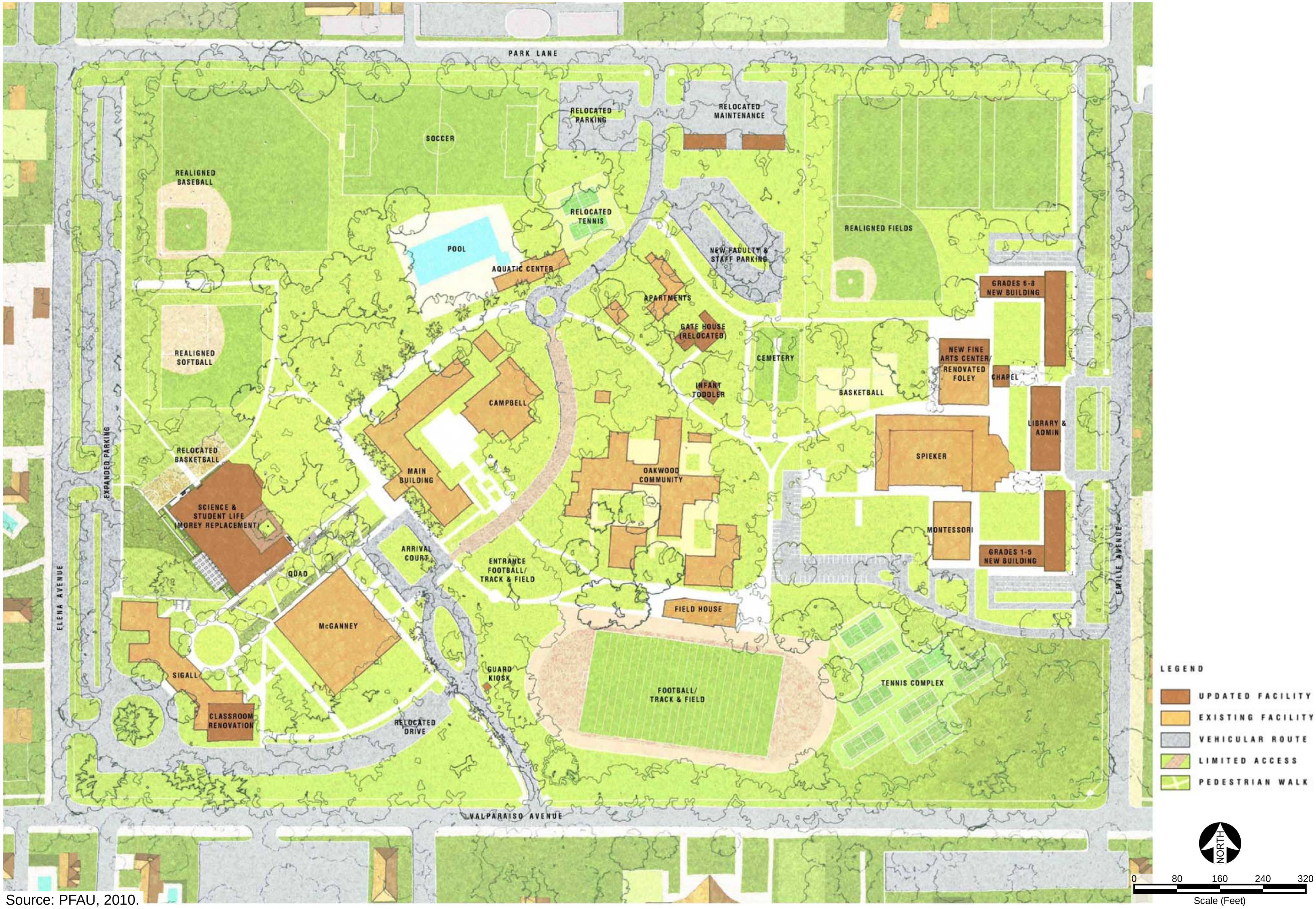
The following discussion is provided to meet the requirement of the *CEQA Guidelines* and provide the public and decision makers with information that will help them understand the adverse impacts and benefits associated with the alternatives to the proposed project. Four alternatives to the project were evaluated: the No Project/Buildout under the Existing Master Plan Alternative, the No Project/No Build Alternative, Revised Site Plan Alternative, and the Reduced Enrollment Alternative. These alternatives were chosen for their ability to reduce or avoid impacts resulting from the project to trees, noise, and traffic. A more thorough description of each of the alternatives is provided below.

- **Alternative 1: No Project/Buildout under the Existing Master Plan Alternative** Under Alternative 1: No Project/Buildout under the Existing Master Plan Alternative, the April 2008 SHS Master Plan would remain in effect. The April 2008 SHS Master Plan includes projects that have been completed (Science and Student Life Center (SSLC), Sigall Building renovations, formal entry to the football, tennis, and track area) and many projects that were not completed and were carried over and included in the proposed Project. Under Alternative 1, these projects would be completed and (similar to the Project) would include demolition and reconstruction of the St. Joseph's campus in approximately the same location as the existing school buildings, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Under Alternative 1, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan. Figure VI-1 shows Alternative 1.

- **Alternative 2: No Project/No Build Alternative.** Alternative 2 assumes that the project site would remain in its current condition and would not be subject to development. Per *CEQA Guidelines* 15126.6(e), the No Project/No Build Alternative is considered to compare the impacts of approving the proposed project to not approving the project. Under Alternative 2, there would be no construction of the St. Joseph's Campus, St. Joseph's Campus parking lot, or extension of the Elena Avenue parking lot, or sports field realignments. Additionally, there would be no pedestrian or vehicular improvements or any other changes to the SHS Campus. Under Alternative 2, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

- **Alternative 3: Revised Site Plan Alternative.** Alternative 3, the Revised Site Plan Alternative would include all the SHS Master Plan improvements, but with a revised site plan for the St. Joseph's reconstruction. St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane. Under Alternative 3, the increase in students would be the same as under the Project (1,196 students). Figure VI-2 shows Alternative 2.

- **Alternative 4: Reduced Enrollment Alternative.** Under Alternative 4, all SHS Master Plan improvements would be constructed. The St. Joseph's Campus would be relocated and reconstructed with new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, the new parking lot to serve St. Joseph's would be constructed, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance would occur. However, enrollment increases would be limited to 57 students, which represents an approximately 50 percent reduction in the maximum projected enrollment. These students would be spread throughout the Lower, Middle, and Sacred Heart Preparatory School for a total maximum enrollment of 1,139.



Source: PFAU, 2010.

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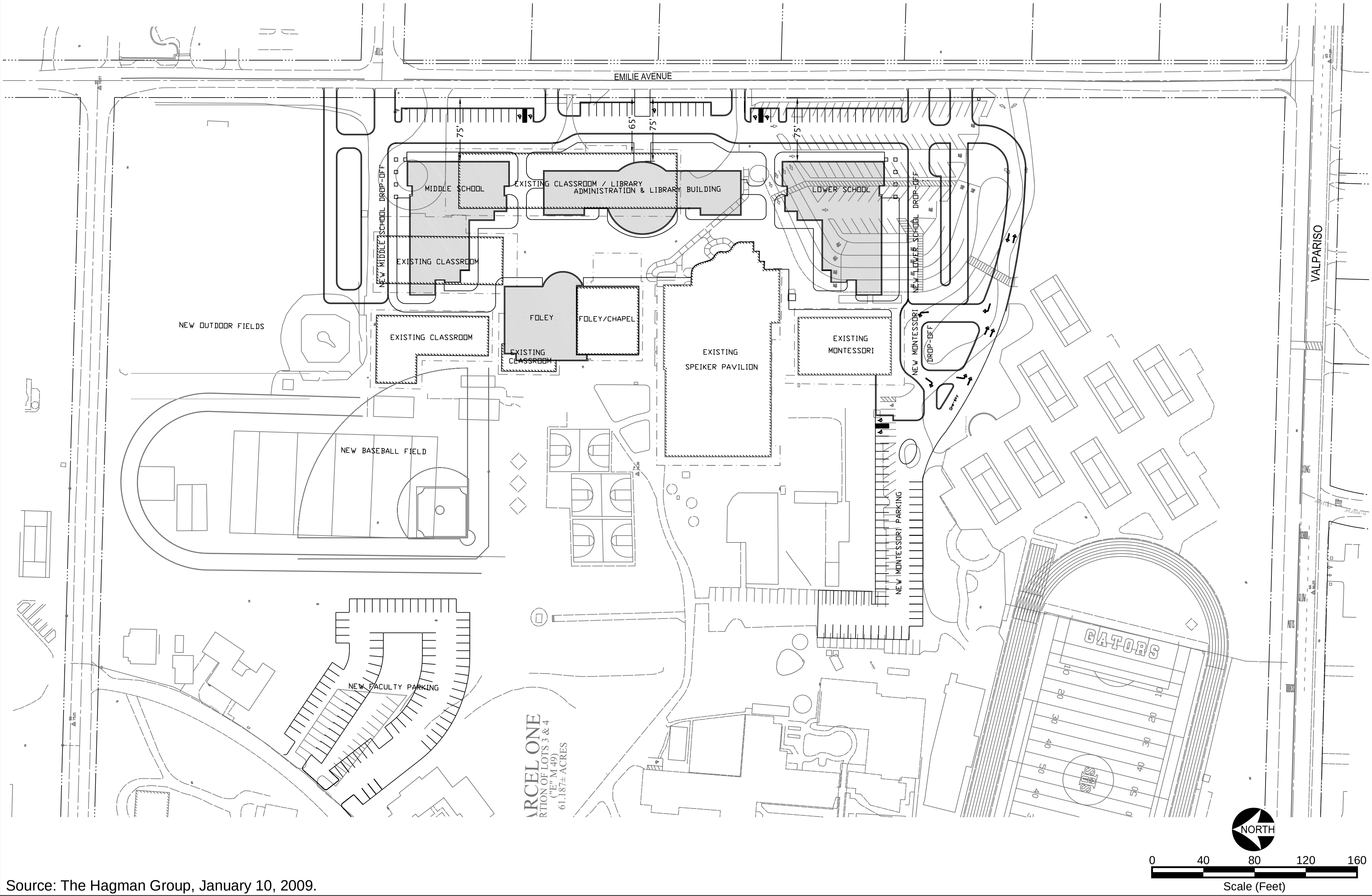
Environmental Planning and Research

Figure VI-1
Existing (2008) Master Plan Alternative



Source: The Hagman Group, January 10, 2009.

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Environmental Planning and Research

Figure VI-2
Revised Site Plan Alternative

Alternatives Rejected as Being Infeasible

As described above, Section 15126.6(c) of the CEQA Guidelines requires an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Given the nature of the project (new facilities on an existing private school campus) and the fact that the project applicant owns this site and does not intend to develop these uses in another place; an off-site alternative was not feasible.

E. ALTERNATIVES ANALYSIS

Alternative 1: No Project/Buildout under the Existing Master Plan Alternative

Under Alternative 1: No Project/Buildout under the Existing Master Plan Alternative, the April 2008 SHS Master Plan would remain in effect. The April 2008 SHS Master Plan includes projects that have been completed (Science and Student Life Center (SSLC), Sigall Building renovations, formal entry to the football, tennis, and track area) and many projects that were not completed and were carried over and included in the proposed Project. Under Alternative 1, these projects would be completed and (similar to the Project) would include demolition and reconstruction of the St. Joseph's campus in approximately the same location as the existing school buildings, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Under Alternative 1, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

Aesthetics

Similar to the Project, Alternative 1 would have no impact on scenic vistas (none are available from the Project site). Similar to the Project, Alternative 1 would include demolition and reconstruction on the Project site, including construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. However, the St. Joseph's campus would be reconstructed in approximately the same location as the existing school buildings. Construction of various facilities and improvements on the campus would result in the removal of some trees in areas visible from Town streets. However, similar to the Project many trees around the perimeter of the site would be retained and would be augmented with additional tree plantings. Therefore, similar to the Project this impact would less than significant.

Similar to the Project, Alternative 1 would result in the construction of school facilities on an existing school campus. Construction of new buildings, classrooms, and other improvements to the Sacred Heart Schools campus would not represent a substantial change in the visual quality of the site. The Project site has been an existing school campus since 1898. The design of buildings and improvements on the site would be consistent with buildings and improvements associated with the existing school uses and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts to visual character of the site would be similar to the Project and less than significant.

Similar to the Project, new lighting would be incorporated into the design of the Project components, including the St. Joseph's campus. No lighting would be proposed for any of the sport fields. All proposed lighting would be similar to the existing lighting systems in place. Additionally, the nearest light-sensitive land uses to the St. Joseph's campus are residential uses located over 350 feet away across Emilie Avenue. These residential uses are not immediately adjacent to the Project site; therefore, due to distance and the type of illumination that would be used, light and glare spillover from the Project site would not occur at these locations. Similar to the Project, impacts to light and glare would be less than significant. Overall, impacts to aesthetics under Alternative 1 would be similar to the Project.

Air Quality

Similar to the Project, no changes in General Plan or Zoning designations are proposed that would be inconsistent with or increase population that would result in a conflict with the *BAAQMD Clean Air Plan*. Therefore, similar to the Project Alternative 1 would not conflict with any applicable air quality plan. Alternative 1 would include demolition and construction activities, but similar to the Project, impacts from construction and demolition emissions would be less than significant. Operational emissions, including carbon monoxide emissions and toxic air contaminants (TACs), associated with the ultimate development and operation of Alternative 1 would be incrementally greater due to the increased number of students allowed under the April 2008 SHS Master Plan (and therefore, increased number of vehicle trips). Therefore, this impact would be greater than under the Project.

Similar to the Project, Alternative 1 does not include any uses such as wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters that would create objectionable odors that would affect a substantial number of people.

Similar to the Project, Alternative 1 would, require the consumption of fuel by the on-site equipment during construction activities that would generate GHG emissions. In addition, similar to the Project Alternative 1 would require the consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations. Consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations would be incrementally greater under Alternative 2 than under the Project due to the increased number of students on the Project site. Overall, impacts to air quality under Alternative 1 would be incrementally greater than under the Project.

Biological Resources

The Project site does not contain specified soils, moisture regime or other significant habitat features necessary to support growth of the special status plant species listed with the potential to occur in the region. Additionally, the Project site lacks essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.). Therefore, similar to the Project, Alternative 1 would not directly affect any known occurrences of special-status plant or animal species on or in the immediate vicinity of the Project site. Alternative 1 would include demolition and construction activities, but similar to the Project, impacts to nesting birds during demolition and construction activities would be less than significant.

There are no Sensitive Natural Communities existing on the Project site with the exception of individual Valley oaks. No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), are present on the Project site. The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. Therefore, similar to the Project, Alternative 1 would not have any impacts to Sensitive Natural Communities, federally protected wetlands, known movement corridors for wildlife species, or native wildlife nursery sites.

Similar to the Project, Alternative 1 would include demolition and reconstruction of the St. Joseph's campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Alternative 1 differs from the proposed Project in that the construction of the St. Joseph's campus would occur in approximately the same location as the existing school buildings. Alternative 1 also proposes a parking lot along Emilie Avenue that would not be constructed under the proposed Project. Similar to the Project, development under Alternative 1 would create impacts to heritage trees on the site that are protected under the Town of Atherton Heritage Tree Ordinance (Chapter 8.10) including Valley oaks (*Quercus lobata*), which are components of Valley Oak Woodland, a protected Sensitive Community. However, these impacts would be incrementally greater under Alternative 1 due to the construction of the parking areas along Emilie Avenue, which would potentially result in the removal of more Heritage trees. Therefore, overall impacts to biological resources would be incrementally greater under Alternative 1.

Land Use & Planning

Similar to the Project, Alternative 1 would not construct any major physical features or impair mobility in the Town that would physically divide an established community. Similar to the Project, Alternative 1 would be consistent with the Town of Atherton General Plan. There are no Habitat Conservation Plans or Natural Community Plans that are applicable to the Project site. Therefore, similar to the Project Alternative 1 would have no impact on Habitat Conservation Plans or Natural Community Plans.

Noise

Alternative 1 would include demolition and construction activities, but similar to the Project, these activities would be temporary and the construction hours would conform to the Town's Noise Ordinance. Therefore, impacts from construction and demolition noise on neighboring residences would be less than significant. Reconstruction of St. Joseph's would occur in approximately the same location as the existing school buildings. It is assumed that students would be housed in portables during demolition and construction activities. However, similar to the Project, mitigation measures would be implemented that would reduce noise impacts from demolition and construction to less than significant.

Under Alternative 1, classrooms would be located closer to Emilie Avenue than under the Project. Therefore, traffic noise impacts at new classrooms under Alternative 1 would be incrementally greater than under the Project. Alternative 1 would use similar HVAC equipment as the Project. The Project would be required to achieve Town's Noise Ordinance standards and this impact would be the same as under the Project. Similar to the Project, Alternative 1 would include realignment of athletic fields. However, similar to the Project, noise levels would not exceed the standards of the Noise Ordinance or create a substantial permanent increase in ambient noise levels in the vicinity and this impact would be similar.

Similar to the Project, Alternative 1 would require demolition and construction that could result in groundborne vibration or noise. However, demolition and construction would occur for very limited times, and similar to the Project impacts from vibration would be less than significant. Similar to the Project, Alternative 1 is not located within two miles of a public or public use airport or in the vicinity of a private airstrip. Overall, impacts from noise under Alternative 1 would be similar to the Project.

Transportation/Traffic

Similar to the Project, Alternative 1 would include demolition and construction on the Project site, including construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. However, the St. Joseph's campus would be reconstructed in approximately the same location as the existing school buildings. Under Alternative 1, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

Due to this increased enrollment over the Project, Alternative 1 would result in an increase in the number of vehicle trips. This increase in trip generation would be directly proportional to the increase in students. Therefore, impacts at Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 would be incrementally greater than under the Project. It is assumed that Alternative 1 would have the same set of mitigation measures available to mitigate impacts; however, this reduction in impact due to implementation of these mitigation measures would be proportional. Therefore, impacts to Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 under Alternative 1 would remain incrementally greater than under the Project.

Similar to the Project, Alternative 1 would include demolition and construction on the Project site. These activities would result in construction traffic. However, similar to the Project, trucks used for demolition and construction activities would be required to file a construction/demolition traffic management plan with the Town of Atherton Public Works Department. Similar to the Project, impacts from hazards due to design features, inadequate emergency access, and changes to air traffic patterns would be less than significant. Therefore, impacts under Alternative 1 from construction traffic would be similar to the Project. Overall impacts to transportation and traffic under Alternative 1 would be incrementally greater than under the Project.

Alternative 2: No Project/No Build Alternative

As required by CEQA, this subsection analyzes a "No Project" Alternative. CEQA requires the evaluation of a "No Project/No Build" alternative, which means "the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (CEQA Guidelines, Section 15126.6[e][2]). Evaluation of this alternative allows the Town to compare the impact of approving the proposed project with the impacts of not approving the proposed project.

Alternative 2 assumes that the project site would remain in its current condition and would not be subject to development. Per CEQA Guidelines 15126.6(e), the No Project/No Build Alternative is considered to compare the impacts of approving the proposed project to not approving the project. Under Alternative 2, there would be no construction of the St. Joseph's Campus, St. Joseph's Campus parking lot, or extension of the Elena Avenue parking lot, or sports field realignments. Additionally, there would be no pedestrian or vehicular improvements or any other changes to the SHS Campus. Under Alternative 2, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

Aesthetics

Similar to the Project, Alternative 2 would have no impact on scenic vistas (none are available from the Project site). Under Alternative 2 there would be no construction of the St. Joseph's Campus, St. Joseph's Campus parking lot, or extension of the Elena Avenue parking lot, or sports field realignments. Additionally, there would be no pedestrian or vehicular improvements or any other changes to the SHS Campus. Therefore, there would not be any potential changes resulting in the removal of some trees in areas visible from Town streets and this impact would be less than under the Project. Alternative 2 does not propose the construction of school facilities on an existing school campus. Therefore, there would be no change to the visual quality of the site and this impact, which is less than significant under the Project, would be incrementally reduced. No new lighting would be would be proposed on the Project site and this impact would be incrementally reduced. Overall, impacts to aesthetics under Alternative 2 would be less than under the Project.

Air Quality

Similar to the Project, no changes in General Plan or Zoning designations are proposed that would be inconsistent with or increase population that would result in a conflict with the *BAAQMD Clean Air Plan*. Therefore, similar to the Project Alternative 2 would not conflict with any applicable air quality plan. Alternative 2 would not include any demolition and construction activities, therefore, impacts from construction and demolition emissions would be less than under the Project. Operational emissions, including carbon monoxide emissions and toxic air contaminants (TACs), associated with the ultimate development and operation of Alternative 2 would be incrementally greater due to the increased number of students allowed under the April 2008 SHS Master Plan (and therefore, increased number of vehicle trips). Therefore, this impact would be greater than under the Project.

Similar to the Project, Alternative 2 does not include any uses such as wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters that would create objectionable odors that would affect a substantial number of people.

Alternative 2 would not require the consumption of fuel by the on-site equipment during construction activities that would generate GHG emissions. However, Alternative w would require the consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations. Consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations would be incrementally greater under Alternative 2 than under the Project due to the increased number of students on the Project site. Overall, impacts to air quality under Alternative 2 would be incrementally greater than under the Project.

Biological Resources

The Project site does not contain specified soils, moisture regime or other significant habitat features necessary to support growth of the special status plant species listed with the potential to occur in the region. Additionally, the Project site lacks essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.). Therefore, similar to the Project, Alternative 2 would not directly affect any known occurrences of special-status plant or animal species on or in the immediate vicinity of the Project site. Alternative 2 does not include any demolition and construction activities; therefore, impacts to nesting birds during demolition and construction activities would be less than under the Project.

There are no Sensitive Natural Communities existing on the Project site with the exception of individual Valley oaks. No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), are present on the Project site. The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. Therefore, similar to the Project, Alternative 2 would not have any impacts to Sensitive Natural Communities, federally protected wetlands, known movement corridors for wildlife species, or native wildlife nursery sites.

As stated previously, Alternative 2 does not include any demolition or construction activities. Therefore, there would be no Project site development under Alternative 2 that would create impacts to heritage trees on the site. Therefore, overall impacts to biological resources would be incrementally less under Alternative 2.

Land Use & Planning

Similar to the Project, Alternative 2 would not construct any major physical features or impair mobility in the Town that would physically divide an established community. Similar to the Project, Alternative 2 would be consistent with the Town of Atherton General Plan. There are no Habitat Conservation Plans or Natural Community Plans that are applicable to the Project site. Therefore, similar to the Project Alternative 2 would have no impact on Habitat Conservation Plans or Natural Community Plans.

Noise

Alternative 2 assumes that the project site would remain in its current condition and would not be subject to development. Therefore, under Alternative 2 there would be no demolition and construction activities and impacts from construction and demolition noise on neighboring residences would be less than under the proposed Project.

Under Alternative 2, there would be no changes to the St. Joseph's Campus or realignment of athletic fields. Therefore, there would be no changes in exposure to traffic noise under Alternative 2. Additionally, there would be no changes in HVAC equipment. Similar to the Project, Alternative 2 would be required to achieve Town's Noise Ordinance standards and this impact would be the same as under the Project. Similar to the Project, noise levels would not exceed the standards of the Noise Ordinance or create a substantial permanent increase in ambient noise levels in the vicinity and this impact would be similar. Alternative 2 would not result in demolition and construction activities that could result in groundborne vibration or noise. Therefore, this impact would be incrementally less than under the Project.

Similar to the Project, Alternative 2 is not located within two miles of a public or public use airport or in the vicinity of a private airstrip. Overall, impacts from noise under Alternative 2 would be incrementally less than under the Project.

Transportation/Traffic

Alternative 2 assumes that the project site would remain in its current condition and would not be subject to development. Therefore, under Alternative 2 there would be no demolition and construction activities. However, under Alternative 2, a maximum enrollment of 1,250 students would be allowed as proposed by the April 2008 SHS Master Plan.

Due to this increased enrollment over the Project, Alternative 2 would result in an increase in the number of vehicle trips. This increase in trip generation would be directly proportional to the increase in students. Therefore, impacts at Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 would be incrementally greater than under the Project. It is assumed that Alternative 2 would have the same set of mitigation measures available to mitigate impacts; however, this reduction in impact due to implementation of these mitigation measures would be proportional. Therefore, impacts to Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 under Alternative 2 would remain incrementally greater than under the Project.

Since there would be no demolition or construction activities under Alternative 2 there would be no demolition or construction traffic and, therefore, no need for the Project applicant to file a construction/demolition traffic management plan with the Town of Atherton Public Works Department. There would be no changes on the Project site that could create hazards due to design features, inadequate emergency access, and changes to air traffic patterns would be less than significant. Therefore, impacts under Alternative 2 from construction traffic would be less than under the Project.

Alternative 3: Revised Site Plan Alternative

Alternative 3, the Revised Site Plan Alternative would include all the SHS Master Plan improvements, but with a revised site plan for the St. Joseph's reconstruction. St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane. Under Alternative 3, the increase in students would be the same as under the Project (1,196 students).

Aesthetics

Similar to the Project, Alternative 3 would have no impact on scenic vistas (none are available from the Project site). Similar to the Project, Alternative 3 would include all the SHS Master Plan improvements; however with a revised site plan for the St. Joseph's reconstruction. As shown in Figure VI-2, St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Construction of various facilities and improvements on the campus would result in the removal of some trees in areas visible from Town streets. Tree removal on most parts of the campus would be similar to the Project. However, tree removal for the revised site plan for the St. Joseph's reconstruction would result in the removal of trees along Emilie to accommodate the new drop-off/pick-up areas and parking areas. Construction of these areas would require removal of a greater number of trees along Emilie Avenue than under the Project. Therefore, this impact would be greater than under the Project.

Similar to the Project, Alternative 3 would result in the construction of school facilities on an existing school campus. Construction of new buildings, classrooms, and other improvements to the Sacred Heart Schools campus would not represent a substantial change in the visual quality of the site. The Project site has been an existing school campus since 1898. The design of buildings and improvements on the site would be consistent with buildings and improvements associated with the existing school uses and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts to visual character of the site would be similar to the Project and less than significant.

Similar to the Project, new lighting would be incorporated into the design of the Project components, including the St. Joseph's campus. No lighting would be proposed for any of the sport fields. All proposed lighting would be similar to the existing lighting systems in place. Reconstructed St. Joseph's buildings and the parking areas along Emilie Avenue would be located closer to residential uses across Emilie Avenue than under the Project. However, similar to the Project these residential uses are not immediately adjacent to the Project site; therefore, due to distance and the type of illumination that would be used, light and glare spillover from the Project site would not occur at these locations. Similar to the Project, impacts to light and glare would be less than significant. Due to the increased number of trees removed to accommodate the revised site plan for the St. Joseph's reconstruction and new drop-off/pick-up and parking areas, impacts to aesthetics under Alternative 3 would be incrementally greater than under the Project.

Air Quality

Similar to the Project, no changes in General Plan or Zoning designations are proposed that would be inconsistent with or increase population that would result in a conflict with the *BAAQMD Clean Air Plan*. Therefore, similar to the Project Alternative 3 would not conflict with any applicable air quality plan. Alternative 3 would include demolition and construction activities, but similar to the Project, impacts from construction and demolition emissions would be less than significant. Operational emissions, including carbon monoxide emissions and toxic air contaminants (TACs), associated with the ultimate development and operation of Alternative 3 would be the same as under the Project as the number of students would be the same as under the Project. Therefore, this impact would be the same as under the Project.

Similar to the Project, Alternative 3 does not include any uses such as wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters that would create objectionable odors that would affect a substantial number of people.

Similar to the Project, Alternative 3 would, require the consumption of fuel by the on-site equipment during construction activities that would generate GHG emissions. In addition, similar to the Project Alternative 3 would require the consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations. Consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations would be the same as under the Project as the number of students would be the same as under the Project. Overall, impacts to air quality under Alternative 3 would be the same as under the Project.

Biological Resources

The Project site does not contain specified soils, moisture regime or other significant habitat features necessary to support growth of the special status plant species listed with the potential to occur in the region. Additionally, the Project site lacks essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.). Therefore, similar to the Project, Alternative 3 would not directly affect any known occurrences of special-status plant or animal species on or in the immediate vicinity of the Project site. Alternative 3 would include demolition and construction activities, but similar to the Project, impacts to nesting birds during demolition and construction activities would be less than significant.

There are no Sensitive Natural Communities existing on the Project site with the exception of individual Valley oaks. No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), are present on the Project site. The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. Therefore, similar to the Project, Alternative 3 would not have any impacts to Sensitive Natural Communities, federally protected wetlands, known movement corridors for wildlife species, or native wildlife nursery sites.

Similar to the Project, Alternative 3 would include demolition and reconstruction of the St. Joseph's campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Alternative 3 differs from the proposed Project in that St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane. Similar to the Project, development under Alternative 3 would create impacts to heritage trees on the site that are protected under the Town of Atherton Heritage Tree Ordinance (Chapter 8.10) including Valley oaks (*Quercus lobata*), which are components of Valley Oak Woodland, a protected Sensitive Community. However, these impacts would be incrementally greater under Alternative 3 due to the construction of the parking areas along Emilie Avenue, which would potentially result in the removal of more Heritage trees. Therefore, overall impacts to biological resources would be incrementally greater under Alternative 3.

Land Use & Planning

Similar to the Project, Alternative 3 would not construct any major physical features or impair mobility in the Town that would physically divide an established community. Similar to the Project, Alternative 3 would be consistent with the Town of Atherton General Plan. There are no Habitat Conservation Plans or Natural Community Plans that are applicable to the Project site. Therefore, similar to the Project Alternative 3 would have no impact on Habitat Conservation Plans or Natural Community Plans.

Noise

Similar to the Project, Alternative 3 would include demolition and reconstruction of the St. Joseph's campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Alternative 3 differs from the proposed Project in that St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane.

Alternative 3 would include demolition and construction activities, but similar to the Project, these activities would be temporary and the construction hours would conform to the Town's Noise Ordinance. Therefore, impacts from construction and demolition noise on neighboring residences would be less than significant. It is assumed that students would be housed in portables during demolition and construction activities. However, similar to the Project, mitigation measures would be implemented that would reduce noise impacts from demolition and construction to less than significant.

Under Alternative 3, classrooms would be located closer to Emilie Avenue than under the Project. Therefore, traffic noise impacts at new classrooms under Alternative 3 would be incrementally greater than under the Project. Alternative 3 would use similar HVAC equipment as the Project. The Project would be required to achieve Town's Noise Ordinance standards and this impact would be the same as under the Project. Similar to the Project, Alternative 3 would include realignment of athletic fields. However, similar to the Project, noise levels would not exceed the standards of the Noise Ordinance or create a substantial permanent increase in ambient noise levels in the vicinity and this impact would be similar.

Similar to the Project, Alternative 3 would require demolition and construction that could result in groundborne vibration or noise. However, demolition and construction would occur for very limited times, and similar to the Project impacts from vibration would be less than significant.

Similar to the Project, Alternative 3 is not located within two miles of a public or public use airport or in the vicinity of a private airstrip. Overall, impacts from noise under Alternative 3 would be similar to the Project.

Transportation/Traffic

Similar to the Project, Alternative 3 would include demolition and reconstruction of the St. Joseph's campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Alternative 3 differs from the proposed Project in that St. Joseph's would be located closer to Emilie Avenue with the Lower School, Library/Administration, and Middle School buildings located parallel to Emilie Avenue. Foley Hall would be renovated and expanded to provide a Fine Arts center addition. A new chapel would be constructed in the courtyard between Foley Hall and the Lower School, Library/Administration, and Middle School buildings. The St. Joseph's sports fields would be relocated to the corner of Park Lane and Emilie Avenue, extending along Park Lane. The existing parking area and drop off for St. Joseph's would be reconfigured. An additional parking area would be constructed near the maintenance area accessed from Park Lane. Under Alternative 3, the increase in students would be the same as under the Project (1,196 students).

Alternative 3 would result in the same number of students as the Project. Therefore, the number of vehicle trips generated would remain the same. Therefore, impacts at Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 would be the same as under the Project. It is assumed that Alternative 3 would have the same set of mitigation measures available to mitigate impacts and to implementation of these mitigation measures would result in the same reduction of impacts to intersections and roadway segments as the project. Therefore, impacts to Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 under Alternative 3 would remain the same as under the Project.

Similar to the Project, Alternative 3 would include demolition and construction on the Project site. These activities would result in construction traffic. However, similar to the Project, trucks used for demolition and construction activities would be required to file a construction/demolition traffic management plan with the Town of Atherton Public Works Department. Therefore, impacts under Alternative 3 from construction traffic would be similar to the Project. Similar to the Project, impacts from hazards due to design features, inadequate emergency access, and changes to air traffic patterns would be less than significant. Overall impacts to transportation and traffic under Alternative 3 would be the same as under the Project.

Alternative 4: Reduced Enrollment Alternative

Under Alternative 4, all SHS Master Plan improvements would be constructed. The St. Joseph's Campus would be relocated and reconstructed with new instructional, administrative, and library buildings as well as an Assembly Hall and Performing Arts classrooms on the St. Joseph's Campus, the new parking lot to serve St. Joseph's would be constructed, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance would occur.

However, enrollment increases would be limited to 57 students, which represents an approximately 50 percent reduction in the maximum projected enrollment. These students would be spread throughout the Lower, Middle, and Sacred Heart Preparatory School for a total maximum enrollment of 1,139.

Aesthetics

Similar to the Project, Alternative 4 would have no impact on scenic vistas (none are available from the Project site). Similar to the Project, Alternative 4 would include demolition and reconstruction on the Project site, including demolition and reconstruction of the St. Joseph's Campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. All improvements would be located in the same places as proposed under the Project. Construction of various facilities and improvements on the campus would result in the removal of some trees in areas visible from Town streets. However, similar to the Project many trees around the perimeter of the site would be retained and would be augmented with additional tree plantings. Therefore, similar to the Project this impact would less than significant.

Similar to the Project, Alternative 4 would result in the construction of school facilities on an existing school campus. Construction of new buildings, classrooms, and other improvements to the Sacred Heart Schools campus would not represent a substantial change in the visual quality of the site. The Project site has been an existing school campus since 1898. The design of buildings and improvements on the site would be consistent with buildings and improvements associated with the existing school uses and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts to visual character of the site would be similar to the Project and less than significant.

Similar to the Project, new lighting would be incorporated into the design of the Project components, including the St. Joseph's campus. No lighting would be proposed for any of the sport fields. All proposed lighting would be similar to the existing lighting systems in place. Additionally, the nearest light-sensitive land uses to the St. Joseph's campus are residential uses located over 350 feet away across Emilie Avenue. These residential uses are not immediately adjacent to the Project site; therefore, due to distance and the type of illumination that would be used, light and glare spillover from the Project site would not occur at these locations. Similar to the Project, impacts to light and glare would be less than significant. Overall, impacts to aesthetics under Alternative 4 would be similar to the Project.

Air Quality

Similar to the Project, no changes in General Plan or Zoning designations are proposed that would be inconsistent with or increase population that would result in a conflict with the *BAAQMD Clean Air Plan*. Therefore, similar to the Project Alternative 4 would not conflict with any applicable air quality plan. Alternative 4 would include demolition and construction activities, but similar to the Project, impacts from construction and demolition emissions would be less than significant. Operational emissions, including carbon monoxide emissions and toxic air contaminants (TACs), associated with the ultimate development and operation of Alternative 4 would be incrementally less than under the Project due to the decreased number of students. Therefore, this impact would be incrementally less than under the Project.

Similar to the Project, Alternative 4 does not include any uses such as wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters that would create objectionable odors that would affect a substantial number of people.

Similar to the Project, Alternative 4 would, require the consumption of fuel by the on-site equipment during construction activities that would generate GHG emissions. In addition, similar to the Project Alternative 4 would require the consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations. Consumption of fossil fuels necessary to generate electricity, provide heating and hot water for the on-site land uses, and convey, transport, and treat water for operations would be the incrementally less than under the Project due to the decreased number of students. Overall, impacts to air quality under Alternative 4 would be the less than under the Project.

Biological Resources

The Project site does not contain specified soils, moisture regime or other significant habitat features necessary to support growth of the special status plant species listed with the potential to occur in the region. Additionally, the Project site lacks essential habitat elements required by the individual species for survival and/or breeding (e.g., aquatic habitat, marshes and meadows, specific natural vegetation communities for foraging, etc.). Therefore, similar to the Project, Alternative 4 would not directly affect any known occurrences of special-status plant or animal species on or in the immediate vicinity of the Project site. Alternative 4 would include demolition and construction activities, but similar to the Project, impacts to nesting birds during demolition and construction activities would be less than significant.

There are no Sensitive Natural Communities existing on the Project site with the exception of individual Valley oaks. No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), are present on the Project site. The Project site is not located within a known movement corridor for wildlife species and does not support habitat considered to be suitable for a native wildlife nursery site. Therefore, similar to the Project, Alternative 4 would not have any impacts to Sensitive Natural Communities, federally protected wetlands, known movement corridors for wildlife species, or native wildlife nursery sites.

Similar to the Project, Alternative 4 would include demolition and reconstruction of the St. Joseph’s campus, construction of a new parking lot to serve St. Joseph’s, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. Similar to the Project, development under Alternative 4 would create impacts to heritage trees on the site that are protected under the Town of Atherton Heritage Tree Ordinance (Chapter 8.10) including Valley oaks (*Quercus lobata*), which are components of Valley Oak Woodland, a protected

Sensitive Community. There would be no differences in the physical improvements on the campus; therefore, these impacts would be the same as under the Project. Overall impacts to biological resources would be the same under Alternative 4 as the Project.

Land Use & Planning

Similar to the Project, Alternative 4 would not construct any major physical features or impair mobility in the Town that would physically divide an established community. Similar to the Project, Alternative 4 would be consistent with the Town of Atherton General Plan. There are no Habitat Conservation Plans or Natural Community Plans that are applicable to the Project site. Therefore, similar to the Project Alternative 4 would have no impact on Habitat Conservation Plans or Natural Community Plans.

Noise

Similar to the Project, Alternative 4 would include demolition and reconstruction on the Project site, including demolition and reconstruction of the St. Joseph's Campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. All improvements would be located in the same places as proposed under the Project.

Alternative 4 would include demolition and construction activities, but similar to the Project, these activities would be temporary and the construction hours would conform to the Town's Noise Ordinance. Therefore, impacts from construction and demolition noise on neighboring residences would be less than significant. It is assumed that students would be housed in portables during demolition and construction activities. However, similar to the Project, mitigation measures would be implemented that would reduce noise impacts from demolition and construction to less than significant.

Under Alternative 4, classrooms would be located in the same location (farther from Emilie Avenue) as the proposed Project. Therefore, traffic noise impacts at new classrooms under Alternative 4 would be the same as under the Project. Alternative 4 would use similar HVAC equipment as the Project. The Project would be required to achieve Town's Noise Ordinance standards and this impact would be the same as under the Project. Similar to the Project, Alternative 4 would include realignment of athletic fields. However, similar to the Project, noise levels would not exceed the standards of the Noise Ordinance or create a substantial permanent increase in ambient noise levels in the vicinity and this impact would be similar.

Similar to the Project, Alternative 4 would require demolition and construction that could result in groundborne vibration or noise. However, demolition and construction would occur for very limited times, and similar to the Project impacts from vibration would be less than significant.

Similar to the Project, Alternative 4 is not located within two miles of a public or public use airport or in the vicinity of a private airstrip. Overall, impacts from noise under Alternative 4 would be similar to the Project.

Transportation/Traffic

Similar to the Project, Alternative 4 would include demolition and reconstruction on the Project site, including demolition and reconstruction of the St. Joseph's Campus, construction of a new parking lot to serve St. Joseph's, and overall improvements to the Sacred Heart Schools campus, including campus entry and drop off/pick up improvements, pedestrian and vehicular improvements, sports field realignments and relocation, minor sewer repair, and tree maintenance. All improvements would be located in the same places as proposed under the Project. However, enrollment increases would be limited to 57 students, which represents an approximately 50 percent reduction in the maximum projected enrollment. These students would be spread throughout the Lower, Middle, and Sacred Heart Preparatory School for a total maximum enrollment of 1,139.

Alternative 4 would result in a reduced number of students as compared to the Project. Therefore, the number of vehicle trips generated under Alternative 4 would be reduced directly proportional to the reduction in students. Therefore, impacts at Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 would be reduced as compared to the Project. It is assumed that Alternative 4 would have the same set of mitigation measures available to mitigate impacts, if required. Implementation of these mitigation measures would result in an increased reduction of impacts to intersections and roadway segments as the Project. Therefore, impacts to Town of Atherton and City of Menlo Park intersections and roadway segments in both 2014 and 2030 under Alternative 4 would less than under the Project.

Similar to the Project, Alternative 4 would include demolition and construction on the Project site. These activities would result in construction traffic. However, similar to the Project, trucks used for demolition and construction activities would be required to file a construction/demolition traffic management plan with the Town of Atherton Public Works Department. Therefore, impacts under Alternative 4 from construction traffic would be similar to the Project. Similar to the Project, impacts from hazards due to design features, inadequate emergency access, and changes to air traffic patterns would be less than significant. Overall impacts to transportation and traffic under Alternative 4 would be the same as under the Project.

C. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an "environmentally superior" alternative be selected and the reasons for such a selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts.

Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the Town.

Table VI-1 summarizes the comparative impacts of each of the alternatives when compared to the Project. The table lists the level of significance of the impacts of the Project to each environmental topic analyzed in Section IV and shows whether the impacts anticipated under each proposed alternative would be lesser, similar, or greater than the proposed Project. The table provides a comparison of the ability of each alternative to avoid or substantially reduce the significant impacts of the project.

Alternative 2, the No Project/No Build Alternative would result in incrementally fewer impacts to aesthetics, biological resources, and noise. However, it would also allow a maximum enrollment of 1,250 students as proposed by the April 2008 SHS Master Plan, which would result in increased impacts to air quality and traffic. Alternative 4, the Reduced Enrollment Alternative would have similar impacts to aesthetics, biological resources, and noise as the project. However, Alternative 4 would reduce impacts to air quality and traffic due to the reduction in students, which would reduce vehicle trips. Therefore, based on the analysis provided above the environmentally superior alternative is Alternative 4.

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Table VI-1
Comparison of Alternatives to the Proposed Project

ENVIRONMENTAL ISSUE AREA	PROJECT	ALT 1 No Project/Buildout under Existing Master Plan	ALT 2 No Project/No Build	ALT 3 Revised Site Plan	ALT 4 Reduced Enrollment Alternative
AESTHETICS					
Would the project have a substantial adverse effect on a scenic vista?	NI	=	=	=	=
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	LTS	=	—	+	=
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	LTS	=	—	=	=
Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LTS	=	—	=	=
AIR QUALITY					
Would the project conflict with or obstruct implementation of the applicable air quality plan?	LTS	=	=	=	=
Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	LTS	+	+	=	—
Would the project expose sensitive receptors to substantial pollutants?	LTS	+	+	=	—
Would the project create objectionable odors?	LTS	=	=	=	=
Would the project be inconsistent with applicable guidance documents issued in furtherance of AB 32 to date, including the 2006 CAT Report and the ARB Scoping Plan?	LTS	+	+	=	—

Table VI-1
Comparison of Alternatives to the Proposed Project

ENVIRONMENTAL ISSUE AREA	PROJECT	ALT 1 No Project/Buildout under Existing Master Plan	ALT 2 No Project/No Build	ALT 3 Revised Site Plan	ALT 4 Reduced Enrollment Alternative
BIOLOGICAL RESOURCES					
Would the project have a substantial adverse effect, either directly or through habitat modifications, on species identified as 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 Services?	**LTS**	=	—	=	=
Would the project 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 the U.S Fish and Wildlife Service?	**NI**	=	=	=	=
Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal etc.), through direct removal, filling, hydrological interruption, or other means?	**NI**	=	=	=	=
Would the project interfere substantially with the movement of any native resident of migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	**NI**	=	=	=	=
Would the project conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**LTS**	+	—	+	=
LAND USE & PLANNING					
Would the project physically divide an established community?	**NI**	=	=	=	=

Table VI-1
Comparison of Alternatives to the Proposed Project

ENVIRONMENTAL ISSUE AREA	PROJECT	ALT 1 No Project/Buildout under Existing Master Plan	ALT 2 No Project/No Build	ALT 3 Revised Site Plan	ALT 4 Reduced Enrollment Alternative
Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted with the purpose of avoiding or mitigating an environmental effect?	**LTS**	=	=	=	=
Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	**NI**	=	=	=	=
NOISE					
Would the project result in substantial temporary or periodic increase in ambient noise levels in the project vicinity?	**LTS**	=	—	=	=
Would the project result in exposure of persons to or generation of noise in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	**LTS**	=	=	=	=
Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	**LTS**	=	—	=	=
Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	**LTS**	=	—	=	=
Would the project result in exposure of people residing or working at the project site to excessive noise levels from a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public or public use airport?	**NI**	=	=	=	=
Would the project result in exposure of people residing or working at the project site to excessive noise levels from a private airstrip?	**NI**	=	=	=	=

Table VI-1
Comparison of Alternatives to the Proposed Project

ENVIRONMENTAL ISSUE AREA	PROJECT	ALT 1 No Project/Buildout under Existing Master Plan	ALT 2 No Project/No Build	ALT 3 Revised Site Plan	ALT 4 Reduced Enrollment Alternative
TRANSPORTATION/TRAFFIC					
Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	**LTS**	+	+	=	—
Would the project conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	**LTS**	+	+	=	—
Would the project result in impacts from construction traffic?	**LTS**	=	—	=	=
Would the project result in an increase in hazards due to design features?	**LTS**	=	—	=	=
Would the project result in inadequate emergency access?	**LTS**	=	—	=	=
Would the project result in changes to air traffic patterns?	**LTS**	=	—	=	=

Key:
S *= Significant Impact*
LTS *= Less-than-Significant Impact*
LTS/M *= Less-than-Significant Impact with Mitigation*
\+ *= Impact greater than the project*
= *= Impact similar to the project*
— *= Impact less than the project*

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