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2300 Delaware Avenue Project

4.1 INTRODUCTION

The 2300 Delaware Avenue property is a level, 18.4-acre parcel currently developed with three large interconnected former industrial buildings constructed in 1980, and formerly used for manufacturing and administrative functions by a private company. The University acquired the property in 2004.

Seismic retrofit, roof repair, and interior remodeling and initial occupancy of two office buildings on the property (Buildings A and B) were approved in 2004 and are now underway. Seismic retrofit and roof repair of the third building (Building C), a former manufacturing facility, also were previously approved in 2004. Under the proposed project, additional office occupant capacity would be added to the first two buildings, and the third building would undergo repairs and interior remodeling to provide laboratories, offices, and University service facility space. This section of the EIR describes the proposed project in detail and assesses the environmental impacts that could potentially result from its implementation.

4.2 PROJECT SUMMARY

4.2.1 Project Location

The 2300 Delaware Avenue property is located near the western margin of the city of Santa Cruz, on the north side of Delaware Avenue, at the northwestern corner of the intersection of Delaware Avenue and Natural Bridges Drive, in the west side of the City of Santa Cruz ([Figure 4-1, Project Location](#)). Delaware Avenue forms the northern margin of Natural Bridges State Beach. To the west of the site are Antonelli Pond, a natural area held by the Santa Cruz Land Trust, and the Moore Creek corridor, a natural preserve managed by the City of Santa Cruz in cooperation with the Land Trust. Santa Cruz De Anza residential community is located to the southwest of the project site on the opposite side of Delaware Avenue, and the UC Santa Cruz Marine Science Campus (Long Marine Laboratory and other facilities) is farther west of the site at the western end of Delaware Avenue. A Union Pacific Railroad line runs along the north side of the project site. North of the railroad tracks are the offices of the Santa Cruz City School District and a commercial enterprise. To the east of Natural Bridges Drive, across from the site, is undeveloped vacant land, designated Industrial in the City of Santa Cruz General Plan. There are existing industrial facilities northeast of the project site. Mission Street and Highway 1 run parallel to Delaware Avenue, about one-third mile north of the project site.

4.2.2 Project Background

In 2004, UC Santa Cruz purchased the former Texas Instruments property at 2300 Delaware Avenue in the city of Santa Cruz, with the intent of using this facility to consolidate UC Santa Cruz administrative office space presently housed in off-campus leases and/or to alleviate crowding in facilities on campus.

The previously developed facility, which was vacant at the time of the acquisition, includes three large buildings (Buildings A, B and C), two paved parking lots, loading docks and outdoor service yards, and amenities including a public access trail, tennis courts and a volleyball court (Figure 4-2, *2300 Delaware Avenue Site Plan*). The existing facility is surrounded by a landscaped earthen berm about 6 to 8 feet high, which encloses the buildings, parking lots and surrounding landscaping. The berm is pierced by entrances to the facility on Delaware Avenue and on Natural Bridges Drive.

Buildings A and B together contain 57,223 gross square feet (gsf), and are currently configured as offices, with some shared employee break-room space, including a kitchen and cafeteria. These two buildings will be usable in their current state, after the minor modifications and repairs now underway have been completed. Building C contains 182,852 gsf, including a basement, a main floor, and a raised floor area. The prior owner used Building C for the fabrication of advanced semiconductor wafers used in computers. Industrial equipment and facilities have been removed from the interior of the building. Some interior remodeling and renovation would be necessary to make the space usable for the uses proposed by the Campus.

Prior to acquiring 2300 Delaware Avenue, the University assessed the potential environmental effects of acquisition of the property; of seismic retrofit and other minor modifications to the existing buildings on the property to permit safe occupancy; and of occupation of Buildings A and B by 246 UC Santa Cruz staff persons relocated from off-campus leased facilities or from the UC Santa Cruz main campus. It was proposed, at the time, that Building C would be used as storage space for materials currently stored in leased facilities or on the main campus, with an employee population of up to 10 persons. The University determined that the acquisition and reuse of the 2300 Delaware Avenue property qualified for a CEQA categorical exemption. The Campus filed a Notice of Exemption (NOE) for the action in 2004.

UC Santa Cruz is now in the process of carrying out the previously approved seismic retrofit and other minor improvements to Buildings A and B to prepare for occupancy in the fall or winter of 2005. Initial occupancy of Buildings A and B, with a total approved population of 246 persons is anticipated to begin as soon as remodeling is complete. This population as approved consists primarily of existing staff, but would include some new employees (less than 5 percent of the population). Seismic retrofit and new roofing for Building C also will be completed, under the prior approval, and the building will be used for temporary storage, as previously approved.

Subsequent to the approval above, the Campus carried out a more detailed assessment of the capacities of Building C. This revealed that the building has sophisticated infrastructure design that offers a high degree of flexibility and capacity in configuring and supplying utilities, such as would be used in high-technology laboratories and “clean room” space. Because this specialized infrastructure would be very costly for the Campus to replicate elsewhere, the facility has high potential value to the Campus as specialized research space. The University, therefore, now proposes to remodel the interior of Building C to take advantage of its laboratory potential.

4.2.3 Summary Project Description

The 2300 Delaware Avenue Project analyzed in this EIR proposes minor interior remodeling to increase the office capacity of existing Buildings A and B at the project site by the construction of 54 additional work stations, for a total occupancy in the two buildings of up to about 300 persons. In addition, an existing kitchen and cafeteria in Building B would be retrofitted to provide café services to the occupants of the 2300 Delaware Avenue facility.

The proposed project also includes interior remodeling of Building C to provide a computer facility, laboratory and other research space, and to accommodate University Receiving, Mail and Printing services that would be moved from the main campus. The remodeling of Building C would provide office space for faculty, staff, and graduate and postdoctoral scholars affiliated with campus research. At full development, Building C would have a total population of up to 482 people.

Under the proposed project, total population in all three buildings at 2300 Delaware Avenue would be 782. For purposes of environmental impacts analysis, the 246 persons who will occupy Buildings A and B in fall or winter of 2005 are included within the total proposed population analyzed for the facility.

Table 4-1 presents a summary of the environmental impacts resulting from the proposed 2300 Delaware Avenue Project. The table has been organized to correspond with the environmental issues discussed in Section 4.4, *Environmental Setting, Impacts, and Mitigation Measures*, below, and is arranged in four columns: (1) the identified impact under each EIR issue area, (2) the level of significance prior to mitigation, (3) 2300 Delaware Avenue or LRDP mitigations that would avoid or reduce the level of impacts, and (4) the level of significance after implementation of mitigation measures, if applicable.

Cumulative impacts that would result from implementation of the 2300 Delaware Avenue Project in combination with other campus development under the 2005 LRDP and projected regional growth are discussed in the technical sections of Volumes I and II of this EIR and are summarized in the impact analysis that follows in this volume.

4.2.4 Project Goals and Objectives

UC Santa Cruz currently leases space in three buildings on Swift Street and in three buildings on Mission Street (2801, 2901 and 3004), in the City of Santa Cruz, within one-half mile of 2300 Delaware Avenue. The Campus also leases space in buildings on Front Street and Pacific Avenue in downtown Santa Cruz. Campus administrative functions are distributed among these scattered facilities. Consolidation of these leased spaces and relinquishment of some of the spaces over time could provide administrative cost savings for the University. Co-location at the 2300 Delaware Avenue facility of some of the administrative functions that currently use scattered lease spaces off campus would increase administrative efficiency. Further, with sufficient consolidated space, additional administrative functions presently conducted from the main campus could benefit by adjacency with other administrative functions presently located off campus. The 2300 Delaware Avenue facility would provide sufficient space for the co-location of a number of such programs.

**Table 4-1
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures**

DA Impact		Level of Significance Prior to Mitigation ¹	DA Mitigation Measures	Level of Significance Following Mitigation ¹
4.4.3 Air Quality				
DA Impact AIR-1	Operation of the proposed project would increase regional emissions of criteria pollutants.	LS	Mitigation not required	NA
DA Impact AIR-2	Wet laboratories operating at the project site would emit toxic air contaminants but the level of anticipated emissions would not result in a significant human health risk.	LS	Mitigation not required	
4.4.7 Hazards and Hazardous Materials				
DA Impact HAZ-1	Implementation of 2300 Delaware Avenue would increase routine use, transport, and disposal of hazardous chemicals, radioactive materials, and/or biohazardous materials by UC Santa Cruz laboratories and departments, by campus and non-campus entities, and in maintenance and support operations. The use of hazardous materials by non-UC entities could create significant hazards to the public or the environment	PS	DA Mitigation HAZ-1: The Campus shall implement LRDP Mitigations HAZ-2 and HAZ-11	LS
DA Impact HAZ-2	Development under the 2005 LRDP would result in increased handling of hazardous or acutely hazardous materials within ¼ mile of an existing or proposed school, which would not create a significant hazard to those attending the school.	LS	Mitigation not required	NA
4.4.8 Hydrology and Water Quality				
DA Impact HYD-1	Implementation of 2300 Delaware Avenue Project would not result in wastewater discharges that would violate wastewater discharge requirements.	LS	Mitigation not required	NA

Table 4-1
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures

DA Impact		Level of Significance Prior to Mitigation¹	DA Mitigation Measures	Level of Significance Following Mitigation¹
DA Impact HYD-2	Implementation of 2300 Delaware Avenue Project could result in storm water runoff that could affect surface water quality.	PS	DA Mitigation HYD-2: The Campus shall ensure that any pesticides, herbicides or chemical fertilizers used on the landscaping or exterior of the buildings on the 2300 Delaware Avenue property are applied in such a manner as to prevent migration off site, and that they are not applied during inclement weather.	LS
4.4.9 Land Use and Planning				
DA Impact LU-1	Implementation of the 2300 Delaware Avenue Project would not result in development that is substantially incompatible with existing or planned adjacent land uses.	LS	Mitigation not required	NA
4.4.10 Noise				
DA Impact NOIS-1	Construction activities at the 2300 Delaware Avenue site would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	LS	Mitigation not required	NA
DA Impact NOIS-2	Project operations would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	LS	Mitigation not required	NA

**Table 4-1
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures**

DA Impact	Level of Significance Prior to Mitigation ¹	DA Mitigation Measures	Level of Significance Following Mitigation ¹
4.4.13 Recreation			
DA Impact REC-1	2300 Delaware Avenue Project could increase the use of the Antonelli Pond area such that substantial physical deterioration of recreational facilities could occur or be accelerated.	<p>PS</p> <p>DA Mitigation REC-1A: UC Santa Cruz shall provide trash and litter collection services for containers along the east side of Antonelli Pond</p> <p>DA Mitigation REC-1B: UC Santa Cruz shall consult with the Santa Cruz Land Trust and the City of Santa Cruz regarding the Campus's fair share contribution (as defined in Section 4.14, Volume II of this EIR) toward providing and maintaining picnic and trail facilities at Antonelli Pond.</p> <p>DA Mitigation REC-2D: The Campus shall implement LRDP Mitigation REC-2D.</p>	LS
4.4.14 Traffic, Circulation, and Parking			
DA Impact TRA-1	Under the 2010 conditions, the 2300 Delaware Avenue Project would contribute traffic that would cause unacceptable levels of service at two off-campus intersections: Empire Grade Road/Western Drive, and Mission Street/Bay Street	<p>S</p> <p>DA Mitigation TRA-1A: The Campus shall contribute its fair share, as defined and described in Section 4.0, Volume I of this EIR, toward the cost of installing a traffic signal at the intersection of Empire Grade and Western Drive and updating the signal timing at the intersections of Mission Street / Bay Street.</p> <p>DA Mitigation TRA-1B: The Campus shall implement LRDP Mitigation TRA-2B.</p>	SU
DA Impact TRA-2:	Parking demand for the 2300 Delaware Avenue site would not exceed available supply if the occupancies and ratios achieved on the main campus can be achieved at the project site.	<p>LS</p> <p>DA Mitigation TRA-2: The Campus shall implement Parking Management and Transportation Demand Management measures at the project site and monitor parking demand. If parking occupancy reaches 90 percent of the supply, the Campus shall work with City of Santa Cruz to designate permit parking on adjacent streets for use by employees and visitors; provide additional incentives for staff to use transit; or expand the existing parking lots to provide additional spaces if necessary.</p>	LS

**Table 4-1
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures**

DA Impact		Level of Significance Prior to Mitigation¹	DA Mitigation Measures	Level of Significance Following Mitigation¹
DA Impact TRA-3	The proposed project would generate transit riders who would utilize SCMTD Route 20 which currently exceeds capacity during peak commute periods. This could reduce the effectiveness of alternative modes of transportation as TDM elements for the project site.	PS	DA Mitigation TRA-3: The University shall implement, or coordinate with SCMTD to implement a transit route or route that adequately serves the project site.	LS
4.4.15 Utilities				
DA Impact UTIL-1	The proposed project would not require the construction of new or expanded water supply facilities.	LS	<p>DA Mitigation UTIL-1A: The Campus shall implement LRDP Mitigations UTIL-9A through 9H at the project site in conjunction with the occupancy of the 2300 Delaware Avenue site.</p> <p>DA Mitigation UTIL-1B: The Campus shall, in conjunction with the redevelopment of Building C, implement a program of landscape redesign and renewal at 2300 Delaware to reduce the area of turf and replace planting of drought-tolerant native plants, as feasible.</p> <p>DA Mitigation UTIL-1C: Concurrent with landscape renewal, the Campus shall implement a transpiration irrigation system at the site similar to that used on the main campus to minimize irrigation water use.</p>	NA

¹ NA: Not Applicable; NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

In addition to administrative efficiency and cost issues, many facilities on the main campus are currently overcrowded. Several departments have indicated a need for expanded work space, which does not necessarily need to be located on the main campus.

Furthermore, several departments and users on the main campus have proposed or envisioned the development or expansion of research programs and initiatives that will require state-of-the-art laboratory space. Co-location of interrelated biological, chemical, and engineering research functions currently operating at separate facilities on the main campus to a facility that could provide state of the art laboratories would increase the collaborative potential and efficiency of these departments.

The objectives of the 2300 Delaware Avenue Project therefore are to:

- Provide state-of-the-art research and support space for new research initiatives and programs proposed by the Campus and affiliates
- Provide opportunities for inter-disciplinary research collaboration and increased research efficiency
- Relieve overcrowding and release instructional and research space at the main campus
- Maximize organizational efficiency through co-location of administrative programs
- Reduce the cost of off-campus leases through consolidation of space

4.2.5 Alternatives

One alternative to the proposed 2300 Delaware Avenue Project was analyzed for its ability to avoid or reduce any significant project impacts while meeting most of the objectives of the proposed project. A No Project Alternative was also considered. The project alternatives analyzed in this EIR are:

- ***Alternative 1: Lower Density Laboratory Space.*** The main floor of Building C would be redeveloped as low occupancy laboratory space, similar to the existing Bioengineering, Biotechnology and Quantitative Biomedical Research and the Center for Information Technology Research in the Interest of Society facilities in the Engineering 2 Building on the main campus. Building C laboratories would be occupied with a density, similar to these facilities, of 468 assignable square feet/occupant and could house a population of approximately 123 persons. The computer server facilities and storage space in Building C would be developed as under the proposed project. Under this alternative chemistry research labs would not be accommodated at the facility, so no fume hoods would be needed in the facility at 2300 Delaware Avenue. The occupancy of Buildings A and B would be increased to a total of 300 persons, as under the proposed project. Total population of the facility, thus, would be 423 persons.
- ***Alternative 2: No Project.*** Under the No Project Alternative, Building C would be used only for storage and would have a building occupancy of about 10 employees. The occupancy level of Buildings A and B would be kept at 246 persons, as previously approved.

The environmental effects of these alternatives, and the extent to which each alternative would meet project objectives, are assessed in Section 4.5, *Alternatives*.

4.3 DETAILED PROJECT DESCRIPTION

4.3.1 Description and Present Condition of Buildings A and B

Buildings A and B are two-story office-block buildings that are interconnected, and that together provide 57,223 gsf of floor space. Building B includes a kitchen and cafeteria, with a broad expanse of glass and an outdoor deck that overlooks the east side of the adjacent Antonelli Pond. Seismic upgrades and reroofing of both buildings is currently underway, as described above. Minor remodeling is also in progress, to configure building interiors to accommodate use by various UC Santa Cruz administrative functions. The buildings are steel-frame and concrete structures of industrial appearance.

4.3.2 Proposed Project for Buildings A and B

With the completion of the on-going modifications, Buildings A and B would be configured with 246 offices and work stations. Upon completion of seismic retrofits and re-roofing presently underway (under a previous approval, as discussed above), these buildings will be occupied by 246 UC employees. Occupation is expected to occur in fall or winter of 2005.

4.3.2.1 Additional Work Stations

The proposed project includes installation of 54 additional workstations in Buildings A and B to provide work space for a population of up to 300 persons. Only minor interior remodeling of Buildings A and B would be required for these changes. Most of the additional work stations would be occupied by existing employees relocated from the main campus. The Campus could also relocate additional employees from UC Santa Cruz leased facilities in the city of Santa Cruz to the 2300 Delaware Avenue property, as leases expire.

4.3.2.2 Food Services

Building B includes a kitchen and cafeteria serving area of 2,160 square feet that was used by the former occupant of the building to provide food service for its approximately 600-person workforce over three shifts. Under the proposed project, the Campus would utilize the kitchen to provide basic “café” food services to employees working at 2300 Delaware Avenue. The café would provide food services during normal business hours. Approximately three full time (FTE) and three part-time student food service staff would work in the kitchen and serving area providing meals and drinks during working hours. This staff is included with the total population of the facility.

The existing Building B Food service area would require some internal renovation to make it usable for campus purposes. Interior partition walls would be built as needed to separate the serving area from the office areas, and the food serving area HVAC would be balanced to prevent fumes and/or odor to leak to the office area. A center island in the serving area could be removed to provide additional dining room seating as needed. All preparation and service counters will be upgraded to stainless steel, and sealed to floor or wall. The facility would also be retrofitted with code compliant and energy efficient equipment,

and provided with appropriate fume exhaust hoods and ventilation. The existing grease interceptor would be either repaired or replaced, as needed. Existing circuits to the kitchen area may need to be upgraded to provide at least 150 amps of service with several three phase 240 circuits. These retrofits are not anticipated to require exterior work on the building, except as needed to provide appropriate exterior vents and possibly utility connections.

4.3.3 Description and Present Condition of Building C

Building C, located south of Buildings A and B on the project site, interconnected to these buildings and similar in design and appearance, is essentially a single-story warehouse shell, which totals 182,852 gsf in floor area. This building was the manufacturing area of the former industrial facility, and was used for the fabrication of silicon wafers for computer uses. This high-technology operation demanded specialized facilities and infrastructure, including clean rooms, air purifying equipment, and mechanical space and infrastructure, which were located both above and below the main floor to service activities in the main floor.

The main floor of Building C consists of 90,794 gross square feet, with a room height of 13 feet. The interior space is surmounted by an interstitial structural floor, which provides specialized infrastructural space. The main floor, under industrial operation, was divided into a large main fabrication area, a raised floor area for a computer facility, shop space, and chemical storage rooms. When the building was decommissioned, one relatively isolated clean room area (6,008 asf) was left intact, except for removal of exhaust piping. At the west side of the facility is a sheltered receiving area that opens into two loading docks, which include spill containment facilities. Adjacent to the docks are two corporation yard areas, which are contained by exterior walls abutting the building. These include space for exterior storage, and machinery. A basement area of similar size provides ready access to major building infrastructure, and storage space.

Prior to the University's purchase of the facility, the former owner removed the semi-conductor fabrication and clean room equipment, conducted testing for residual contaminants in and around the building, and carried out decontamination of the facility and equipment as necessary. This work included removal of some components of the air pollution control and wastewater treatment systems that had been used in silicon wafer production. A de-ionized water system also was decommissioned, but could be re-commissioned with installation of a new water purifier. These systems presently are non-functional, but could be reused with relatively minor retrofits.

Significant research support equipment and infrastructure remain intact. This includes clean air handlers; ceiling high efficiency particulate air (HEPA) filters; and clean room bay separations. Similarly, an air scrubber for venting is in place, should this equipment be needed for future uses. The building also retains variable speed drive fans that can provide scalable airflows and isolatable control of building temperature and humidity. Cooling water piping is also intact, although the main heat exchanger was removed at the time of the building's sale. Piping is also in place for distribution of inert gases, including nitrogen. Original process piping remains intact in the basement service area, and some process piping remains in the main floor fabrication area. While the extent to which existing process piping can be used, and precise requirements for exhaust and waste piping have not been determined, Building C space and its

infrastructure comprise a specialized pre-developed facility, which offers the potential for redevelopment as highly flexible high-technology laboratory space, without the necessity and expense of development “from scratch.”

4.3.4 Proposed Project for Building C

Under the proposed project, Building C would be remodeled to provide research and research support space, including wet and dry laboratories and office and meeting space; computer facilities; and space for University services and storage.

Programming for Building C is currently under way. The actual occupancy and specific facilities installed will depend on a number of factors including grant funding, research initiatives, and the best and most efficient use of this specialized space and infrastructure, as determined by campus program needs and initiatives. For this reason, the project description and analysis below encompasses an “envelope” for potential uses of the building. The project elements analyzed are based on reasonable, conservative assumptions (that is, the maximum envisioned population, number of fume hoods, range of chemicals that would be used, etc.) for the assessment of potential environmental impacts of the proposed use. Any action proposed in the future that would involve modification or use of the building that could not be accommodated within the population envelope and types of uses assumed in this analysis would be subject to further CEQA review, as appropriate.

4.3.4.1 Building C Space Allocation

Specific programs have not yet been assigned specific spaces in these facilities, but the overall allocation of space within the buildings by type of use is delineated in Table 4-2 and described below. Facilities that would be included in the building under the proposed project area described in Section 4.3.4.2.

**Table 4-2
Proposed Approximate Space Allocation in Building C**

Function	Main Floor (asf)	Basement (asf)	Total (asf)
Computer Server Facility	9,300		9,300
Research Space			
Wet labs	24,600		24,600
Dry labs	18,400		18,400
Research Support	14,700		14,700
Service and Storage Space	6,000	19,000	25,000
Total	73,000	19,000	92,000

4.3.4.2 Facilities Proposed for Building C

Research Space

Under one potential scenario for the proposed project, up to 43,000 asf on the main floor of Building C would be designated as research and research support space. On the main floor, former clean room manufacturing areas would be modified to create a laboratory space for various forms of scientific

research. Remodeling of Building C could provide additional laboratory or studio and administrative space for faculty researchers, postdoctoral scholars, and graduate students in physical and biological sciences, engineering, or the arts. This space also could be developed for use by the Technology Incubator Project, as described above. Space parameters are based on existing or programmatic space usage for similar uses on the main campus (UC Santa Cruz Capital Planning and Space Management 2004). The actual programs and number of occupants who would be accommodated would depend on the ultimate uses or combination of uses assigned to the facility, as discussed under Section 4.3.5, *Population*, below.

Laboratory facilities in Building C would include dry laboratories, and wet laboratories with up to 131 fume hoods. To provide a conservative envelope for environmental assessment, the maximum envisioned usage is considered to include development of up to about 24,600 asf of wet laboratory space, about 18,400 asf for dry laboratories.

Laboratories could include semiconductor clean room research laboratories for novel and high-performance electronic and photonic devices, nanotechnology, MEMS, and sensors. Additional clean rooms could be developed in the existing clean room bays for the fabrication of microstructures, micro actuators, and sensors or devices (such as micro-array chips). Clean room spaces that could be used for the fabrication of semiconductor-based electronic and photonic devices, integrated circuits, and microelectro-mechanical systems might be developed.

Research Support Space

The remaining 14,700 asf on the main floor of Building C would provide office space for up to 20 academic faculty and administrative staff. Offices would vary in size and number, depending on work requirements. Some conference space or expanded break rooms for use by research teams might also be included in this space allocation.

Computer Server Facility

Two computer server facilities with an area of about 9,300 asf would be modified and installed in existing raised floor computer room spaces on the main floor of Building C. One server facility of approximately 8,000 asf could host several computer networks for various research programs, and provide a computer network to work in conjunction with the campus's existing computer network for general campus needs. The smaller 1,300-asf computer room could house computer networks to serve existing and future occupants of Buildings A and B. The facility would include emergency generators for life safety and as backup power for the computer rooms.

Service and Storage Space

Approximately 6,000 asf could be available on the main floor of Building C, and 19,000 asf on the basement level of the building, for storage and support activities related to campus service functions. This space includes access to two existing loading dock and adjacent enclosed yards on the west side of Building C, which provide direct access to facility driveways. The existing loading docks are equipped with shut-off valves to isolate potential spills.

University service and storage operations, if all are operating simultaneously, together could generate about 66 truck trips per day. Truck and other vehicle traffic associated with storage and University

services is described in more detail in the sections below, and is included in the total vehicle traffic analyzed for the facility in this EIR. Total population associated with potential University services and the storage functions at the project site is included in the total population analyzed for the proposed project.

Storage. Existing conditioned shop space in Building C will be evaluated for use as construction surge storage space by the UC Santa Cruz Library. The Campus will have a need for approximately 10,000 asf of storage space, for relocation of special collections from the McHenry Library during renovations from fall 2007 through summer 2009. Some of the conditioned space at 2300 Delaware Avenue may be suitable to accommodate some portion of this storage.

In addition to this conditioned space, the basement level of Building C could provide approximately 19,000 asf of unconditioned storage space. Renovation could include some demolition of pipe racks and piping not needed to supply laboratory facilities, and installation of partitions or cages to divide the storage area. This space potentially could be storage for materials that cannot be accommodated in existing space on the main campus. The Building C storage facility would require only a nominal staff, as it would be infrequently accessed for the most part. Staff assigned to the facility would provide record keeping and access as needed for storage and retrieval by campus employees. This activity could entail periodic trips between the project site and the main campus.

Campus Receiving Services. Under this potential scenario, Campus Receiving could relocate its services from its current location at Barn H on the main campus, to 2300 Delaware Avenue. Existing receiving and loading dock facilities at 2300 Delaware Avenue could be used by the Campus with a minimum of modifications. The facility could use up to 5,000 asf.

Campus Receiving Services currently provides the following services at its main campus facilities: receiving, shipping, deliveries, moving services, surplus operations, rental services, storage, and E-waste recycling. The campus loading dock is used for all of these purposes. UC Receiving currently has 4 to 5 FTE employees and may generate up to 25 truck trips per day, and miscellaneous use of the loading dock for pick-ups and deliveries by individual and individual campus units. A fork lift operates regularly at the dock for pick up of E-waste and metal recycling, monthly or as necessary. Daily off-loading of delivery trucks, and carpet pick-up and delivery, occur three to five times weekly during June, July, and August.

Ordinarily, Campus Receiving Services does not receive or handle any chemicals at the main campus loading dock, as these are delivered directly to the campus receiving locations where they are used. On rare occasions, Campus Receiving Services has off-loaded chemical orders for nearby facilities.

Material Services/Printing Services. Campus Material Services and Printing Services are presently located in the Baskin Engineering Building on the main campus. The engineering departments would like to reclaim this space for lab uses. Under this scenario, Campus Material Services and Printing Services could move to 2300 Delaware Avenue.

The Printing Services facility at 2300 Delaware Avenue could include up to 12,000 asf of printing/copy center space. Current production hours at the facility are 7:00 AM to 5:00 PM, with staggered shifts. The existing facility on campus currently receives at least one, and up to three, paper and other vendor deliveries per day. Equipment at the facility could include a printing press, several digital printers/copiers, bindery equipment, and special heavy production equipment, which require 220-volt 2/3 phase electrical

single circuits. Some of this equipment would emit heat and could require heat ventilation. Low-level odors also would be emitted by clean-up chemical washes and ink washes. The facility also would use chemical developers and fixers, washes and inks. None of these materials is classified as hazardous, but Environmental Health and Safety (EH&S) handling and disposal procedures are routinely applied to these materials at the existing facility and also would be implemented at 2300 Delaware Avenue, and the facility would be supplied with appropriate ventilation.

Campus Mailing Services. Currently, Mailing Services occupies approximately 6,000 square feet on the main campus, and is in need of an additional 2,000 square feet. The facility uses non-toxic inks for the machines and no toxic chemicals are used in any of the processes. Mailing Services currently has approximately 20 scheduled pick-ups and deliveries Monday through Friday with additional unscheduled deliveries, about every other day, from vendors dropping off supplies for mailing. The vehicles accessing the site range from mini-vans and one-ton trucks to semi-trucks and trailer. Mailing Services presently has 21 employees (13 FTE staff, and 8 part-time student employees) and operates Monday through Friday, 7:00 AM to 5:00 PM.

4.3.4.3 Potential Program Uses of Building C Research and Research Support Space

Potential Campus Users

A number of existing campus science and engineering programs have expressed an interest in the development of space in Building C, primarily for laboratory uses. Use of a portion of the area for faculty art studios is also considered. Portions of the renovated Building C potentially also could be made available to campus research affiliates. These could include joint programs between UC Santa Cruz and the City of Santa Cruz. The project as proposed includes laboratory and other spaces that could accommodate a wide range of research uses.

Santa Cruz Advanced Technology Incubator Project

UC Santa Cruz and the City of Santa Cruz have applied jointly for a federal grant to study the feasibility of a proposed advanced technology incubator project, which could be housed in 2300 Delaware Building C. The goal of the Incubator Project is to develop new advanced technology private sector businesses from existing research and entrepreneurial capacity within the city and county of Santa Cruz, to generate high paying highly skilled employment, direct capital investment in new companies, and increased tax revenue for the region. The facility would nurture innovative new business by providing modern research and production spaces, support services, and professional management. 2300 Delaware Avenue could provide a centralized facility for both the research and development activities and for the associated business and administrative support services, leased and managed by the City and its partners. As businesses outgrow the incubator facility, they would be provided assistance in finding permanent facilities in the city, and newly emerging firms would take their place.

If the Advanced Technology Incubator Project is funded, part of the main floor of Building C could be developed to meet project-specific needs. These could include 15,000 to 20,000 square feet of flexible office, research, design, and light manufacturing space for lease to qualifying emerging businesses. This

could be configured as office suites, shared common facilities including reception space and services, meeting space, conference facilities, restrooms, and wet and dry laboratory space. The actual occupancy and use of the space at 2300 Delaware Avenue, within the envelope of development and occupancy described here, would begin in a subsequent phase of development. These potential space allocations are included in the space described in [Table 4-2](#), above.

4.3.5 Other Project Design Features

4.3.5.1 Sustainable Design Features

The Campus encourages use of sustainable designs for all campus buildings. Development of the 2300 Delaware Avenue Project would include sustainable design features, directed, in part, to the reduction of utility demand. For example, as building fixtures are replaced and when new fixtures are installed, the project water demand would be reduced through the use of ultra low-flow fixtures, capture of condensate from mechanical systems for reuse, and use of emerging water and energy-saving technologies, such as waterless urinals. The interior remodeling would be designed to take advantage of other available conservation technologies as well. Under the proposed project, existing boilers, which were used in the past for space heating, would be replaced with high efficiency natural gas-fired boilers.

Buildings A and B currently include design features such as operational windows and sliding glass doors that provide good natural ventilation and light. The remodeling of the interior of Building C also would use sustainable design features to the extent feasible. Building C's only natural light is along the south facing side. Elsewhere in the building, natural light and ventilation are limited by the design of the interstitial space. However, necessary retrofits of building elements and utilities would include elimination of polluting fixtures and excess infrastructure, and also would include energy efficient designs and utilities to the greatest extent feasible. Cool roof (heat reflective design) technology is being considered for re-roofing of Building C.

4.3.5.2 Lighting

The existing facilities are supplied with adequate exterior lighting, and no new exterior lighting would be needed for the proposed project. The existing lighting was designed with shielded and cutoff type fixtures to minimize light spill and glare, in consideration of the proximity of the facility to Antonelli Pond and Natural Bridges wildlife areas. The existing lights are 277-volt high-pressure sodium lamps, with 70-watt lamps in the south parking lot and 150- and 250-watt lamps in the north lot.

4.3.6 Proposed Project Population

As discussed earlier, under the previously-approved occupancy program, up to 246 existing UC Santa Cruz employees would be relocated from off-campus leased spaces in Santa Cruz or from the main campus into Buildings A and B in fall or winter of 2005. With the additional remodeling of these two buildings under the proposed project, an additional 54 employees would be accommodated in these buildings. In addition, based on programs planned or envisioned for Building C, the building would

accommodate a population of up to 482 UC Santa Cruz employees, graduate students, and University affiliates. This includes all personnel associated with the building for the functions described above.

Although the population associated with the initial occupancy of Buildings A and B (246 persons) may be considered existing population for purposes of environmental analysis under CEQA, the current analysis conservatively assumes a zero baseline population for the 2300 Delaware Avenue facility. That is, the entire population that would occupy Buildings A and B (300 persons), plus the population proposed for Building C (482), a total of 782 persons, is considered to be new population for purposes of this environmental analysis. This conservative approach will ensure that all potential impacts associated with the 2300 Delaware Avenue Project are captured in this analysis.

4.3.7 Projects Roadways, Access and Parking

The 2300 Delaware Avenue property has existing driveways onto both Delaware Avenue, at the south edge of the property, and Natural Bridges Drive, at the property's east edge, as show on [Figure 4-2](#). Highway 1 lies about one-third mile north of the project site. From Highway 1, access to the facility is available via Mission Street and Natural Bridges Drive, and also via Swift Street and Delaware Avenue. From the main campus, the site can be accessed using one of three possible routes – (1) Bay Street, Mission Street and Natural Bridges Drive; (2) Bay Street, Mission, Swift, and Delaware Avenue; or (3) Glenn Coolidge Drive/Empire Grade Road, Western Drive and Natural Bridges Drive. The same routes would be available to bicycles. Bay Street, a designated truck route, would be used for all truck traffic between the project site and the main campus. Trucks are allowed on Western Drive only to make deliveries to addresses on Western Drive.

4.3.7.1 Transit Service

Two Santa Cruz Metropolitan Transit District bus routes currently serve the project site. METRO Route 3B connects the site to commercial areas along Mission Street and downtown, operating on hourly headways weekdays from 7 AM until 7 PM. METRO Route 20 connects downtown with the UC Santa Cruz campus, via the west side along Delaware Avenue and Western Drive, and operates on hourly headways seven days a week. Ridership on Route 20 often exceeds capacity during peak commute times, while Route 3B experiences very low ridership levels throughout the day. The route of the Campus Transit Long Marine Lab shuttle bus passes 2300 Delaware Avenue, but presently includes no stops at the facility.

The renovation work presently underway for Buildings A and B under the previously-approved project includes construction of ADA-access paths from the existing bus stop on Delaware Avenue directly south of the site to the main entrance of Building A. There is also an existing bus stop on Natural Bridges Drive about 25 feet from the 2300 Delaware Avenue parking lot entrance. This bus stop, which presently serves existing staff human resources employees at the Manson Building at 2901 Mission Street, would serve the proposed project, and also. The Campus would consult with SCMTD in the design and renovation of the existing transit stop (including a concrete pad, bench and signage) on Natural Bridges Drive. ADA-accessible routes from both bus stops to the entrances of buildings A, B and C would also be provided.

4.3.7.2 Bicycle, and Pedestrian Facilities

Considering the relatively flat topography of the west side of Santa Cruz and the proportion of UC Santa Cruz affiliates who reside in Santa Cruz west of the San Lorenzo River, bicycle and pedestrian travel may prove convenient for a substantial proportion of employees associated with the proposed project. It is assumed that bicycle and pedestrian travel modes will represent a higher percentage of travel to and from the 2300 Delaware site than is the case for main campus trips. Much of Delaware Avenue and all of Natural Bridges Drive have Class II bike lanes, which provide safe and convenient bike access from throughout the west side and downtown. To support bicycle commuting, the proposed project would incorporate bike racks adjacent to buildings on site, and possibly bike lockers. In addition, showers and locker rooms in the existing facility will be preserved and maintained as part of the proposed project, as one means of encouraging and facilitating bicycle commuting. The project would also include pedestrian access improvements to and around the site.

4.3.7.3 Existing Parking Supply and Projected Demand

The existing facility has 270 regular parking spaces and seven ADA-accessible spaces, distributed in two lots. A roadway between the two lots, parallel to Natural Bridges Drive, connects the two lots through the existing corporation yard. The south or “front” lot is located south of Building A, with entrances on both Natural Bridges Drive and Delaware Avenue. The north, or “rear” lot, is located north of Building C, with access from Natural Bridges Drive.

4.3.8 Public Services

4.3.8.1 Fire Protection

Fire protection is provided to the 2300 Delaware Avenue site by the City of Santa Cruz Fire Department. The closest fire station is located at 230 Walnut Street, about two miles from the project site. Smoke and fire detectors are present in all buildings, and these would be upgraded to meet code as needed to service all laboratory and office space. As part of the site renovation project currently underway, a new fire alarm system is being installed in all three buildings on the site. Similar to the system that currently operates at the Marine Science Campus, fire alarms at 2300 Delaware Avenue will be tied-in to the existing campus fire alarm system, which is monitored on campus. Alerts from the facility will be conveyed to the City of Santa Cruz Fire Department as warranted. All buildings are equipped with automatic fire sprinklers. The existing facility includes a city domestic and fire water main system, with fire flow capacity in excess of existing space needs.

4.3.8.2 Police Services

Police services for the 2300 Delaware Avenue property would be provided by the Campus Police Department.

4.3.9 Utilities

The project site is well-served by public and private utility systems, including domestic and fire water, sanitary sewer, electrical, natural gas, and communications. Existing utility services are provided through existing onsite easements and connections. Utility service to the site consists of 21 kV electrical service, natural gas, commercial telephone and datacom service, and city water (domestic and fire), sanitary sewer, and storm drain systems.

The existing facility included air pollution control and wastewater treatment systems that were partially dismantled as part of a hazardous materials cleanup of the site prior to sale. In addition, some of the mechanical components of the utility system, such as water deionizing equipment, were not included in the sale and were removed prior to the University acquisition of the building. However, substantial parts of the sophisticated infrastructure of Building C are still in place and can be reused for laboratory operations. For example, the air scrubber in Building C can be operated as a variable speed/variable volume fan, or can readily be retrofitted for air pollution control should that be needed to accommodate site operations in the future. Similarly, the deionized water piping system is still in place, and can readily supply labs when equipment is retrofitted. A distribution system for inert gases, including nitrogen and natural gas, is also in place. Building C includes interstitial space and infrastructure both above and below the main floor that can readily be adjusted to provide equipment-specific hookups for gases, deionized water, electricity, and other needs. The proposed project would include installation in Building C of a new chilled water central plant with a total capacity of 400 to 600 tons at full development, as well as a gas-fired heating water central plant.

Table 4-3 shows the projected peak demands for each utility. Points of connection and additional infrastructure for each utility are described in the following sections.

Table 4-3
2300 Delaware Avenue Projected Utility Demand

Utility	Buildings A and B	Building C	Total
Domestic water (gpy)	522,000	2,670,000	3,192,000
Irrigation Water (gpy)	-	-	204,000
Sanitary sewer (gpy)	-	-	1,752,000
Electricity (kVA)	5000	11500	16500
Natural Gas (therms)	38,562	123,221	161,387
Telecom (voice/data NAMs)	400/800	1200/2400	1600/3200

Notes: Average irrigation water usage for year is assumed to be 75% of peak flow (March 2004; 746 gpd)

cfs = cubic feet per second gpy = gallons per year gpd = gallons per day

kVA = kilovolt-ampere NAMs = Network Access Module

4.3.9.1 Domestic Water

The water consumption for occupancy of all three buildings at 2300 Delaware Avenue, and for landscaping around the buildings, is estimated to be in the range of 3.4 million gallons per year when the facility is fully occupied. Domestic water would be used to supply offices and labs for general uses, and also to supply a Purified Water System, designed to satisfy anticipated laboratory requirements in Building C. The proposed project would minimize water consumption at the site by implementing water

demand management strategies similar to those already in place on the main campus, such as installation of low-flow fixtures, as described in Section 4.3.9.2, *Sustainable Design Features*, above. Domestic and fire protection water service (including water for fire suppression) for the 2300 Delaware Avenue Project is supplied by the City of Santa Cruz 12-inch water main in Delaware Avenue, from a point of connection on Delaware Avenue, at a static pressure of 90 pounds per square inch (psi). The former industrial facility on the site, which demanded large quantities of water for its operations, was served by this existing main.

The project site includes an existing irrigation system, which is connected to the buildings' water supplies. Irrigation needs at 2300 Delaware Avenue currently include irrigation of a large lawn area between Building C and the rear parking lot, smaller lawn areas around the south sides of Buildings A and B, and landscaping along Delaware Avenue and Natural Bridges Drive.

4.3.9.2 Wastewater

Wastewater generated by the proposed project would consist of domestic sewage and other wastewater typical of office and storage uses, as well as wastewater from laboratories and a kitchen. Anticipated peak demand for wastewater treatment from 2300 Delaware Avenue is estimated to be 4,800 gpd. The project's anticipated contribution to annual wastewater flow is estimated at 1.76 million gpy.

Sanitary sewer services for the existing facilities on the project site are provided by gravity sewer lines with a point of connection on Delaware Avenue, which pumps to the City-owned system at Neary Lagoon. A grease interceptor would be installed in the kitchen, in compliance with City code, to remove grease from wastewater before discharge into the city sewer system. All wastewater from the 2300 Delaware Avenue Project would be treated at the City of Santa Cruz Wastewater Treatment Plant (WWTP). The Santa Cruz WWTP has an estimated average daily dry-weather flow capacity of approximately 17 mgd.

4.3.9.3 Storm Water

The project site is currently supplied with a functioning storm drainage system that serves the existing facilities and surrounding impervious areas. The site's existing storm drain system directs runoff from parking and roofs to the site's existing storm drain. The facility's loading docks are equipped with existing shut-off valves and containment berms to capture runoff in the event of a spill and to prevent storm water contamination. The proposed project would not result in any change in impervious area relative to existing conditions, or any changes in runoff from the site.

4.3.9.4 Telecommunications

A total of about 1600 voice network access modules (NAMs) and 3200 data NAMs are projected for the 2300 Delaware Avenue Project. There is also a potential for a 9,300 square foot data center located in Building C. Telephone service to the project site is provided by SBC, through a combination of overhead and underground lines. In addition, the project site is provided with high-capacity fiber optic cabling. The site would also be served by internal telephone service for calls within the facility.

4.3.9.5 Electricity

The project site is served by a combination of overhead and underground 21 KV electrical lines operated by PG&E. Power is distributed to the site via 500 MCM cables with a point of connection on Delaware Avenue. Buildings A and B would have electrical demands typical of office space, for lights, and office equipment such as computers, printers and copiers. The buildings would not be air conditioned. One source of electrical demand for Building C would be an electrical chiller with a capacity of 400 to 600 tons, which would be necessary for cooling of computer rooms, clean rooms and laboratories. The proposed chiller is substantially smaller than the chiller equipment previously used in the building when it was an industrial facility.

4.3.9.6 Natural Gas

PG&E currently provides the 2300 Delaware Avenue site with natural gas from a main in Delaware Avenue, along the same alignment as the water and sanitary sewer lines, with a point of connection on Delaware Avenue. Domestic hot water, for heating, would be produced at the site by natural gas-fired hot water heaters from a heating water central plant. Natural gas also would be piped throughout the main floor of Building C at low pressure as a laboratory utility. The proposed project would also include a propane/natural gas-burning emergency electrical generator, located in the service yard, to supply power in the event of failure of the normal power source.

4.3.9.7 Hazardous Materials

Materials that potentially would be used at the facility would include a range of chemicals, and could include hazardous chemicals and small quantities of radioactive materials. Chemicals could be used at the site in University Printing services operations, and in chemical, biological, and engineering laboratories. Project chemistry and engineering laboratories would be expected to use solvents, reagents, and aromatic hydrocarbons. Fine Arts programs, which also could have labs in Building C, could use relatively small amounts of solvents, paints, and acids. Small quantities of hazardous materials also could be used in grounds and building maintenance. Chemicals used in maintenance may include gasoline and diesel fuels, oils and lubricants, antifreeze, solvents, and corrosives used as cleaners, paints and paint thinners, and Freon refrigerants.

Examples of the types of hazardous chemicals that would be anticipated for the proposed project are presented in Table 4-4.

Table 4-4
Examples of Hazardous Chemical Materials
Potentially Associated with the Proposed Project

Category	Example
Flammable liquids	Toluene, acetone, ether
Compressed gases	Methane, oxygen, nitrogen
Fuels	Gasoline, diesel, waste oil
Oxidizers, Class 4	Hydrogen peroxide (>91%), perchloric acid (>72.5%)
Oxidizers, Class 3	Hydrogen peroxide (52–91%), perchloric acid (60–72.5%)

Table 4-4
Examples of Hazardous Chemical Materials
Potentially Associated with the Proposed Project

Category	Example
Oxidizers, Class 2	Hydrogen peroxide (27.5–52%), nitric acid (<70%)
Oxidizers, Class 2	Silver nitrate, potassium dichlorate, ammonium persulfate, nitric acid (<70%), hydrogen peroxide (8–27.5%)
Peroxides, Class II	Acetyl peroxide (>25%), peroxyacetic acid (40%)
Peroxides, Class I	Benzoyl peroxide (>90%), t-butyl hydroperoxide (>90%)
Corrosive liquids	Hydrochloric acid, sulfuric acid, sodium hydroxide
Pyrophorics (spontaneously ignite in air)	Alkyl metals, boranes, powdered metals
Water reactives	Alkyl metals (sodium, potassium), hydrides
Explosives	Picric acid, nitrocellulose, ammonium nitrate
Toxic materials, List A (highly toxic by inhalation)	Allyl alcohol, methyl chloroformate, methyl bromide
Toxic materials, List B (less toxic than List A)	Sodium cyanide, arsenic compounds, pesticides

Building C would include chemical storerooms, one for each department located in the building, as well as one separate solvent storage room. A storage area for compressed gas cylinders would be provided on the loading dock, which already includes an appropriate pad. Specialty gases, which potentially could include nitrogen and oxygen, would be provided to 2300 Delaware Avenue facilities from cylinders located in the laboratory support space nearest the laboratory requiring the gas. Storage methods and procedures would be subject to periodic inspection by UC Santa Cruz EH&S and the Santa Cruz County Department of Environmental Health. The UC Santa Cruz Office of EH&S would manage chemical and biological waste from laboratories in Building C in compliance with applicable state and federal regulations. The Campus would maintain the existing containment features around the perimeter of storage yards and loading docks to ensure that accidental spills of hazardous materials do not enter the storm water drainage system or groundwater. Provisions would be made for hazardous waste disposal in the design of the laboratories.

The facility would be equipped to receive chemicals and ship hazardous waste that could be produced in labs at the facility. In addition, the EH&S practices and procedures that are routinely implemented on the main campus for hazardous materials handling and disposal, storage, spill containment and emergency response also would operate at 2300 Delaware Avenue.

Air from the laboratory fume hoods and other containment apparatus would be routed through the building roof to vent into the atmosphere at an appropriate elevation, and would be kept separate from the sanitary system vent piping. New venting would be installed prior to installation of fume hoods.

4.3.9.8 Solid Waste

Solid waste generated by the project would be typical of office, storage, and laboratory facilities. The project is anticipated to generate approximately 0.75 tons of solid waste per day. Solid waste from the 2300 Delaware Avenue Project would be managed for source reduction, and would be diverted from the landfill into salvage or recycling to the extent possible. UC Santa Cruz will provide solid waste collection

and recycling services for 2300 Delaware Avenue. All non-recycled and nonhazardous solid wastes collected are disposed of at the City's Class III sanitary landfill, where the permitted capacity of the landfill is 535 tons per day.

4.3.10 Construction

4.3.10.1 Activities and Schedule

The 2300 Delaware Avenue Project would include substantial interior remodeling at Building C, and minor interior remodeling at Buildings A and B. Interior remodeling could require small pieces of heavy equipment, and would involve truck traffic associated with materials deliveries and off-hauling of small quantities of debris. There is adequate undeveloped, level space on the site for staging of all necessary equipment and materials.

The proposed remodeling of Buildings A and B to accommodate the proposed additional workstations and kitchen upgrade, and major interior remodeling in Building C, would be conducted immediately upon approval of the current project. Additional interior remodeling of Building C, including installation of specific utilities and infrastructure, partitions and lab stations configured for specific functions, over the next two to five year period, as specific occupancy and functional needs are determined.

4.3.11 Permits and Approvals

4.3.11.1 University of California

Subsequent to Regental consideration and approval of the proposed 2005 LRDP and LRDP EIR, it is anticipated that the Chancellor of UC Santa Cruz will consider the approval of the 2300 Delaware Avenue Project. It is anticipated that this EIR will serve as the project-level environmental document for this project, unless changes in the plan, changes in circumstances, or new information warrant additional environmental review.

4.3.11.2 Central Valley Regional Water Quality Control Board

The project contractor would prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the proposed construction activities. The facility would be included in the UC Santa Cruz Stormwater Management Plan (SWMP) and would be subject to SWMP Best Management Practices (BMPs).

4.3.11.3 Monterey Bay Unified Air Pollution Control District

The project would be subject to Monterey Bay Unified Air Pollution Control District (MBUAPCD) permitting under Rule 1000 for toxic air contaminant (TAC) emissions from fume hood exhaust stacks. Rule 1000 requires that sources of non-carcinogenic TACs apply reasonable control technology with resulting downwind concentrations below 1/420th of the permissible exposure level (PEL) for TACs in any one hour period. Rule 1000 also requires that sources of carcinogenic TACs install best control

technology and reduce cancer risks to less than one incident per 100,000 population. These criteria represent appropriate CEQA standards of significance as identified in MBUAPCD's *CEQA Air Quality Guidelines*. Projects must operate below emission levels established by the MBUAPCD to obtain Rule 1000 permits. The 2300 Delaware Avenue Project would include pollution controls, and best control technology that would reduce emissions to below this standard of significance.

4.3.11.4 Coastal Permit

The California Coastal Act establishes goals and policies that guide development within the state's coastal zone. The policies of the Coastal Act are implemented through project review by the Coastal Commission. Because 2300 Delaware Avenue is in the coastal zone, future site modifications could be subject to Coastal Commission approval. The Commission would then review the submitted permit application along with this EIR in light of Coastal Act standards. The Coastal Commission may impose conditions on the project to ensure consistency with the Coastal Act.

4.3.11.5 City of Santa Cruz

The project will be subject to City of Santa Cruz Industrial Waste Discharge requirements and will obtain a permit for waste discharge.

4.3.11.6 Santa Cruz County Environmental Health Services Department

The project will be subject to the State Hazardous Materials Business Plan requirements and the Campus will prepare a Hazardous Materials Business Plan for submittal to Santa Cruz County EH&S Department prior to the beginning of operations in Building C.

4.4 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

4.4.1 Aesthetics

4.4.1.1 Environmental Setting

Section 4.1, *Aesthetics* (Volume I), describes the existing visual character, quality and resources of the UC Santa Cruz main campus, and the 2300 Delaware Avenue site, and a view of the property is provided in [Figure 4.1-6](#) of that section. The project site is described in detail in Section 4.3.1, *Project Location*, above,

The project site is a level, 18.4-acre improved parcel, currently developed with three large interconnected former industrial buildings, two paved parking lots, two outdoor service yards, an unpaved public access trail along the western property boundary adjacent to Antonelli Pond, and tennis courts and a volleyball court located in the rear (eastern part) of the property. Areas that are not developed with buildings, parking or other facilities are landscaped with lawns. The site is surrounded by a landscaped earthen berm

about 6 to 8-feet high, which encloses the buildings, parking lots, and surrounding landscaping. Two entrances pierce the berm, one on Delaware Avenue, the other, on Natural Bridges Drive. The property is on the flatlands in a developed light industrial area and does not provide scenic views, nor is it prominent in any scenic vista. The visual character of the surrounding area is varied.

The project site is located in the Natural Bridges Industrial Park. The industrial park, which extends to the east and north of the site, is characterized by low-density warehouse and light industrial buildings. There is a vacant industrial-zoned parcel immediately to the east of the project site. Immediately west of the site is Antonelli Pond, an open space preserve. The pond is surrounded by riparian vegetation and there are no views across the pond from ground level on or adjacent to the project site, but the lunchroom in Building B provides views of and across the pond. Immediately south of Delaware Avenue are the open spaces of Natural Bridges State Beach, with the Pacific Ocean about a block away. The site does not provide views to the ocean and is screened from view from within the State Beach by tall trees.

Night lighting in the project area is limited to streetlights, and exterior lights on the few scattered warehouse and industrial buildings.

4.4.1.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.1, *Aesthetics* (Volume I) for a discussion of applicable Standards of Significance.

Analytical Method. As defined in Section 4.1 (Volume I), the analysis of visual impacts focuses on the nature and magnitude of the change in visual character of the site that would result from project implementation, the public vantage points from which this change would be visible, and the viewers who would be affected by this change.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. As outlined in the 2005 LRDP Initial Study and further described in the Project Description, the project involves interior remodeling and reuse of existing administrative and light industrial facilities, and does not involve new land development. No substantial change to the exterior of the buildings or new exterior construction is proposed. There would be no change to the external appearance of the site and no new lighting would be added. Consequently, the proposed project would not result in any effects to scenic vistas, visual character or quality, or lighting. Therefore, no impact would occur and no additional analysis is required.

Project-Specific Impacts and Mitigation Measures

Not applicable.

Cumulative Impacts

The proposed project would not contribute to cumulative impacts on visual resources and scenic vistas (LRDP Impacts AES-7 through AES-9) because the project would make no changes to the visual characteristics of the property and is not located within the viewshed of the main campus, or within any other scenic viewshed, or in sight of any scenic highway.

4.4.2 Agricultural Resources

4.4.2.1 Environmental Setting

Section 4.2, *Agricultural Resources* (Volume I), presents the existing agricultural resources for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site. The 2300 Delaware Avenue property is designated Built-Up in the Farmland Mapping and Monitoring Program ([Figure 4.2-1](#), Volume I).

4.4.2.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.2, *Agricultural Resources* (Volume I) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.2 (Volume I) for the analytical method relative to agricultural resources.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. Analysis conducted for the 2005 LRDP, including the 2300 Delaware Avenue Project, indicates that implementation of the 2005 LRDP would not directly or indirectly result in the conversion of farmland to non-agricultural uses. The 2300 Delaware Avenue site is already developed with urban uses and no agricultural use is present at or adjacent to the project site. Therefore, no project-specific analysis of this impact is required.

Project-Specific Impacts and Mitigation Measures

The project would not result in any agricultural resources impacts and no mitigation is required.

Cumulative Impacts

The proposed project would not contribute to cumulative LRDP Impact AG-3 because the site is already developed and is not suitable for agriculture. Furthermore, full development of the remaining parcels in the City's west side area would not result in a significant direct or indirect impact on agricultural resources because the remaining vacant lands are not in agricultural use, nor are they suitable for reestablishment of agricultural use.

4.4.3 Air Quality

This section analyzes air quality impacts associated with implementation of the 2300 Delaware Avenue Project. Impacts evaluated include: (1) PM₁₀ emissions from construction activities, (2) emissions of criteria pollutants from vehicles and one natural gas/ propane emergency generator, (3) toxic emissions from fume hoods and vents in the wet laboratories in Building C, and (4) cumulative impacts.

4.4.3.1 Environmental Setting

Section 4.3, *Air Quality* (Volume I), describes the existing air quality conditions for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site.

4.4.3.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.3, *Air Quality*, Volume I, for a discussion of applicable Standards of Significance.

Analytical Method. The impacts of the 2300 Delaware Avenue Project were analyzed using methods similar to those described in Section 4.3 of Volume 1. Construction activities often generate short-term fugitive dust emissions, equipment exhaust emissions, and worker vehicle exhaust emissions. However, because no grading or other earthmoving activities would be necessary for the proposed project, there would be no fugitive dust emissions due to construction of the proposed project.

Small portable equipment may be used within existing buildings during project development. According to the MBUAPCD CEQA guidelines, temporary exhaust emissions of Volatile Organic Compounds (VOC)¹ and nitrogen oxides (NO_x) from typical construction equipment are accounted for in the air quality plans, and quantification of these emissions is not needed.

The 2300 Delaware Avenue Project would include a natural gas or propane-fueled emergency generator expected to have an output rating of about 500 kW. Emissions from periodic testing of the generator were calculated in this analysis. To be conservative, the analysis estimated emissions from testing lasting one hour on one day. The average load during a one-hour test is assumed to be less than 90 percent, while the average overall efficiency of the generator set is assumed to be about 30 percent. The analysis used the emission factors contained in AP-42, Section 3.2, Natural Gas-Fired Reciprocating Engines (U.S. EPA 2000) for 4-stroke lean-burn engines.

During project operations, mobile (or indirect) source emissions would result from the exhaust of vehicles driven by employees who would commute to the facility. U.S. EPA's EMFAC2002 emission model was used to estimate emissions from these vehicles. The amounts of emissions generated from vehicles are a function of miles driven, number of starts, and number of vehicles. Emissions are typically highest when a driver starts a vehicle, and EMFAC calculates additional emissions associated with a "start." In addition, evaporation of ROG from fuel equipment occurs when the vehicle is present on the site, even when it is not operating and, thus, can be considered a function of the number of vehicles parked at the site. Therefore, three emission factors (per mile, per trip, and per vehicle) were generated from EMFAC2002, and applied to the project to calculate the emissions from vehicles associated with the proposed project. The fleet average vehicle mix contained in EMFAC2002 for Santa Cruz County was assumed for this analysis. Traffic analysis predicted a total of 1,782 new daily trips as a result of the proposed project. Vehicle emissions were estimated assuming each trip covered 10 miles. This mileage is consistent with the value assumed in URBEMIS 2002 (air quality model) for the region. To ensure that air emissions were not underestimated, it was assumed that each vehicle estimated for the site would produce two trips. In addition, emissions were calculated for calendar year 2005, even though the project

would not be started until at least 2006 and would not reach full development for at least several years. This assumption would generate conservatively high numbers because it is expected that the present vehicle fleet is “dirtier” than it will be in the future, at the time of project completion. According to the MBUAPCD’s CEQA guidelines, the applicable thresholds for mobile (indirect) emissions are for VOC and NO_x; therefore, only these emissions were calculated for vehicles.

Materials and equipment uses in wet laboratories within the project building would generate toxic air contaminants during project operations that could affect nearby sensitive receptors. The potential impacts from toxic emissions were quantified using the California Air Resources Board (CARB) Hotspots Analysis and Reporting Program (HARP) software (CARB 2005). The model predicts cancer risk and non-cancer chronic and acute hazard indices based on the total emissions and source geometry. The potential emissions from the wet laboratories were based on emissions reported in the UC Santa Cruz 2002 Toxic Emissions Inventory Report (TEIR) (UCSC 2002). Using the TEIR, an emissions per square foot factor was derived to calculate emissions from laboratory operations. This factor was then applied to anticipated laboratory space of the 2300 Delaware Avenue Project to estimate total hourly and yearly emissions from lab sources associated with the project. The emission points would likely be several stacks projecting out of the roof of the building. To best model these multiple sources, an area source at roof height was created in the model. In addition, the model’s screening option that uses generic worst case meteorological data to estimate potential impacts was selected, in order to generate conservative (worst case) results. The air emissions projected here for the project, thus, represent reasonable worst case emissions for the project, to ensure that the potential impact is not understated.

The methodology for analyzing local carbon monoxide (CO) impacts is discussed in Section 4.3, *Air Quality* (Volume I) of this EIR.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The localized CO analysis conducted for campus growth under the 2005 LRDP (LRDP Impact AIR-3) took into account the traffic associated with the proposed 2300 Delaware Avenue Project. The LRDP EIR concluded that impacts from localized CO concentrations at nearby intersections would be less than significant for all development under the proposed 2005 LRDP. Therefore, the potential localized CO impacts from the proposed project have been adequately analyzed in the 2005 LRDP EIR and additional analysis is not required here.

Analysis in the 2005 LRDP Initial Study concluded that implementation of the 2300 Delaware Avenue Project would not generate objectionable odors affecting a substantial number of people. The 2300 Delaware Avenue buildings will not house facilities that generate concentrated odors. Although the printing facilities that would move into Building C would generate some odors inside the building, these would be rapidly dispersed through ventilation, and would not be noticeable outside the building, as indicated by conditions at the existing printing facility on campus. No odor impact would occur and so no additional analysis is required.

¹ VOCs are also known as Reactive Organic Gases or ROGs.

Project-Specific Impacts and Mitigation Measures

DA Impact AIR-1: Operation of the proposed project would increase regional emissions of criteria pollutants.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

The proposed project would include one emergency generator and is projected to generate 1,782 new daily trips. Using the approach described previously, the regional emissions from a single 500kW generator and from 1,782 new vehicle trips were estimated and are presented in Table 4-5. The predicted emissions are below the MBUAPCD emission thresholds for all criteria pollutants. Therefore, the proposed project would have a less-than-significant impact with respect to regional emissions of criteria pollutants.

**Table 4-5
Predicted 2005 Regional Emissions from the Proposed Project**

	VOC	NO _x	PM ₁₀	CO	SO _x	Units
Generator	0.67	4.82	0.06	3.17	0.00	lb/day
Vehicles	43	64	--	--	--	lb/day
Total	44	69	0	3	0	lb/day
District Threshold	137	137	82	550	150	lb/day

Notes: CO = carbon monoxide NO_x = nitrogen oxides PM₁₀ = particulate matter less than 10 microns in diameter
SO_x = sulfur oxides VOCs = volatile organic compounds

DA Impact AIR-2: Wet laboratories operating at the project site would emit toxic air contaminants but the level of anticipated emissions would not result in a significant human health risk.

Significance: Less than significant

DA Mitigation: Not required

Residual Significance: Not applicable

Potential impacts from toxic emissions generated by the wet laboratories were estimated using the screening option of the HARP model. The emissions were based on UC Santa Cruz's 2002 TEIR (UCSC 2002) and a wet laboratory area of 24,600 square feet. These emissions are summarized in Table 4-6.

**Table 4-6
Toxic Emissions Modeled from Wet Laboratories**

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (lb/yr)
carbon tetrachloride	0.00398	0.637
chloroform	0.00160	0.431
chlorine	0.000236	0.173
isopropyl alcohol	0.0129	9.46
mercury compounds	0.0000995	0.0727

Based on these emissions, the maximum predicted cancer and noncarcinogenic risks that would result from project emissions are identified in Table 4-7. The estimated cancer, chronic, and acute risks are well below the significance thresholds and, thus, the impact from toxic emissions from the proposed project is less than significant.

**Table 4-7
Predicted Health Risks from the Proposed Project**

	Cancer Risk	Chronic Hazard Index	Acute Hazard Index
Predicted Risk	0.000000055	0.062	0.013
Threshold	0.00000010	1	1

Cumulative Impacts

The 2005 LRDP EIR took into account the increased traffic and other activity associated with the proposed growth on campus, including the additional traffic resulting from the proposed 2300 Delaware Avenue Project. Analysis of the proposed 2005 LRDP concluded that regional emissions were significant, and that the potential campus growth would likely hinder the attainment of the regional air quality plan since the population growth was not accounted for in the 2004 Air Quality Management Plan (AQMP) (LRDP Impact AIR-2 and LRDP Impact AIR-4). Implementation of LRDP Mitigation AIR-2 and LRDP Impact AIR-4 would reduce the impacts of campus growth under the LRDP, but the impacts would, nonetheless, remain significant and unavoidable. The proposed project would contribute to the significant and unavoidable impact identified in LRDP Impacts AIR-2 and LRDP Impact AIR-4.

4.4.4 Biological Resources

4.4.4.1 Environmental Setting

Section 4.4, *Biological Resources* (Volume I), presents the regional environmental setting for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site. The 2300 Delaware Avenue property is currently developed with administrative and light industrial facilities. Surrounding land uses to the north and east are light industrial; to the south and west are the natural areas of Natural Bridges State Beach, Antonelli Pond, and Moore Creek corridor. All three of the buildings on the project site have been

used in the past as nesting sites for barn swallows. Buildings A and B were equipped with netting along the eaves before the beginning of the nesting season, prior to re-roofing and seismic retrofit, and the same procedure is planned for the seismic and roofing work for Building C that will be carried out under a previous approval.

4.4.4.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.4 (Volume I) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.4 (Volume I) for analytical methods relative to biological resources.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The project site is developed with existing buildings and parking lots, and does not contain any areas that are in a natural state. Therefore, the project would not result in direct impacts associated with the removal of habitat for either sensitive plant species or wildlife, or impacts to wetlands. The project site is not within an area that may serve as a wildlife corridor because the site is already extensively developed, and the project therefore, would not affect movement of wildlife. The project site is adjacent to Antonelli Pond, a natural open area preserve, which supports a variety of wildlife (including migrating birds) and some native vegetation, and Natural Bridges State Beach, which includes a State of California designated Monarch Butterfly Natural Preserve. The proposed project would not result in new development that could affect either of these adjacent natural areas, because no change to the exterior of the facilities or new construction is proposed. Although occupational noise levels at the project site from HVAC and other interior equipment would increase compared to existing conditions, the most substantial noise source associated with the project would be increased vehicular traffic. Most of the traffic noise would be concentrated on the eastern side of the facility, and would be separated from the nearby natural areas by structures and the width of the 2300 Delaware Avenue property. Increased operational noise associated with the project would not be loud enough to affect wildlife in these natural areas, due to the intervening distances. The potential effects of increased population at 2300 Delaware Avenue on the park facilities on the eastern side of Antonelli Pond are addressed under DA Impact REC-1. The potential effects of pesticide and herbicide use on the 2300 Delaware Avenue site on water quality in the pond is addressed under DA Impact HYD-2, which would control outdoor use of pesticides or herbicides so that they would not affect the pond. There are no Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) applicable to the project vicinity and therefore the project would not conflict with the provisions of such plans.

Project-Specific Impacts and Mitigation Measures

None identified.

Cumulative Impacts

The proposed project would not contribute to the cumulative biological resource impacts of main campus growth under the 2005 LRDP (LRDP Impacts BIO-18 and BIO-19). No special status plants or wildlife species or habitat are present on the project site, nor does the project involve the removal of any natural

habitat. Similarly, the project would not contribute to any cumulative loss of wetland habitat, nor would it contribute to a cumulative impact on wildlife movement.

One of the consequences of cumulative development in the project vicinity, including the proposed project, would be an increase in the number of persons that live and/or work in the west side area. Increased residential population would also be accompanied by an increase in number of domestic pets such as dogs and cats. Because of the proximity of the Younger Lagoon Reserve, Moore Creek corridor, and Antonelli Pond, an increase in population could lead to increased noise from human activities, increased use of these natural areas by people who live and/or work nearby, and increased presence of domestic animals. The proposed project would increase daytime population but not the residential population in the project area. The incremental increase in human activity in the area could affect fauna and flora in these natural areas. However, the City's General Plan/Local Coastal Program allows for the remaining undeveloped parcels in the area to be developed with residential use, and increased human presence in the area is anticipated. The management plans for the areas in the vicinity of 2300 Delaware Avenue take increased residential uses and increased human presence into account, and allow for public access to natural areas by encouraging the establishment of hiking trails and other facilities for informal recreation in these areas. Therefore, cumulative growth in the area and the associated increase in human activity would not result in a substantial conflict with the local management plans for Younger Lagoon Reserve, Moore Creek Corridor and Antonelli Pond, and the cumulative impact would be less than significant.

4.4.5 Cultural Resources

4.4.5.1 Environmental Setting

Section 4.5, *Cultural Resources* (Volume I), presents the cultural resource setting for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site.

4.4.5.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.5 (Volume I) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.5 (Volume I) for analytical methods relative to cultural resources impacts.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The project involves the reuse of existing administrative and light industrial facilities and does not involve new land development. Because the project does not involve any disturbance of native soils, there would be no impacts on archaeological resources or human remains. Similarly, although the site is underlain at depth by Santa Cruz mudstone, a paleontologically sensitive formation, because the proposed project would not entail any significant excavation, it has no potential for impacts to unique paleontological resources. The proposed project would alter the interior of the buildings that are less than 50 years old. Therefore, there

would be no impacts to any potential historical building. Therefore no additional analysis of this resource is required.

Project-Specific Impacts and Mitigation Measures

Not applicable.

Cumulative Impacts

The proposed project does not involve ground-disturbing activities nor does it involve modification of potential historic structures. Therefore, the project would not contribute to cumulative LRDP Impacts CULT-8 and CULT-9 on cultural resources.

4.4.6 Geology, Soils, and Seismicity

4.4.6.1 Environmental Setting

Section 4.6, *Geology, Soils, and Seismicity* (Volume I), presents the environmental setting for geology, soils, and seismicity for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site. The geology and soils of the 2300 Delaware Avenue area share the typical characteristics of the surrounding coastal terrace. Soils are classified as Pleistocene, semi-consolidated, generally well-sorted sand with a few thin, relatively continuous layers of gravel, [Figure 4.6.4, Site Geologic Map](#), in Section 4.6 (Volume I). The potential for erosion is slight because of the level topography and because no grading or significant ground disturbance is proposed. There are no natural watercourses on the project site, and no rock outcrops. The site is underlain at depth by Santa Cruz mudstone.

4.4.6.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.6, *Geology, Soils and Seismicity*, (Volume I) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.6 of Volume I of this EIR for analytical methods relative to geology, soils, and seismicity.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest known active faults include the San Gregorio fault zone, which is about 7 miles offshore, and the Monterey Bay-Tularcitos fault, which is about 4 miles to the south of the site. The project site is located in a seismically active area that could experience ground shaking, liquefaction and settlement. The project buildings were constructed in 1980. Inspections conducted in 2004 as part of the due diligence process for property acquisition indicated that the seismic rating of Buildings A, B and C was poor. The Campus is currently in the process of carrying out a seismic retrofit of Buildings A and B and seismic retrofitting of Building C is expected to follow, as part of the project previously approved in 2004. This work will be completed before any of the buildings on the project site is occupied. The seismic improvements will reduce the potential for impacts from

strong seismic ground shaking, as well as seismic related ground failure, including liquefaction, to a less-than-significant level. Landslides are of no concern due to the level topography at the site.

Earthquakes can cause tsunamis, large tidal waves. Although the project site is located only about 0.34 miles from the coast, due to its location on an elevated marine terrace, the project site is not within an area of potential inundation by tidal waves. The City of Santa Cruz General Plan (Map S-8) shows a small portion of the eastern margin of the project site, adjacent to Antonelli Pond, as within a potential tsunami-inundation area. Most of the project site, including all of the buildings, is outside the potential inundation area.

The proposed 2300 Delaware Avenue Project would not involve ground disturbing construction activities that could result in erosion, and would not increase impervious surface areas on the project site. The proposed project would be limited to interior remodeling and use of existing structures, on a site which is not located on a geologic unit or soil that is unstable or expansive. No septic or alternative wastewater disposal systems are proposed.

No additional analysis is necessary.

Project-Specific Impacts and Mitigation Measures

Not applicable.

Cumulative Impacts

The cumulative effects of the proposed project are adequately addressed in cumulative LRDP Impact GEO-6.

4.4.7 Hazards and Hazardous Materials

4.4.7.1 Environmental Setting

Section 4.7, *Hazards and Hazardous Materials* (Volume I), presents the hazards and hazardous materials setting for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue site, and includes definitions of appropriate terms, a brief summary of applicable regulations, and a discussion of potential hazardous materials and hazardous waste generated at the campus overall.

4.4.7.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.7 (Volume 1) for a discussion of applicable Standards of Significance.

Analytical Method. Analytical methods for assessment of potential hazards and hazardous materials impacts for the campus overall are detailed in Section 4.7, *Hazards and Hazardous Materials*, Volume I.

Hazardous substances include both hazardous materials and hazardous waste. For this EIR, a substance is classified as hazardous if it appears on a list of hazardous substances prepared by a federal, state, or local regulatory agency or if it has characteristics defined as hazardous by such an agency.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. Impacts related to safety hazards associated with private and public airports or airstrips were determined not to be applicable to the main campus or the facility at 2300 Delaware Avenue, in the 2005 LRDP Initial Study. The 2300 Delaware Avenue facility was the subject of a contamination remediation effort that was concluded in 2004. After conclusion of this effort, the Santa Cruz County Department of Environmental Health (2004) issued a no-further-action letter to the former owner of the property, Texas Instruments, stating that all interior building spaces and equipment had been adequately decontaminated. Therefore, construction workers or the public will not be exposed to hazards related to this contamination.

The ability of existing emergency response agencies to respond to an emergency involving the use of hazardous materials has been adequately addressed in 2005 LRDP Impact HAZ-8. The need for an Emergency Operations Plan has been adequately analyzed in the LRDP Impact HAZ-9 and an EOP for the site will be prepared upon project approval. The 2300 Delaware Avenue facility is surrounded by urban development. Therefore, the proposed project would not result in a significant increase in hazards related to wildland fires. No impacts would occur with respect to these issues, and therefore, no further analysis is required.

Project-Specific Impacts and Mitigation Measures

DA Impact HAZ-1: Implementation of 2300 Delaware Avenue would increase routine use, transport, and disposal of hazardous chemicals, radioactive materials, and/or biohazardous materials by UC Santa Cruz laboratories and departments, by campus and non-campus entities, and in maintenance and support operations. The use of hazardous materials by non-UC entities could create significant hazards to the public or the environment.

Significance: Potentially significant

DA Mitigation HAZ-1: The Campus shall implement LRDP Mitigations HAZ-2 and HAZ-11.

Residual Significance: Less than significant

UC Santa Cruz currently foresees that the facility at 2300 Delaware Avenue would be used by a variety of campus departments. Many of these uses will involve hazardous materials or generate hazardous wastes. For a definition of the terms used in this section, including “hazardous materials” and “hazardous waste”, see Section 4.7.1.2 in Volume I of this EIR.

UC Santa Cruz has not made a final determination on exactly which departments would occupy the facility at 2300 Delaware Avenue; however, preliminary planning studies indicate a high likelihood that laboratories at the facility may use or generate hazardous materials. The following is a list of facilities that may be developed at the site and the hazardous materials or wastes that may be used or generated as part of their operations.

- Biomolecular Engineering Research Laboratories. The proposed project could house biomolecular engineering research laboratories. These laboratories may use equipment that includes sources of non-ionizing radiation such as lasers.
- Chemistry Research Laboratories. The proposed project could house chemical research laboratories that may utilize a variety of hazardous materials. These laboratories would use chemicals that require the use of fume hoods, which would be installed as part of the project. In addition, these laboratories may use equipment that includes sources of non-ionizing radiation such as lasers.
- Environmental Toxicology Laboratories. These laboratories would investigate the detection and analysis of toxic chemicals as they are transported within and between water, air, land, and the biosphere, and chemicals and biohazardous materials, such as lead, metals, or bacteria, may be studied in these laboratories.
- Material/Printing Service. A campus printing service could be located in the facility. Chemical developers and fixers, as well as washers and inks, would be used at the facility. While these materials are not classified as hazardous, EH&S handling and disposal procedures are routinely applied.
- Electrical Engineering Research Laboratories. The proposed project could house electrical engineering research laboratories. These laboratories would use chemicals that require the use of fume hoods, which would be installed as part of the project. In addition, these laboratories may use equipment that includes sources of non-ionizing radiation such as lasers.

Table 4-4 in the Project Description, above, lists examples of the types of hazardous materials that may be used as part of the project at 2300 Delaware Avenue.

The materials utilized during research activities would generate moderate amounts of hazardous wastes. Hazardous wastes generated at 2300 Delaware Avenue would be stored at a designated hazardous waste storage location on site and shipped by a licensed hazardous waste disposal transporter to a permitted disposal facility in accordance with all federal and state hazardous waste regulations (Blunk 2005). The main campus currently generates approximately 100,000 pounds of hazardous wastes per year. The primary generators are the five buildings that house research and teaching functions of the Division of Physical and Biological Sciences. The laboratory space at 2300 Delaware Avenue would be approximately the same size as one of the five existing main campus buildings that generate the largest amounts of hazardous waste on the main campus. Assuming a roughly proportional rate of hazardous waste generation at the 2300 Delaware site as from one of these labs, approximately 20,000 pounds of hazardous waste per year could be generated at the facility at 2300 Delaware Avenue (Blunk 2005). LRDP Mitigation HAZ-2 would be applied to the proposed project, to minimize the production of hazardous waste.

As outlined in the Project Description, laboratories at 2300 Delaware Avenue may be used by private, public, and non-profit entities. Under the 2005 LRDP, non-UC Santa Cruz entities operating on campus would be subject to the same laws and regulations that apply to campus laboratories. The entities would be generally responsible for their own permits and regulatory compliance. Non-UC Santa Cruz entities

are subject to laws and regulations related to safe transportation, handling, and disposal of hazardous, biohazardous, and radioactive materials and wastes. As a result, spills or releases of hazardous materials are highly regulated and controlled, which protects the public and the environment. Implementation of LRDP HAZ-11 would further ensure safe transport, handling and disposal of hazardous materials by non-UC entities.

In summary, hazardous materials would be used in the research conducted at 2300 Delaware Avenue. Risks from hazardous materials use and hazardous wastes generated on the project site would be similar to those described under LRDP Impacts HAZ-1 through HAZ-4, and would be less than significant because safety measures are in place and compliance is monitored regularly by UC Santa Cruz EH&S. Pursuant to LRDP Mitigation HAZ-11, non-UC tenants in the facilities at 2300 Delaware Avenue would be required, through contracts and agreements, to implement programs and controls that provide the same level of protection required of campus laboratories and departments. With the implementation of the LRDP mitigation, the impact associated with the use of hazardous materials would be reduced to a less-than-significant level.

DA Impact HAZ-2: Development under the 2005 LRDP would not result in increased handling of hazardous or acutely hazardous materials within ¼ mile of an existing or proposed school, and would not create a significant hazard to those attending the school.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

No schools or childcare facilities are located within ¼ mile of 2300 Delaware Avenue. The closest schools to the project site are the Pacific Collegiate School, and the Swift Street Child Development Center, both of which are located about ½ mile northeast of the project site, on Swift Street.

Although hazardous materials and waste use within ¼ mile of 2300 Delaware Avenue would likely increase if the project were implemented, these materials would not be present in quantities sufficient to pose a risk to occupants of the school or campus community, even were a school to be located within this radius. Because hazardous materials at UC Santa Cruz typically would be handled in only small quantities under the 2005 LRDP, and because campus EH&S safety programs would continue to monitor and regulate these materials, the potential consequences of an accidental release would be limited to the project site, and, in most cases, to the individual laboratory where the spill occurred. Therefore, the impact would not be expected to extend offsite, and would be less than significant to those attending schools and childcare centers within ½ mile of the site. Health risk impacts from routine operational emissions from wet labs of toxic air contaminants are analyzed in DA Impact AIR-2.

Cumulative Impacts

The cumulative impacts of hazardous materials use and waste generation by the 2300 Delaware Avenue Project are adequately addressed in LRDP Impact HAZ-12. The localized cumulative impact of the proposed project in conjunction with growth in the west side of Santa Cruz is evaluated below.

Most future development in the Santa Cruz west side area would be residential, with minimal effects with respect to hazards and hazardous materials. However, some additional industrial uses could develop in the area, which would increase the cumulative use, transportation, and disposal of hazardous materials in this part of the city. As such development is subject to the Business Plan Act, as outlined in Section 4.7.1.3, *Regulatory Context*, (Volume I), all future projects that involve the handling of hazardous materials would be required to prepare and file a hazardous materials business plan with the Santa Cruz County Environmental Health Services Department, that demonstrates the safe handling and control of hazardous materials, in compliance with state and federal regulations. Future development in the project vicinity would be required to provide for the safe use, storage, and disposal of hazardous materials. Therefore, although, cumulatively, the amount of hazardous materials that would be used, transported and disposed of would increase, the cumulative impacts of those increases would be less than significant.

Similarly, although the quantities of hazardous materials that could be present within the Santa Cruz west side area due to future cumulative industrial development would increase with implementation of the proposed project, the accidental release of hazardous materials from a facility would not necessarily be linked to potential accidental releases at other facilities, nor would there be a mechanism by which the effects of those releases would necessarily cumulate. The individual facility emergency response plans prepared under the Business Plan Act would be adequate to mitigate the adverse effects of each and every release to a less-than-significant level.

Santa Cruz west side area parcels are designated as low-density, low-medium density, and medium-density infill and intensification areas in the Land Use Element of the City of Santa Cruz General Plan (City of Santa Cruz 1994). These areas have the potential to increase in population, thereby increasing the need for additional school facilities. However, because the city schools are operating well below capacity, it is unlikely that a new school would be located within ¼ mile of the project site in the future. Regardless, Section 17213 of the Education Code (School Siting Code) requires that, prior to acquiring property for a new school site, an environmental site investigation must be completed to determine the health and safety risks associated with a site. Thus, it is not expected that a school would be sited in the project vicinity if a significant risk were considered to exist. Cumulative impacts associated with hazardous emissions or hazardous materials handling near a school therefore are considered less than significant.

4.4.8 Hydrology and Water Quality

4.4.8.1 Environmental Setting

Section 4.8, *Hydrology and Water Quality* (Volume II), presents the hydrology and water quality environmental setting for the entire UC Santa Cruz campus, including the 2300 Delaware Avenue Project site. Water bodies near the project site include lower Moore Creek to the west and Monterey Bay to the south.

4.4.8.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.8, *Hydrology and Water Quality*, (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.8 for analytical methods relative to hydrology and water quality impacts.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The 2005 LRDP Initial Study identified that impacts related to hazards associated with levee or dam failure or inundation by seiche, or mudflow would not occur under the 2005 LRDP. The buildings on the 2300 Delaware site are not within the tsunami inundation area, due to the elevation of the marine terrace on which they are located. The project site is not located within the 100-year flood hazard area of Moore Creek. The proposed 2300 Delaware Avenue Project would not increase the extent of impervious surfaces at the project site. The Santa Cruz Water Department would continue to supply water to the site. No groundwater extraction is proposed at the site, therefore, groundwater resources would not be affected by increased impervious surfaces or by extraction of groundwater, and no additional analysis of these issues is needed.

Project-Specific Impacts and Mitigation Measures

DA Impact HYD-1: Implementation of 2300 Delaware Avenue Project would not result in wastewater discharges that would violate wastewater discharge requirements.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

The 2300 Delaware Avenue site does not discharge wastewater directly to any receiving water bodies, and, therefore, its wastewater is not subject to wastewater discharge requirements. Wastewater is discharged to the City's sewer system and is treated at the City's wastewater treatment plant. The existing City's wastewater treatment plant has sufficient capacity to handle the expected increase in flow, which is anticipated to be less than the flow generated by the prior industrial-related occupancy of the facility.

In general, the types of activities and uses proposed for 2300 Delaware Avenue would be consistent with typical laboratory uses on campus. Wastewater from campus laboratories have not in the past caused significant impacts, so there is no reason to expect the quality of wastewater that is discharged to the sewer system from 2300 Delaware Avenue labs would result in significant wastewater impacts. All laboratories at 2300 Delaware Avenue would be required to comply with campus procedures and guidelines with respect to proper disposal of hazardous wastes and discharges that are appropriate for drain disposal. The Campus would install a grease interceptor as part of the remodeling of the kitchen facility in Building B, to avoid discharge of grease in high concentrations into the sewer system. Furthermore, as discussed in Section 4.8.1.10 (Volume II), UC Santa Cruz has generally been in compliance with the permit limits for wastewater discharge. Therefore, increased flows from occupancy

of 2300 Delaware Avenue are not expected to cause a violation of waste discharge requirements of the City's wastewater treatment plant, and the impact would be less than significant.

DA Impact HYD-2: Implementation of 2300 Delaware Avenue Project could result in storm water runoff that could affect surface water quality.

Significance: Potentially significant

DA Mitigation HYD-2: The Campus shall ensure that any pesticides, herbicides or chemical fertilizers used on the landscaping or exterior of the buildings on the 2300 Delaware Avenue property are applied in such a manner as to prevent migration off site, and that they are not applied during inclement weather.

Residual Significance: Less than significant

The proposed project would be limited to interior alterations and use of existing buildings, and would not alter drainage patterns on the site, increase impervious surfaces, or otherwise result in additional runoff. However, human activity at the site would increase compared to existing conditions, as a result of which urban pollutants could be discharged into the storm drain system as well as into Antonelli Pond.

The site would be included in the UC Santa Cruz Storm Water Management Program (SWMP), the vehicle by which the Campus would ensure continuing compliance under the State Municipal General Permit for Storm Water Discharges. Pollutants in storm water runoff from the project site would be minimized by the implementation of litter control and public education and outreach, which are important BMPs included in the SWMP. Also, in compliance with DA Mitigation REC-1A, litter near the pond would be controlled by the University. However, there is a potential for the project to affect water quality in Antonelli Pond from the potential use of pesticides and herbicides on the lawns and other landscaping present on the project site. This would be a potentially significant impact. To address this impact, the Campus would implement DA Mitigation HYD-2, which would ensure that any pesticides, herbicides and chemical fertilizers used around the exterior of buildings and on the landscaping at the 2300 Delaware Avenue site are applied in a manner that will ensure that they do not migrate off site, and which would prohibit the use of these chemicals during inclement weather during which runoff might occur. This measure would reduce the potential impact to a less-than-significant level.

Cumulative Impacts

Because the project would not increase impervious surfaces, it would not result in increased runoff and therefore would not contribute to any cumulative impacts associated with increased storm water runoff or changes in hydrology that could result from the full development of the study area.

With respect to the discharge of site runoff into Monterey Bay, the cumulative context is the discharges from the site in conjunction with storm water discharged from other urban areas via municipal storm water drainage systems. Because of this, all projects in the region could be considered as potentially cumulatively contributing to the water quality impacts to the Monterey Bay and the Pacific Ocean. However, as discussed in LRDP Impact HYD-7, efforts at the state, county, and city levels to control and reduce pollutants in storm water will offset and eventually reduce the overall cumulative contribution to

water quality degradation of the ocean and bay that could result from the cumulative development in the region. Under the new statewide National Pollutant Discharge Elimination System (NPDES) General Permit, the Phase II communities are mandated to implement specific types of urban runoff pollutant control measures and submit reports to the Central Coast Regional Water Quality Control Board. Urban runoff covered under the General Permit includes storm water that is discharged by municipal storm drainage systems and any other water that flows, is discharged, or infiltrates into the storm drainage system.

To avoid and reduce the discharge of storm water pollutants associated with existing and future development in the area, the City of Santa Cruz will be required to initiate programs to monitor storm water for pollutants, improve storm water system maintenance, and provide educational activities to individuals, businesses and agencies that impact storm water. The City of Santa Cruz is currently developing and implementing BMPs for specific types of activities or facilities, such as retail, industrial, and construction activities. Cumulatively and in combination, these programs are expected to reduce storm water pollution. These programs support the goal of the City to minimize the pollutants from the City storm drain system entering the Monterey Bay National Marine Sanctuary. The proposed project would also minimize discharge of pollutants to the Bay by implementing the UC Santa Cruz SWMP. Therefore, the cumulative impact to water quality would be less than significant.

4.4.9 Land Use and Planning

4.4.9.1 Environmental Setting

Section 4.9, *Land Use and Planning* (Volume II), describes the land uses and applicable planning regulations for the UC Santa Cruz campus including 2300 Delaware Avenue, and the surrounding areas.

4.4.9.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.9, (Volume II), for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.9, (Volume II), for analytical method relative to land use impacts.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The analysis in the 2005 LRDP Initial Study concluded that the 2005 LRDP, including the 2300 Delaware Avenue Project, would not physically divide an established community nor would it result in any land use designation change that could conflict with any City or County land use plan. In addition, the Initial Study for the project concluded that the 2300 Delaware Avenue Project would not conflict with any Habitat Conservation Plan (HCP) as there are no HCPs that are applicable or relevant to the project site and its vicinity. Therefore, no project-level analysis of these impacts is necessary.

 Project-Specific Impacts and Mitigation Measures

DA Impact LU-1: Implementation of the 2300 Delaware Avenue Project would not result in development that is substantially incompatible with existing or planned adjacent land uses.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

The project site is located at the corner of Delaware Avenue and Natural Bridges Drive in the City's west side area, with these two roadways forming the eastern and southern boundaries of the site. The site is designated Industrial in the City's General Plan and zoned General Industrial.

To the east of Natural Bridges Drive, across from the site, is vacant land that is undeveloped and designated Industrial in the City of Santa Cruz General Plan. To the south of Delaware Avenue, across from the site, is the Natural Bridges State Beach. To the north of the site is the Union Pacific Railroad right-of-way, and north of the railroad tracks are offices of the Santa Cruz City School District and a commercial enterprise. To the west of the site are Antonelli Pond and the Moore Creek corridor. The Santa Cruz DeAnza residential community is located to the southwest of the site and the UC Santa Cruz Marine Science Campus (Long Marine Laboratory and other facilities) is located farther west of the site, at the western end of Delaware Avenue.

The 2300 Delaware Avenue Project proposes the remodeling of the interior of existing buildings and occupancy of the buildings with administrative and laboratory uses that are consistent with the light industrial setting of the project site. The proposed uses and occupancy levels are substantially less intensive than the previous manufacturing use of the site that occurred through 2001. The proposed uses would not result in air emissions, noise, or light and glare that could adversely affect adjacent uses, including the recreational use of the State Beach and Antonelli Pond, as discussed in Section 4.4.3, *Air Quality*, Section 4.4.10, *Noise*, and Section 4.4.13, *Recreation*. Therefore, the proposed project would not be incompatible with existing or planned adjacent land uses and no mitigation is required.

Cumulative Impacts

Neither the proposed project nor other development in the study area would physically divide an established community. Therefore, there would be no cumulative impact with respect to that standard of significance. The proposed project would be consistent with the pertinent policies of the City of Santa Cruz General Plan/Local Coastal Program (LCP) and the California Coastal Commission. As such, the project would not introduce any land use on the project site that would be incompatible with adjacent existing or zoned residential and open space uses. The project would re-establish urban uses in existing buildings, on a property that has been similarly used in the recent past. Development of the remaining vacant parcels located within the Santa Cruz west side area would be guided by the City's General Plan/LCP and, therefore, would not introduce land uses that could result in development incompatible with the proposed uses.

Although there are some plans for the protection of biological resources in the west side area such as management plans for wetland and riparian areas, including the City-owned Moore Creek corridor, the Santa Cruz Land Trust Antonelli Pond, and the University-owned Younger Lagoon Reserve (YLR), there are no HCPs or NCCPs that are applicable to the City's west side area. Therefore, the proposed project and other past and reasonably foreseeable development in the project vicinity would not result in a cumulatively significant conflict with any applicable HCP or NCCP. The project, in conjunction with other past and reasonably foreseeable future development in the Santa Cruz study area, would not result in a cumulatively significant land use impact.

4.4.10 Noise

This section assesses the potential noise impacts of 2300 Delaware Avenue Project on adjacent noise sensitive land uses.

There are no sensitive receptors for noise in the immediate vicinity of the project site. Santa Cruz DeAnza residential community is located about 500 feet to the southwest of the project site, and the Shaffer Road Apartments are located 400 feet to the northwest of the site. The site is separated from these sensitive receptors to the west by the Antonelli Pond/Moore Creek corridor. The parcels to the east are vacant and zoned industrial, and are separated from the project site by a landscaped earthen berm and two-lane street. To the north, the existing land uses are industrial/commercial and, therefore, are not noise sensitive. Natural Bridges State Beach and its Monarch Butterfly Natural Preserve are located immediately south of the property, across Delaware Avenue from the project site. The southern part of the 2300 Delaware Avenue parcel, adjacent to this street, is used for parking, and the buildings on the project site are set back about 500 feet from Delaware Avenue. In addition, an earthen berm screens most of the 2300 Delaware property from Delaware Avenue and the State Beach south of the roadway from the adjacent street level. There are a few residences along Swift Street (between Mission Street and Delaware Avenue), which is one of the streets that provide access to the site.

4.4.10.1 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.10, *Noise* (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.10 (Volume II) for analytical background relative to noise. For 2300 Delaware Avenue, the existing traffic-related noise levels at the site were compared with the projected noise levels that would result from projected increased traffic associated with the occupancy of 2300 Delaware Avenue. There would be no new stationary noise sources at 2300 Delaware Avenue, other than the existing HVAC system, which would be restarted, and a new emergency generator that would be periodically tested. Noise from the generator would not be significant, as it would be tested for no more than 25 hours each year, for a period of no more than one hour each time it is tested.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. Analysis in the 2005 LRDP Initial Study concluded that 2300 Delaware Avenue property is not located within an airport

land use plan or within two miles of public airport or public use airport and it therefore, would not expose people working in the project area to excessive noise levels. The Initial Study also determined that the site is not located within two miles of a private airstrip. Therefore, no impact would occur and no additional analysis is needed.

Project-Specific Impacts and Mitigation Measures

DA Impact NOIS-1: Construction activities at the 2300 Delaware Avenue site would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

Some internal modifications of the existing 2300 Delaware Avenue facilities would be required for the anticipated uses, but remodeling activities are not expected to generate noise that would be audible off site. Furthermore, construction activities would be of short duration, and would involve only limited heavy equipment use and only during daylight hours. Nearby receptors would be buffered from noise generated by these activities by the distance of the facilities from the parcel margins and by earthen berms and streets separating the site from adjacent uses. Furthermore, there are no sensitive receptors immediately adjacent to the property, as noted above. Therefore, the impact from project-related construction noise would be less than significant.

DA Impact NOIS-2: Project operations would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Significance: Less than significant

DA Mitigation: Mitigation not required

Residual Significance: Not applicable

Future operations at the site are not expected to generate significant amounts of noise. Administrative and storage functions inside the buildings would not generate substantial noise that would be audible at the exterior of the buildings. The existing recreational facilities at the site (tennis and volleyball courts) possibly could be used incidentally by employees associated with the proposed project or members of the public, but noise generated by recreational uses would not be substantial or long-term. Further, there are no sensitive receptors for noise in the immediate project vicinity, as noted above. The existing HVAC system would be restarted, but because of existing acoustical treatment it would not generate high noise levels that would affect sensitive receptors.

Traffic noise associated with occupation of the site would be expected to be higher than under existing conditions, but would be similar to traffic noise from previous operations at the site. It is anticipated that employees and other users would approach the site via Mission Street and Natural Bridges Drive. Some

users could also approach the site from the east via Swift Street and Delaware Avenue. There are few residences or other sensitive receptors along these routes. The increase in daily traffic due to change in usage of the 2300 Delaware Avenue site would be too small to result in a measurable increase in traffic noise. Generally, it takes doubling of traffic volume on a given roadway to result in a 3-decibel increase in noise. The increase in noise levels was estimated for a location near the intersection of Natural Bridges Drive and Delaware Avenue. Under existing conditions, the CNEL at this location is 57.7 dBA. In 2010, with the addition of traffic from regional growth as well as traffic from the proposed project, the noise levels at this location would increase to 60.3 dBA CNEL, an increase of about 2.6 decibels. Based on the significance thresholds listed in Section 4.10, *Noise* (Volume II), this would not represent a substantial increase in noise, nor would the criterion level be exceeded. The noise impact would be less than significant.

Cumulative Impacts

The analysis presented in Section 4.8, *Noise* (Volume II) under LRDP Impact NOIS-2 presents the cumulative noise impacts in the study area, under 2020 conditions. That analysis includes an evaluation of noise in the vicinity of 2300 Delaware Avenue. No further evaluation is required.

4.4.11 Population and Housing

4.4.11.1 Environmental Setting

Section 4.11, *Population and Housing* (Volume II), describes the population and housing conditions of the UC Santa Cruz campus and surrounding area as well as applicable planning regulations.

4.4.11.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.11 (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.11 (Volume II) for analytical methods relative to population and housing.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The analysis of population and housing impacts due to the proposed 2005 LRDP took into account the entire projected increase in campus population and housing associated with the 2005 LRDP, including the increased number of persons who would work at 2300 Delaware Avenue under the proposed project (LRDP Impacts POP-1 through POP-3). Therefore, no further analyses of project-related impacts related to population and housing are needed.

Project-Specific Impacts and Mitigation Measures

Not applicable.

Cumulative Impacts

The cumulative impact of the 2300 Delaware Avenue Project with respect to housing is adequately addressed under LRDP Impact POP-3. The proposed project would contribute to the cumulative impact.

4.4.12 Public Services

4.4.12.1 Environmental Setting

Section 4.12, *Public Services* (Volume II), provides a description of existing public services that currently serve the campus and the 2300 Delaware Avenue site. The 2300 Delaware Avenue site would be served by the City of Santa Cruz Fire Department and by the Campus Police Department.

4.4.12.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.12, *Public Services*, (Volume II), for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.12 (Volume II) for analytical methods relative to public services.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The LRDP-level analysis of public services impacts evaluated the effects of the entire campus population growth and facilities expansion under the 2005 LRDP, including current and future employees who would work at 2300 Delaware Avenue (LRDP Impacts PUB-1 through PUB-7).

The LRDP-level analysis evaluated the impact of increased demand for City of Santa Cruz fire protection services under the 2005 LRDP, including demand generated by the 2300 Delaware Avenue Project. This analysis determined that the proposed 2005 LRDP, including the proposed project, would not result in a significant impact related to provision of fire protection services. The proposed project would provide adequate fire safety features (i.e., sprinklers, alarms) and safety features (i.e., lighting). Therefore, no additional project-level analysis of these impacts is required.

Project-Specific Impacts and Mitigation Measures

Not applicable.

Cumulative Impacts

The cumulative impacts of the 2300 Delaware Avenue Project are adequately addressed under LRDP Impacts PUB-5, PUB-6, and PUB-7. The proposed project would contribute to all three cumulative impacts.

4.4.13 Recreation

4.4.13.1 Environmental Setting

See Section 4.13, *Recreation* (Volume II), for a discussion of existing campus and off-campus recreation facilities. Existing recreational facilities at 2300 Delaware Avenue include two tennis courts, a volleyball court, and a path which runs adjacent to Antonelli Pond. City-owned picnic tables are available for use by the public at Antonelli Pond.

4.4.13.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.13 (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.13 (Volume II) for analytical method relative to impacts on recreational facilities.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The environmental effects of increased demand for recreational facilities and deterioration of recreational facilities due to increased use as a result of population growth under the 2005 LRDP, including 2300 Delaware Avenue, are adequately addressed at the LRDP level and will be mitigated to less-than-significant levels by the mitigations proposed in Volume II. Additional analysis is not required, except for a potential impact on recreational facilities at Antonelli Pond, which is discussed below.

Project-Specific Impacts and Mitigation Measures

DA Impact REC-1: 2300 Delaware Avenue Project could increase the use of the Antonelli Pond area such that substantial physical deterioration of recreational facilities could occur or be accelerated.

Significance: Potentially significant

DA Mitigation REC-1A: UC Santa Cruz shall provide trash and litter collection services for containers along the east side of Antonelli Pond.

DA Mitigation REC-1B: UC Santa Cruz shall consult with the Land Trust of Santa Cruz County and the City of Santa Cruz regarding the Campus's fair share contribution (as defined in Section 4.14, Volume II of this EIR) toward providing and maintaining picnic and trail facilities at Antonelli Pond.

DA Mitigation REC-2D: The Campus shall implement LRDP Mitigation REC-2D.

Residual Significance: Less than significant

Because of the proximity of the proposed project to Antonelli Pond, it is considered likely that during lunch breaks and before and after work, the trails and open space areas around Antonelli Pond would experience increased use by campus employees who would work at 2300 Delaware Avenue, which could potentially cause deterioration of these facilities. This would be a potentially significant impact of the

proposed project. In order to ensure that this increased use does not lead to deterioration of the area's trails and other facilities, UC Santa Cruz shall implement DA Mitigations REC-1A and 1B. These measures will provide campus assistance in litter control and maintenance of recreational facilities on the west side of the pond, which is the area likely to be used by campus employees. The Campus will also implement LRDP Mitigation REC-2D, which provides for Campus collaboration with the City of Santa Cruz in volunteer trail maintenance efforts. The implementation of these measures would reduce the impact to a less-than-significant level.

Cumulative Impacts

The cumulative impact on regional recreational facilities from campus growth under the proposed 2005 LRDP, including 2300 Delaware Avenue Project, is adequately addressed under LRDP Impacts REC-4 and REC-5.

4.4.14 Traffic, Circulation, and Parking

4.4.14.1 Environmental Setting

Section 4.14, *Traffic, Circulation, and Parking*, (Volume II), describes the existing circulation system and parking for the UC Santa Cruz campus. The motor vehicle circulation system around the project site and in the campus vicinity; transit, bicycle and pedestrian access to the project site; and parking in the vicinity of the proposed 2300 Delaware Avenue Project are described in Section 4.3.7, above.

4.4.14.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.14 (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. In order to accurately assess the traffic effects of development of the proposed project, project-related trips were projected in the context of trips on the same road network at the time of full project development. For purposes of this analysis, full project development was assumed to occur by 2010.

Project Trip Generation

Vehicle trips generated by the 2300 Delaware Avenue Project in 2010 were estimated based on several sources of trip generation rates and characteristics because no single-use standard (published) trip generation rate alone accurately reflects 2300 Delaware Avenue's trip-generating characteristics because of the variety of types of space and uses included in the proposed project. Trip generation for the administrative uses in Buildings A and B was estimated using the Institute of Transportation Engineers' (ITE) *Trip Generation* (7th Edition) rates for general office use (ITE 2003). Trips generated by research staff in Building C were estimated using ITE rates for research and development centers. Trip generation for the potential receiving services, printing facility, and mailing services in Building C was estimated

using a combination of ITE general office rates and the numbers of employees, deliveries, customers and visitors included in the project description.

Trip generation estimates for the 2300 Delaware Avenue site are shown in Table 4-8. The proposed 2300 Delaware Avenue Project is estimated to generate a total of 271 AM peak hour trips, 311 PM peak hour trips, and 1,782 daily trips.

**Table 4-8
Estimated 2300 Delaware Avenue Trip Generation**

Facility Use/Building	Size (1000s of SF)	AM Peak Hour			PM Peak Hour			Daily Trip
		In	Out	Total	In	Out	Total	Generation
Admin Staff (Bldg. A & B)	57.0 KSF	78	11	89	14	71	85	630
Research Staff (Bldg. C)	92.0 KSF	95	19	114	15	84	99	746
Receiving Docks (Bldg. C)	N/A	20	15	35	15	20	35	145
Other Service Facilities (Bldg. C)	12.0 KSF	30	4	34	16	77	93	261
Total 2300 Delaware Avenue Trips		223	49	271	60	252	311	1,782
Trips from 2300 Delaware to Main Campus ^a	30%	67	15	82	18	75	93	535

Source: 2300 Delaware site trip generation derived from the following: administrative staff trip generation is based on Institute of Transportation Engineers' (ITE) rates for general office (7th Edition), research lab rates are from ITE Research and Development Center (7th Edition), and receiving dock, mail services, and printing facility trip generation derived by Kimley-Horn and Associates, Inc. based on employee, visitor, and delivery truck data provided by UC Santa Cruz staff.

(a) Trips between 2300 Delaware Avenue and the main campus are included in the total trip generation for the site. The trip generation for the interaction with the main campus is presented separately for informational purposes.

Project Trip Distribution

The trip distribution pattern for the proposed 2300 Delaware Avenue Project was determined, using the AMBAG travel demand forecasting model, modified by the anticipated interaction between the project site and the UC Santa Cruz main campus based on the nature of the proposed uses. The 2300 Delaware Avenue trips were distributed to external gates (roadways at the perimeter of the study area such as Route 1 and 17, Empire Grade Road north), to zones within the City of Santa Cruz, and to zones within the UC Santa Cruz main campus. It is projected that approximately 30 percent of the daily trips associated with the proposed 2300 Delaware project would be distributed between the project site and the UC Santa Cruz main campus. [Figure 4-3, DA Trip Distribution](#), illustrates the distribution pattern assumed for 2300 Delaware Avenue-related trips.

2010 Without Project (Baseline) Operational Analysis

The 2010 scenario, in projecting conditions in future years, accounts for foreseeable future development and roadway conditions. By using 2010 Without Project (Baseline) conditions as the baseline for analyses, a reasonable comparison can be made between the future year with no project and future year with project conditions; as a result, foreseeable development and roadway improvements can be fully taken into account.

The 2010 Without Project (Baseline) conditions reflects growth in background traffic in the City of Santa Cruz and the region, as well as traffic generated by growth of the main campus between 2004 and 2010.

The background traffic growth does not include 2300 Delaware trips or campus traffic traveling to/from the 2300 Delaware facility. Anticipated background traffic growth was determined using AMBAG’s travel demand forecasting model. The growth in traffic from the main campus was determined by linearly interpolating the growth in traffic between 2004 and 2020. Table 4-9 shows the growth in trips generated by the campus between 2004 and 2010. In 2010, main campus population growth is estimated to generate 209 AM peak hour, 272 PM peak hour, and 3,504 daily trips over existing traffic.

**Table 4-9
2010 UC Santa Cruz Main Campus Trip Generation Estimate**

	AM Peak Trip Generation			PM Peak Trip Generation			Daily Trip Generation
	In	Out	Total	In	Out	Total	
Actual Trip Counts in 2003-04	1,149	303	1,452	828	1,212	2,040	24,830
Total Trips in 2010	1,306	355	1,661	932	1,380	2,312	28,334
Growth (2003/04 to 2010)	157	52	209	104	168	272	3,504

Source: Year 2010 trip generation estimates were interpolated from the year 2020 LRDP trip generation estimates used in the 2005-2020 LRDP EIR, Kimley-Horn and Associates, Inc.

Intersection Operational Analysis. Figure 4-4 (a-c) shows the 2010 Without Project (Baseline) intersection turning movement volumes for off-campus intersections. Table 4-10 shows the off-campus intersection Level of Service (LOS) analysis for the 2010 Without Project (Baseline) conditions.

**Table 4-10
2010 Without Project (Baseline) Intersection Levels of Service – Off-Campus Intersections**

#	Intersection	Type of Control	Peak Hour	LOS Standard	2010 (Without Project)	
					Delay (sec) ^a	LOS
7	Highway 1 / Western Drive	Signal	AM PM	D	23.9 25.3	C C
8	Empire Grade Road / Western Drive	TWSC	AM PM	--	54.8 207.7	F F
9	Empire Grade Road / Heller Drive ^a	Signal	AM PM	--	5.2 8.2	A A
10	Bay Street-Glenn Coolidge Drive / High Street	Signal	AM PM	D	17.4 22.7	B C
11	Bay Street / Nobel-Iowa Drive	Signal	AM PM	D	11.5 10.8	B B
12	Bay Street / Escalona Drive ^a	Signal	AM PM	--	13.4 7.2	B A
13	Bay Street / King Street	Signal	AM PM	D	11.1 58.2	B E
14	Mission Street / Bay Street	Signal	AM PM	D	47.6 79.3	D E
15	Bay Street / California Street	TWSC	AM PM	--	25.7 117.6	D F
16	West Cliff Drive / Bay Street	AWSC	AM PM	--	23.0 38.8	C E

Table 4-10
2010 Without Project (Baseline) Intersection Levels of Service – Off-Campus Intersections

#	Intersection	Type of Control	Peak Hour	LOS Standard	2010 (Without Project)	
					Delay (sec) ^a	LOS
17	Mission Street / Laurel Street	Signal	AM PM	D	33.1 49.4	C D
18	Mission Street / Walnut Avenue	Signal	AM PM	D	31.1 18.6	C B
19	Mission Street / King Street-Union Street	Signal	AM PM	D	97.9 71.5	F E
20	Mission Street / Chestnut Street	Signal	AM PM	E	48.8 48.2	D D
21	Highway 1 / River Street	Signal	AM PM	E	55.1 68.8	E E
22	High Street / Storey Street	AWSC	AM PM	--	16.5 14.7	C B
23	King Street / Storey Street	AWSC	AM PM	--	34.7 54.6	D F
24	Mission Street / King Street (West)	TWSC	AM PM	--	19.5 25.8	C D
25	Mission Street / Almar-Younglove Avenue	Signal	AM PM	D	22.7 34.8	C C
26	Mission Street / Swift Street	Signal	AM PM	D	25.3 26.4	C C
27	Delaware Avenue / Almar Avenue	AWSC	AM PM	--	13.8 24.7	B C
28	Swift Street / Delaware Avenue	AWSC	AM PM	--	67.4 37.1	F E
29	Lincoln Street / Chestnut Street	AWSC	AM PM	--	12.5 11.5	B B
30	Highland Avenue / High Street	AWSC	AM PM	--	48.7 152.4	E F
31	Laurel Street / Chestnut Street	Signal	AM PM	--	11.5 11.2	B B
32	River Street / Water Street	Signal	AM PM	--	27.8 41.3	C D
33	Ocean Street / Water Street	Signal	AM PM	--	38.0 42.2	D D
34	Branciforte Avenue / Water Street	Signal	AM PM	--	30.9 53.3	C D
35	Morrissey Boulevard / Water Street	Signal	AM PM	--	64.0 46.7	E D
36	Capitola Road / Soquel Avenue	Signal	AM PM	--	28.1 57.9	C E
37	Ocean Street / Soquel Avenue	Signal	AM PM	--	31.4 35.3	C D
38	Seabright Avenue / Soquel Avenue	Signal	AM PM	--	26.9 53.3	C D
39	Laurel Street / San Lorenzo Boulevard	Signal	AM PM	--	11.4 9.1	B A

Table 4-10
2010 Without Project (Baseline) Intersection Levels of Service – Off-Campus Intersections

#	Intersection	Type of Control	Peak Hour	LOS Standard	2010 (Without Project)	
					Delay (sec) ^a	LOS
40	Murray Street / Seabright Avenue	Signal	AM PM	--	50.3 66.6	D E

Notes:

TWSC – Two-Way Stop-Controlled

AWSC – All-Way Stop-Controlled

Levels of Service of E and F are shown in bold type.

(a) These intersections have been found to meet warrants for the installation of traffic signals in the existing conditions analysis.

Bold font indicates that intersection does not meet applicable LOS standard of operation.

Under the 2010 Without Project conditions, many of the off-campus study intersections are projected to operate at acceptable levels of service. However, the intersections shown in Table 4-11 are projected to operate at unacceptable LOS E or F during at least one of the peak hours.

Table 4-11
2010 Without Project - Intersections with Unacceptable LOS

#	Intersection	Operation
8	Western Drive / Empire Grade Road	LOS F during both AM and PM peak hours
13	Bay Street / King Street	LOS E during PM peak hour
14	Bay Street / Mission Street	LOS E during PM peak hour
15	Bay Street / California Street	LOS F during PM peak hour
16	Bay Street / West Cliff Drive	LOS E during PM peak hour
19	King Street-Union Street / Mission Street	LOS F during AM peak hour and E during PM peak hours
21	Highway -1 / River Street	LOS E during both AM and PM peak hours
23	King Street / Storey Street	LOS F during PM peak hour
28	Delaware Avenue / Swift Street	LOS F during AM and LOS E during PM peak hours
30	Highland Avenue / High Street	LOS E during AM and LOS F during PM peak hour
35	Morrissey Boulevard / Water Street	LOS E during AM peak hour
36	Capitola Road / Soquel Avenue	LOS E during PM peak hour
40	Murray Street / Seabright Avenue	LOS E during PM peak hour

2010 With Project (2300 Delaware Avenue) Operational Analysis

Intersection Operational Analysis. [Figure 4-5\(a-c\)](#), shows the 2010 With Project (2300 Delaware Avenue) intersection turning movement volumes for off-campus intersections. Table 4-12 summarizes the 2010 With Project intersection LOS. The tables also show comparisons to the 2010 Without Project (Baseline) conditions and identify the intersections that are affected significantly by the contribution of the 2300 Delaware Avenue site traffic.

Table 4-12
2010 With Project - Intersection Levels of Service

#	Intersection	Type of Control	Peak Hour	LOS Standard	2010 Without Project		2010 Plus Project		Project % of Total Traffic	Met Signal Warrant Analysis	Significant Impact
					Delay (sec)	LOS	Delay (sec)	LOS			
7	Highway 1 / Western Drive	Signal	AM PM	D	23.9 25.3	C C	26.3 30.2	C C	- -		NO NO
8	Empire Grade Road / Western Drive	TWSC	AM PM	--	54.8 207.7	F F	75.3 326.8	F F	4% 3%	YES YES	YES YES
9	Empire Grade Road / Heller Drive ^a	Signal	AM PM	--	5.2 8.2	A A	5.5 8.4	A A	- -		NO NO
10	Bay Street-Glenn Coolidge Drive / High Street	Signal	AM PM	D	17.4 22.7	B C	17.7 23.1	B C	- -		NO NO
11	Bay Street / Nobel-Iowa Drive	Signal	AM PM	D	11.5 10.8	B B	11.5 10.9	B B	- -		NO NO
12	Bay Street / Escalona Drive ^a	Signal	AM PM	--	13.4 7.2	B A	13.4 7.3	B A	- -		NO NO
13	Bay Street / King Street	Signal	AM PM	D	11.1 58.2	B E	11.1 61.9	B E	- 1%		NO NO
14	Mission Street / Bay Street	Signal	AM PM	D	47.6 79.3	D E	50.0 90.3	D F	- 4%		NO YES
15	Bay Street / California Street	TWSC	AM PM	--	25.7 117.6	D F	26.5 119.9	D F	- 1%	- -	NO NO
16	West Cliff Drive / Bay Street	AWSC	AM PM	--	23.0 38.8	C E	23.2 40.6	C E	- 1%	- -	NO NO
17	Mission Street / Laurel Street	Signal	AM PM	D	33.1 49.4	C D	34.3 55.7	C E	- 3%		NO NO
18	Mission Street / Walnut Avenue	Signal	AM PM	D	31.1 18.6	C B	31.6 19.2	C B	- -		NO NO
19	Mission Street / King Street-Union Street	Signal	AM PM	D	97.9 71.5	F E	109.8 72.9	F E	2% 2%		NO NO
20	Mission Street / Chestnut Street	Signal	AM PM	E	48.8 48.2	D D	54.7 48.6	D D	- -		NO NO
21	Highway 1 / River Street	Signal	AM PM	E	55.1 68.8	E E	55.5 71.0	E E	- -		NO NO
22	High Street / Storey Street	AWSC	AM PM	--	16.5 14.7	C B	16.4 14.6	C B	- -	- -	NO NO
23	King Street / Storey Street	AWSC	AM PM	--	34.7 54.6	D F	33.7 53.2	D F	- -	- -	NO NO
24	Mission Street / King Street (West)	TWSC	AM PM	--	19.5 25.8	C D	23.6 31.2	D D	- -	- -	NO NO
25	Mission Street / Almar-Younglove Avenue	Signal	AM PM	D	22.7 34.8	C C	22.2 39.2	C D	- -		NO NO
26	Mission Street / Swift Street	Signal	AM PM	D	25.3 26.4	C C	25.4 28.2	C C	- -		NO NO

**Table 4-12
2010 With Project - Intersection Levels of Service**

#	Intersection	Type of Control	Peak Hour	LOS Standard	2010 Without Project		2010 Plus Project		Project % of Total Traffic	Met Signal Warrant Analysis	Significant Impact
					Delay (sec)	LOS	Delay (sec)	LOS			
27	Delaware Avenue / Almar Avenue	AWSC	AM PM	--	13.8 24.7	B C	14.5 28.8	B D	- -	- -	NO NO
28	Swift Street / Delaware Avenue	AWSC	AM PM	--	67.4 37.1	F E	73.7 42.2	F E	2% 2%	- -	NO NO
29	Lincoln Street / Chestnut Street	AWSC	AM PM	--	12.5 11.5	B B	12.5 11.5	B B	- -	- -	NO NO
30	Highland Avenue / High Street*	AWSC	AM PM	--	48.7 152.4	E F	47.4 147.0	E F	- -	- -	NO NO
31	Laurel Street / Chestnut Street*	Signal	AM PM	--	11.5 11.2	B B	11.5 11.2	B B	- -		NO NO
32	River Street / Water Street*	Signal	AM PM	--	27.8 41.3	C D	26.7 41.6	C D	- -		NO NO
33	Ocean Street / Water Street*	Signal	AM PM	--	38.0 42.2	D D	38.2 42.3	D D	- -		NO NO
34	Branciforte Avenue / Water Street*	Signal	AM PM	--	30.9 53.3	C D	31.0 53.4	C D	- -		NO NO
35	Morrissey Boulevard / Water Street*	Signal	AM PM	--	64.0 46.7	E D	64.7 46.8	E D	<1% -		NO NO
36	Capitola Road / Soquel Avenue*	Signal	AM PM	--	28.1 57.9	C E	28.1 57.9	C E	- <1%		NO NO
37	Ocean Street / Soquel Avenue*	Signal	AM PM	--	31.4 35.3	C D	31.4 35.3	C D	- -		NO NO
38	Seabright Avenue / Soquel Avenue*	Signal	AM PM	--	26.9 53.3	C D	27.0 53.5	C D	- -		NO NO
39	Laurel Street / San Lorenzo Boulevard*	Signal	AM PM	--	11.4 9.1	B A	11.5 9.1	B A	- -		NO NO
40	Murray Street / Seabright Avenue*	Signal	AM PM	--	50.3 66.6	D E	50.7 66.9	D E	- <1%		NO NO

Notes:

TWSC – Two-Way Stop-Controlled AWSC – All-Way Stop-Controlled

* Counted in Spring 2004

Levels of Service E and F are shown in bold type. **Bold** font indicates that intersection does not meet applicable LOS standard of operation.

(a) These intersections have been found to meet warrants for the installation of traffic signals. The reported levels of service are based on unsignalized conditions.

The following off-campus intersections would be significantly impacted by the addition of the 2300 Delaware Avenue project traffic:

- Intersection 8: Western Drive / Empire Grade Road (LOS F during both AM and PM peak hours)
- Intersection 14: Bay Street / Mission Street (LOS F during PM peak hour)

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. The proposed project does not include any new design features that have the potential to result in traffic hazards, because no alterations to the property exterior to the buildings are proposed. The uses proposed for the project are consistent with prior uses and are compatible with the industrial zoning of the property. The issue of increased hazards due to a design feature or incompatible uses is not a concern. The proposed project has no potential to result in inadequate emergency access because it does not include any design features or operations that would interfere in any way with emergency operations. The proposed project has no potential to affect air traffic patterns, and the 2300 Delaware Avenue property is not within an air safety zone that would require restrictions on development.

Project-Specific Impacts and Mitigation Measures

DA Impact TRA-1: Under the 2010 conditions, the 2300 Delaware Avenue Project would contribute traffic that would cause unacceptable levels of service at two off-campus intersections: Empire Grade Road / Western Drive, and Mission Street / Bay Street.

Significance: Significant

DA Mitigation TRA-1A: The Campus shall contribute its fair share, as defined and described in Section 4.14, Volume II of this EIR, toward the cost of installing a traffic signal at the intersection of Empire Grade and Western Drive and updating the signal timing at the intersections of Mission Street / Bay Street.

DA Mitigation TRA-1B: The Campus shall Implement LRDP Mitigation TRA-2B.

Residual Significance: Significant and unavoidable

Project intersection impacts under 2010 conditions were identified based on the criteria used to evaluate project-level impacts, as described in Section 4.14, *Traffic, Circulation and Parking*, Volume II of this EIR. Based on City of Santa Cruz significance criteria, the impacts of a project are significant if peak hour level of service (LOS) at an affected signalized intersection degrades from an acceptable level to an unacceptable level due to the increase in traffic generated by the proposed project, and the project increases the traffic volume by more than three percent. As shown in Table 4-10, the project would result in a significant impact at the intersections of Empire Grade / Western Drive and Mission Street / Bay Street. Installation of a traffic signal at the intersection of Empire Grade / Western Drive would improve the AM and PM LOS to B. Updating the signal timing at the intersection of Mission Street / Bay Street would improve the PM delay of 72.8 seconds. While this would not raise the intersection LOS above the substandard LOS E, it would improve the Mission Street / Bay Street intersection LOS over 2010 Without Project conditions. Pursuant to DA Mitigation TRA-1, the Campus will contribute its fair share (as defined in Section 4.14 of Volume II of this EIR) towards the cost of these improvements. However, implementation of these off-campus improvements is outside the jurisdiction of the University. The impact, therefore, would be significant and unavoidable.

Pursuant to LRDP Mitigation TRA-2B, UC Santa Cruz will continue to actively pursue transportation demand management strategies with the objective of increasing sustainable transportation modes (use of modes other than single-occupant vehicles) and reducing single-occupant vehicle trips to and from the project site and between the project site and the main campus. A range of measures has been identified that could further this objective at the 2300 Delaware Avenue site, including the following:

- Continue to expansion of the Commuter Vanpool Program, with emphasis on the 2300 Delaware Avenue site;
- Institute a rideshare campaign to promote carpooling among campus commuters, including UCSC-specific ride-matching program provided by Commute Solutions
- Institute “Commuter Counseling” services through the TAPS Sales Office
- Institute regular shuttle service between the Marine Science Campus, 2300 Delaware Avenue and the main campus
- Introduce a Carsharing program for staff, faculty and students 21 years of age or older
- Provide additional secure bike parking at the project site
- Provide work schedule options for staff, where appropriate, such as a 4-day/10 hour or 9-day/80 hour work schedule, or increased use of telecommuting

Those measures that can feasibly be adopted will be implemented in the near term for the 2300 Delaware Avenue Project site, pursuant to LRDP Mitigation TRA-2B. In particular, the project site may be an appropriate location for the introduction of a parking “pod” in support of a Carshare operation serving the proposed project site and adjoining UC Santa Cruz facilities and other West side employment and residential areas. With frequent transit access, the proposed project site could serve as an ideal location for Carshare activities supporting automobile-dependent travel. Preliminary estimates suggest an initial Carshare “pod” might require 3 to 7 parking spaces. Based on current analyses of parking (see below) a Carshare pod could be accommodated in existing parking space at the site.

Additional measures have also been identified, under LRDP Mitigation TRA-2B, that may provide traffic-reduction benefits, and the Campus will continue to pursue implementation of these measures over the longer term, in cooperation with the City and regional transportation agencies. These may include measures such as: implementation of off-campus bike circulation improvements; extension of the Carsharing program to include younger students; identification and development of a Westside Santa Cruz multi-modal hub, connecting Westside shuttle service with expanded automobile parking, and bike parking; identification and development of Westside and Eastside Santa Cruz remote Park & Ride facilities with transit service; and exploration of opportunities to construct new student/staff housing along off-campus transit corridors. These measures would provide traffic reduction benefits over the long term, but would also require significant coordination and collaboration between the University, the City, and regional transportation agencies. Because traffic reductions cannot be guaranteed in the short term, the impact is significant and unavoidable.

DA Impact TRA-2: Parking demand for the 2300 Delaware Avenue site would not exceed available supply if the occupancies and ratios achieved on the main campus can be achieved at the project site.

Significance: Less than significant

DA Mitigation TRA-2: The Campus shall implement Parking Management and Transportation Demand Management measures at the project site and monitor parking demand. If parking occupancy reaches 90 percent of the supply, the Campus shall work with City of Santa Cruz to designate permit parking on adjacent streets for use by employees and visitors; provide additional incentives for staff to use transit; or expand the existing parking lots to provide additional spaces if necessary.

Residual Significance: Less than significant

The TAPS Spring 2004 Parking Utilization Survey found that the campus-wide parking demand among staff and faculty at the main campus equaled approximately 0.31 parking space per employee (by headcount). This parking demand ratio (that is, 0.31 space per employee) provides parking at a higher rate than for the main campus population overall, since the main campus rate of parking utilization (0.21 space per person in the campus population in 2004) includes students who live on campus and also reflects substantial reduction of parking demand through the main campus TDM program. At a parking demand ratio of 0.31 space per employee, which would generally reflect the anticipated population makeup of the proposed project, the population of the proposed 2300 Delaware Avenue Project at full development would require about 242 parking spaces. Assuming that this projection accurately represents parking demand for the project, the existing 277 parking at the site could accommodate the entire employee parking demand, and 35 excess existing spaces would be available to accommodate other critical access parking, such as deliveries and service vehicle parking, and possibly a Carshare pod. A limited amount of short-term visitor parking could also be accommodated within the existing on-site parking supply.

However, while parking demand at the main UC Santa Cruz campus provides an indication of likely parking demand ratios at the proposed project site, it is possible that there would be a higher demand for parking at the 2300 Delaware Avenue site than at the main campus. Parking Management elements in place at the main campus include parking permit requirements for most on-site parking, parking fees, and permit restrictions relevant to user type and location. TDM program elements include dramatically reduced permit costs and reserved parking spaces for registered carpoolers, free campus transit and SCMTD transit passes, and subsidized commuter vanpools. Together, these main campus programs have reduced both campus-related traffic volumes and on-campus parking demand on the main campus by promoting the use of alternatives to the single-occupant vehicle mode, for travel to the main campus. These parking demand management measures would be applied at the project site to reduce parking demand; it is anticipated that these measures would also be beneficial in reducing traffic. It is assumed that all of these programs can be used effectively at the proposed project site; however, the success of TDM measures on the main campus may in part be related to student support, including the significant part of the population who live on campus. Since the population at 2300 Delaware Avenue would be

made up of faculty and staff, and because the parking management and TDM measures described above may not apply in the same ways for the project site, it is possible the TDM measures would be less effective at 2300 Delaware Avenue than at the main campus.²

Should the Parking Management and TDM measures described above fail to achieve the same level of parking demand reduction as on the main campus, the project could generate parking demand at a higher rate than does the main campus. At a higher parking ratio of 0.54 spaces per employee (Source: 1988 Long Range Development Plan, maximum allowed parking ratio for provision of close-in parking for faculty and staff), a total of 422 parking spaces would be necessary to meet commuter demand at full development of the proposed project. An additional 16 spaces would be necessary to accommodate “critical access parking” and visitor parking (based on the 2002-03 ratio of 0.02 for critical close-in parking on the main campus, TAPS). Under this scenario, a total of 438 parking spaces could be required for the project, or 161 new parking spaces in addition to the 277 existing spaces.

It is presently assumed that the existing parking supply on site, together with the transit demand measures identified, will be adequate for the projected population and uses. Further, there are approximately 80 unregulated on-street parking spaces available on the adjacent Delaware Avenue and Natural Bridges Drive, which could be used for spillover weekday parking should TDM measures prove inadequate to reduce parking demand to the levels achieved on the main campus. As a further transportation demand measure, TAPS will work with the City of Santa Cruz to encourage designation of these spaces for permit parking. In addition, demand could be reduced through incentives for employees to use transit (including financial incentives). TAPS would monitor parking occupancy on the site as part of its on-going management and identify a need for new parking if the average daily parking occupancy on site reaches 90 percent of capacity. In that event, there would be a need to augment the parking supply for the site.

If the existing parking supply proves inadequate for parking demand associated with the project, it would be possible to provide additional on-site parking space at 2300 Delaware Avenue through expansion of the existing parking lots. The north parking lot could be expanded to the south to provide about 98 additional parking spaces and/or the south parking lot could be expanded to the east to provide about 25 additional parking spaces, for a total of 123 additional spaces. In the present assessment, it does not appear that the project would generate demand for this additional parking, and no parking expansion is proposed at this time; nor are the potential environmental effects of such expansion analyzed here. Any such construction would be subject to further environmental review.

With implementation of these mitigation measures, the potential impacts described above would be less than significant.

DA Impact TRA-3: The proposed project would generate transit riders who would utilize SCMTD Route 20, which currently exceeds capacity during peak commute periods. This could reduce the effectiveness of alternative modes of transportation as TDM elements for the project site.

Significance: Potentially significant

² The use of bicycles to commute to this site could be higher than at the main campus because of the level terrain of the roads leading to the site.

DA Mitigation TRA-3: The University shall implement, or coordinate with SCMTD to implement, a transit route or route that adequately serves the project site.

Residual Significance: Less than significant

As described, above, in Section 4.3.7, the project site is presently served by two SCMTD METRO bus routes. However, peak hour service is often overcrowded, and it is anticipated that the proposed project would exceed the capacity of this service, resulting in inconvenience and delays for riders that could undermine the effectiveness of Campus and City TDM programs, which would be a potentially significant impact.

Pursuant to DA Mitigation TRA-3, in order to ensure that transit service in the project vicinity continues to be effective in supporting TDM programs, the Campus will continue to work with SCMTD to identify and develop effective transit for this part of the west side, and between the west side and the main campus. One option would involve expanding the existing Campus Transit Long Marine Lab Shuttle to serve the proposed project site and the Marine Science Campus at the west end of Delaware Avenue, and traverse Western Drive to circle the main campus in a counter-clockwise direction. This shuttle could also connect to a potential future transit hub at the intersection of Bay and California Streets. This west side Campus Transit route would not connect these locations to downtown, but instead circulate between the main campus and multiple UC Santa Cruz sites on the west side. This daytime service would operate weekdays year-round on 30- or 60-minute headways. This service would provide convenient and relatively frequent transit connections between west side UC Santa Cruz sites and the main campus, and ideally would reduce the need for mid-day auto trips between them, and also would supplement the existing SCMTD Route 20 service along the Western Drive corridor and through the campus.

Under a second option, SCMTD would replace the existing Route 3B with a new route that would include the proposed project site, via Mission Street, Swift Street, Delaware Avenue, Natural Bridges Drive, Western Drive and again looping counter-clockwise through the campus. Like the existing Route 3B, this new route would connect to the downtown—paralleling SCMTD Route 20 but traversing the commercial corridor along Mission Street instead of the residential area bisected by Delaware Avenue. This new route could provide convenient commuter transit from residential areas between Mission Street and Escalona Drive, as well as along the Laurel or Walnut corridors between downtown and Mission Street. This transit option currently is conceptual, but is likely to occur in conjunction with future SCMTD service revisions. The augmentation of peak hour and mid-day transit services to the site would meet transit demand, and would support Campus and City TDM goals, which would reduce the impact to a less-than-significant level.

Cumulative Impacts

The cumulative impact of 2300 Delaware Avenue Project in conjunction with the rest of the campus growth under the 2005 LRDP, the growth of the Marine Science Campus and background regional growth is adequately addressed in Section 4.14, *Traffic, Circulation, and Parking* (Volume II), in the LRDP EIR.

4.4.15 Utilities

4.4.15.1 Environmental Setting

Section 4.15, *Utilities* (Volume II), describes the existing utilities systems servicing UC Santa Cruz. The 2300 Delaware Avenue site is served by water distribution and wastewater collection facilities owned and operated by the City. Utility demand and points of connection are described in detail in Section 4.1.10, above.

4.4.15.2 Impacts and Mitigation Measures

Standards of Significance. Refer to Section 4.15, *Utilities*, (Volume II) for a discussion of applicable Standards of Significance.

Analytical Method. See Section 4.15 (Volume II) for the analytical methods used to determine impacts on utilities. Utility impacts are measured in terms of the adequacy of the available supply to meet the project demand, the availability of supply or service at the project's point of connection, and the environmental impacts from construction of utility improvements.

Impacts Adequately Analyzed at the LRDP Level or Not Applicable to the Project. Analysis at the LRDP level of impacts related to the capacity of utility systems took into account the increased demand from all the projected development and population growth under the 2005 LRDP, including the proposed 2300 Delaware Avenue Project.

Although 2300 Delaware Avenue is currently vacant, the utility demands associated with the project would not exceed capacities of site utilities to serve the project because the former use of the facility had high demands for utility services, which were adequately served by the utility capacity available to the facility. The proposed uses are well within the existing utility capacity of the site. To the extent that 2300 Delaware Avenue results in vacating of other UC-leased facilities, there could be a net reduction in utility use associated with the consolidation of UC-leased spaces because of increased efficiencies and the ability of UC Santa Cruz to uniformly apply 2005 LRDP water and energy conservation standards at a facility it owns.

The existing facility on the project site is already supplied with a functioning storm drainage system. The proposed project would not require modification of that system, nor would it add impervious surfaces to the site that would result in increased storm water runoff and require additional storm drainage infrastructure. No impact would occur.

Full occupancy at 2300 Delaware Avenue under the proposed project would increase wastewater flows relative to existing conditions, through the existing Natural Bridges/Delaware Avenue trunk line and pump station and to the WWTP at Neary Lagoon. The proposed occupancy of 2300 Delaware Avenue would increase wastewater generation on the site by roughly 4,800 gpd (approximately 1.7 million gallons per year). However, the contribution of the 2300 Delaware Avenue project to the existing sewage stream would be minimal compared to the contribution of the site's previous use for manufacture of silicon chips, which had high levels of utility demand. The entire proposed project would neither exceed

the capacity of the existing WWTP nor require construction of new facilities. Therefore, 2300 Delaware Avenue Project would not result in adverse effects to the environment with respect to wastewater.

The former industrial use of the facility had utility demands substantially higher than would be generated by the laboratory and office uses under the proposed project. It is anticipated that the proposed uses will be well within the existing utility capacity of the site for all utilities.

Project-Specific Impacts and Mitigation Measures

DA Impact UTIL-1: The proposed project would not require the construction of new or expanded water supply facilities.

Significance: Less than significant

DA Mitigation UTIL-1A: The Campus shall implement LRDP Mitigations UTIL-9A through 9H at the project site in conjunction with the occupancy of the 2300 Delaware Avenue site.

DA Mitigation UTIL-1B: The Campus shall, in conjunction with the redevelopment of Building C, implement a program of landscape redesign and renewal at 2300 Delaware to reduce the area of turf and replace landscape materials with drought-tolerant native plants, as feasible.

DA Mitigation UTIL-1C: Concurrent with landscape renewal, the Campus shall implement a transpiration irrigation system at the site similar to that used on the main campus to minimize irrigation water use.

Residual Significance: Not applicable

At full occupancy, the proposed project would have an annual demand of about 3.4 million gallons of water per year. This includes the water used inside the three buildings and the water needed to irrigate the existing landscaping at the site. As discussed in Section 4.15, *Utilities* (Volume II), the current annual water demand for the Santa Cruz Water Department service area is estimated to be about 3,872 million gallons per year (Goddard 2004) and 4,627 million gallons in 2005 based on the Integrated Water Plan, and the current supplies are short of demand only in drought years. Water demand from the proposed project of about 3.4 million gallons per year would represent less than 1 percent of the current system demand, and, therefore, would not be considered a significant increase in demand, and would not require new or expanded entitlements, or construction of new or expanded water supply facilities. Therefore, the effect of the proposed project on water supply would be less than significant.

However, consistent with the provisions of LRDP Mitigation UTIL-9A through UTIL-9H, the project would include a wide range of water-saving measures, as detailed in Section 5.15, *Utilities*, Volume II of this EIR. Consistent with UTIL-9D, the Campus would implement DA Mitigations UTIL-1B and UTIL-1C to ensure that landscaping at the project site would be renewed and irrigated in such a way as to minimize water demand. Implementation of these measures would further reduce the project's less-than-significant impact with respect to water demand.

Cumulative Impacts

The cumulative impacts of campus growth under the 2005 LRDP, including the 2300 Delaware Avenue, are adequately addressed under LRDP Impacts UTIL-9 and UTIL-10. The project's contribution to these impacts would be cumulatively considerable.

4.5 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires an EIR to describe and evaluate a range of alternatives to a proposed project or alternatives to the location of the proposed project. The purpose of the alternatives analysis is to discuss ways that the objectives of the proposed project could be attained while reducing or avoiding significant environmental impacts of the proposed project. This process is intended to foster informed decision-making and public participation in the environmental process.

CEQA Guidelines note that alternatives considered in the EIR should be technically, environmentally and socially feasible, and should attain most of the basic project objectives. A two-step process was used to conduct the alternatives analysis in this EIR. As a first step, potential alternatives were examined for their feasibility and ability to meet most of the basic project objectives. Those that were found to be infeasible were rejected without further environmental review. Feasible alternatives that would attain most of the basic project objectives were carried forth and examined for their ability to reduce or avoid significant impacts of the project. The alternatives considered but rejected are discussed in Section 4.5.1. The alternatives carried forward are discussed in Section 4.5.2.

4.5.1 Project Objectives

The guiding objectives of the 2300 Delaware Avenue Project are to provide high-technology research laboratories for faculty, graduate students, and postdoctoral scholars that will foster collaborative interdisciplinary research, consolidate UC Santa Cruz administrative office spaces, and provide storage and archiving space for materials that cannot be accommodated in the existing space on the main campus. Specifically, campus objectives in the development of 2300 Delaware Avenue are to:

- Provide state-of-the-art research and support space for new research initiatives and programs proposed by the Campus and affiliates
- Provide opportunities for inter-disciplinary research collaboration and increased research efficiency
- Relieve overcrowding and release instructional and research space at the main campus
- Maximize organizational efficiency through co-location of administrative programs
- Reduce the cost of off-campus leases through consolidation of space

4.5.2 Significant Impacts of the Proposed Project

The alternatives analyzed for a project should focus on reducing or avoiding significant environmental impacts associated with the project as proposed. As the analysis in Section 4.4, *Environmental Setting, Impacts, and Mitigation Measures*, shows, the proposed 2300 Delaware Avenue Project has the potential to result in significant impacts with respect to: use of hazardous materials by non-UC entities (DA Impact HAZ-1); quality of storm water runoff (DA Impact HYD-2); deterioration of recreational facilities (DA Impact REC-1); degrade LOS at two city intersections (DA Impact TRA-1); and demand for transit (DA Impact TRA-3). The alternatives to the proposed project are evaluated for their ability to avoid or reduce these impacts. Note that the majority of these impacts are reduced to less-than-significant levels by mitigation included above.

4.5.3 Alternative Considered but Rejected as Infeasible

This section discusses an alternative that was considered for the project but was rejected because it did not meet project objectives.

Building C Lease Alternative

Under this alternative, the Campus would expand the occupancy of Buildings A and C and re-commission the Building B kitchen, as proposed. However, Building C would not be redeveloped as research and research support space as under the proposed project, but would instead be leased as a storage yard and warehouse for boats and other large pieces of equipment, such as are used in research at the nearby UC Santa Cruz Marine Science Campus. While the facility could provide spaces that would be adequate for these purposes, use of this facility by others would make it unavailable for University programs. Further, storage uses for Building C would not take advantage of the opportunities presented by its existing sophisticated infrastructure. The Building C Lease Alternative would provide the expansion of office space in Buildings A and B to relieve crowding and increased administrative efficiency for other administrative facilities, and would reduce the cost of off-campus leases through consolidation of administrative space. However, it would not meet the primary project goals and objectives of providing state-of-the-art research and support space for new research initiatives and programs, nor would it provide opportunities for inter-disciplinary research collaboration and increased research efficiency. Therefore, this alternative was rejected because would not meet key project objectives.

4.5.4 Alternatives Evaluated in Detail

This section presents a qualitative evaluation of one alternative to the proposed 2300 Delaware Avenue Project that is considered potentially feasible and would meet some of the project's objectives. A No Project Alternative is also evaluated in detail. Discussion for each alternative includes a brief description, an impact analysis, and a summary comparison with the environmental impacts of the proposed project.

4.5.4.1 Alternative 1: Lower Density Laboratory Space

Description

Under this alternative, workstations would be added to Buildings A and B, and the occupancy of Buildings A and B would be increased to a total of 300 persons, as under the proposed project. However, in contrast to the development proposed for Building C under the proposed project, the main floor of Building C would be redeveloped as low occupancy laboratory space, at similar density with existing Engineering 2 facilities on the main campus (at a density of about 468 asf/occupant), and therefore would house a population of approximately 123 persons. Under this alternative, Building C would provide laboratories similar to the existing facilities in the Engineering 2 Building on the main campus, such as Bioengineering, Biotechnology and Quantitative Biomedical Research and the Center for Information Technology Research in the Interest of Society. Chemistry research labs would not occupy at the facility under this alternative, so no fume hoods would be needed in Building C. The computer server facilities and service/storage space in Building C would be developed in the same way, under the alternative, as under the proposed project.

Impact Analysis

Hazards and Hazardous Materials. Project impacts relating to the use of hazardous materials in laboratories and potential for human and environmental exposure would be reduced under the alternative, because the lower density laboratories would be expected to entail handling and disposal of smaller amounts of hazardous materials. Under Alternative 1, no fume hoods would be installed and the chemicals that required fume hoods in the chemistry research laboratories under the proposed project would be eliminated. Hazards associated with these chemicals would be reduced compared to the proposed project. However, these impacts were already less than significant under the proposed project because of EH&S protections in place. Under this alternative, the less-than-significant impact of the project relative to the handling of hazardous materials within ¼ mile of a school would also be further reduced.

Hydrology and Water Quality. The proposed project would not result in a significant impact with respect to wastewater discharge. This alternative would further reduce this less-than-significant impact because it would result in lower wastewater flows and place less demand on the existing WWTP. The less-than-significant potential impact of the proposed project with respect to the effects of outdoor use of pesticides and herbicides on water quality at Antonelli Pond would be the same under the proposed project and the alternative, because the same area of landscaping would be maintained.

Recreation. The potentially significant impact of the proposed project with respect to deterioration of facilities at Antonelli Pond due to increased local use would be diminished under the alternative, because the on site population would be significantly smaller.

Transportation and Traffic. The reduction in on-site population under this alternative by about 46 percent (compared to the proposed project) would eliminate the proposed project's significant intersection impacts at two intersections, and likely would eliminate impacts with respect to parking and alternative transportation, which, however, are reduced to less-than-significant levels by project mitigations.

Other Resources. The Lower Density Laboratory Space Alternative would have reduced impacts compared to the proposed project with respect to the project's less-than-significant air quality impacts, traffic-related noise impact, population and housing impact, a reduced demand for water because the on site population would be smaller. The less-than-significant human health risk impact from toxic air contaminants would be significantly reduced relative to the proposed project because all fume hoods would be eliminated. No project-specific impacts were identified for either the proposed project or the alternative for any of the other resource areas.

Ability to Accomplish Project Objectives

Because the scope of the development would be reduced, this alternative would only partially meet objectives of the 2300 Delaware Avenue Project. The capacity of the alternative to increase the number, breadth, and diversity of researchers within the campus community, and to thoroughly utilize the advanced laboratory space and building space, would be substantially reduced relative to the proposed project. In addition, the University would have to continue to lease space in the west side, and some of the campus population would continue to occupy overcrowded facilities on the main campus. This alternative would not make the best use of the available infrastructure capacity of Building C.

4.5.4.2 Alternative 2: No Project

Description

As required by CEQA Guidelines, the No Project Alternative is analyzed below. Under the No Project Alternative, the population in Buildings A and B would not increase, but would remain at 246 persons and Building C would be used only for infrequently-accessed storage with a minimal maintenance population, as previously approved.

Impact Analysis

Hazards and Hazardous Materials. Project impacts relating to the use of hazardous materials in laboratories and potential for human and environmental exposure would be eliminated under the No Project Alternative, because the potential laboratory space in Building C would be used for storage and no labs would be built. In addition, under the No Project Alternative, no fume hoods would be installed and the less-than-significant air and hazard impacts associated with hazardous chemicals would be eliminated. Therefore, the impacts would be reduced compared to the proposed project.

Hydrology and Water Quality. The No Project alternative and the proposed project would have the same potential to result in a potentially significant impact to water quality at Antonelli Pond due to the use of pesticides and herbicides on landscaping surrounding the buildings.

Recreation. The No Project Alternative would have less potential than the proposed project to result in significant impacts to recreational resources at Antonelli Pond, because, with the smaller population, fewer people would be expected to use the pond, and possibly litter.

Transportation and Traffic. The No Project Alternative would eliminate the significant impacts on the proposed project with respect to intersection levels of service at two intersections. The No Project alternative would also eliminate the impacts of the proposed project with respect to parking and with

respect to undermining alternative transportation systems. However, these impacts would be reduced to less-than-significant levels by mitigation associated with the proposed project.

Other Resources. No significant project-specific impacts were identified for the proposed project or the alternative for all the other resource areas. The No Project Alternative would eliminate the population increase associated with the proposed project, and the project thus would make no contribution to the significant unavoidable impact associated with the proposed LRDP. The No Project Alternative would eliminate the less-than-significant impact of the project with respect to traffic noise, because traffic would not increase under the No Project Alternative.

Ability to Accomplish Project Objectives

Under the No Project Alternative, the relief of overcrowding and the release for other uses of instructional and research space at the main campus would not be achieved. The state-of-the-art research and support space envisioned for Building C would not be developed or utilized, and the opportunity for new research initiatives and programs to develop would be limited. The planning objectives of increasing the number, breadth, and diversity of professional researchers within the campus community would not be achieved at this site, and ability to attract outstanding faculty could be reduced. Without the expanded research program, the University's objective of enriching campus life and serving the greater community would be reduced, as would the ability to attract talented researchers and students. The potential contribution of the 2300 Delaware Avenue Project to the vitality and richness of core academic programs on campus would not be made. Further, the University's ability to meet the LRDP objective of encouraging appropriate research partnerships between UC Santa Cruz and private, public, or nonprofit organizations would be reduced. The No Project Alternative would not meet most of the objectives of the proposed project.

4.5.5 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated.

The No Project Alternative would avoid all of the significant impacts of the proposed project and would be considered environmentally superior. However, it would not meet most of the objectives of the proposed project. If the No Project Alternative is the environmentally superior alternative, CEQA Section 15126(d)(2) requires that the EIR shall identify another alternative as environmentally superior.

The Lower Density Laboratory Space Alternative would be environmentally superior to the proposed project, because it would reduce the project's (mostly less-than-significant) impacts with respect to air quality, the use of hazardous materials, discharge of wastewater, increase in traffic noise levels, population and housing, recreational facilities, and traffic. This alternative would, however, only partially meet the objectives of the proposed project, the Campus would have to continue to lease space in the west side for administrative uses. Under the alternative, the facility would not offer opportunities for research expansion, high technology laboratories, or research collaboration and incubation, and some of the campus population would continue to work in overcrowded facilities on the main campus.

4.5.6 References

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URS Corporation L:\Projects\UC_Santa_Cruz_28649607\MAXDCurrent\Working Documents\100705\Figure_4-1_Project_Location_bndscapt.mxd Date/Time: 10/7/2005 10:43:20 AM Name: chwright0

Legend
 — 2300 Delaware Avenue Boundary

1,000 0 1,000 2,000
 Feet

PROJECT LOCATION

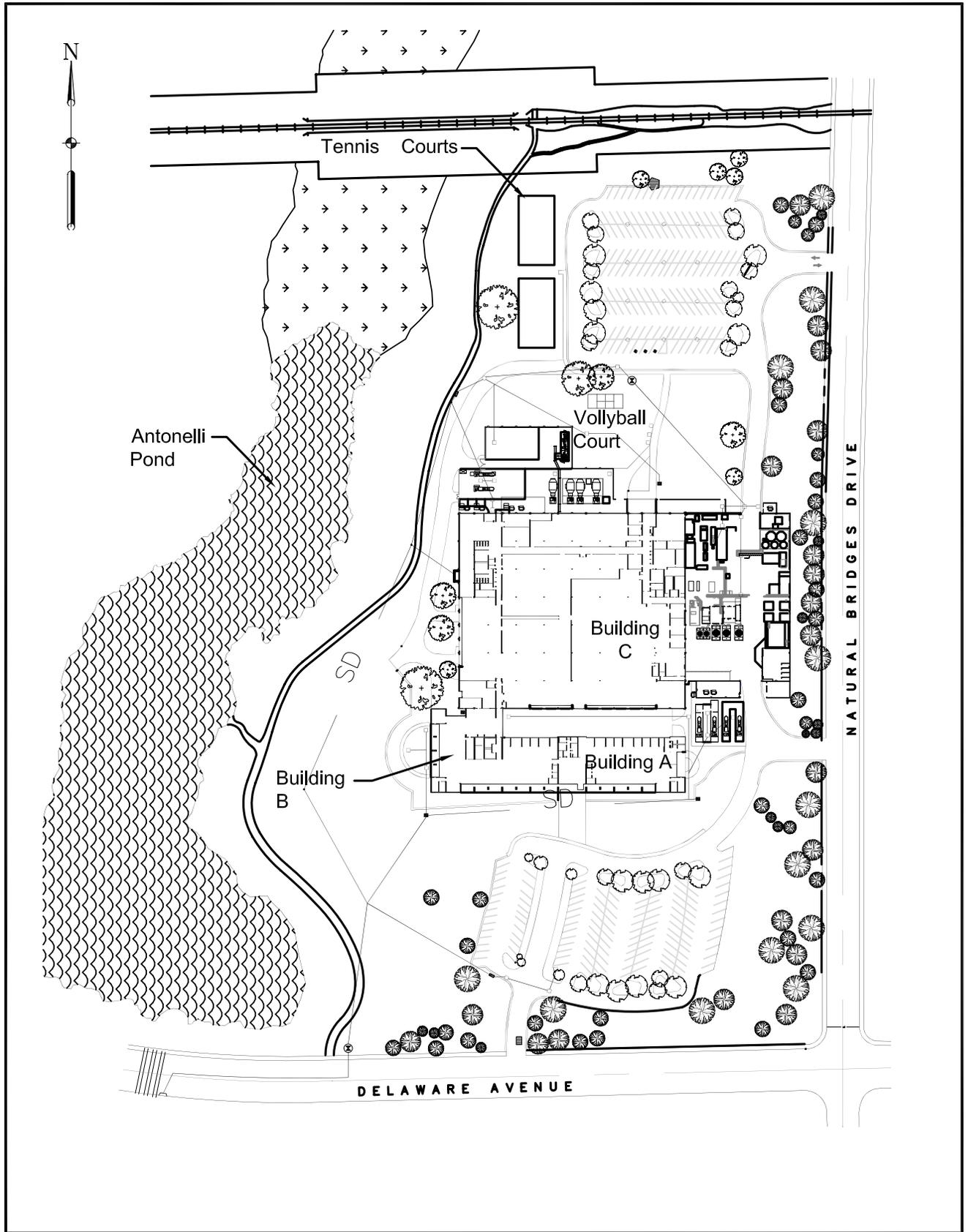
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FIGURE 4-1

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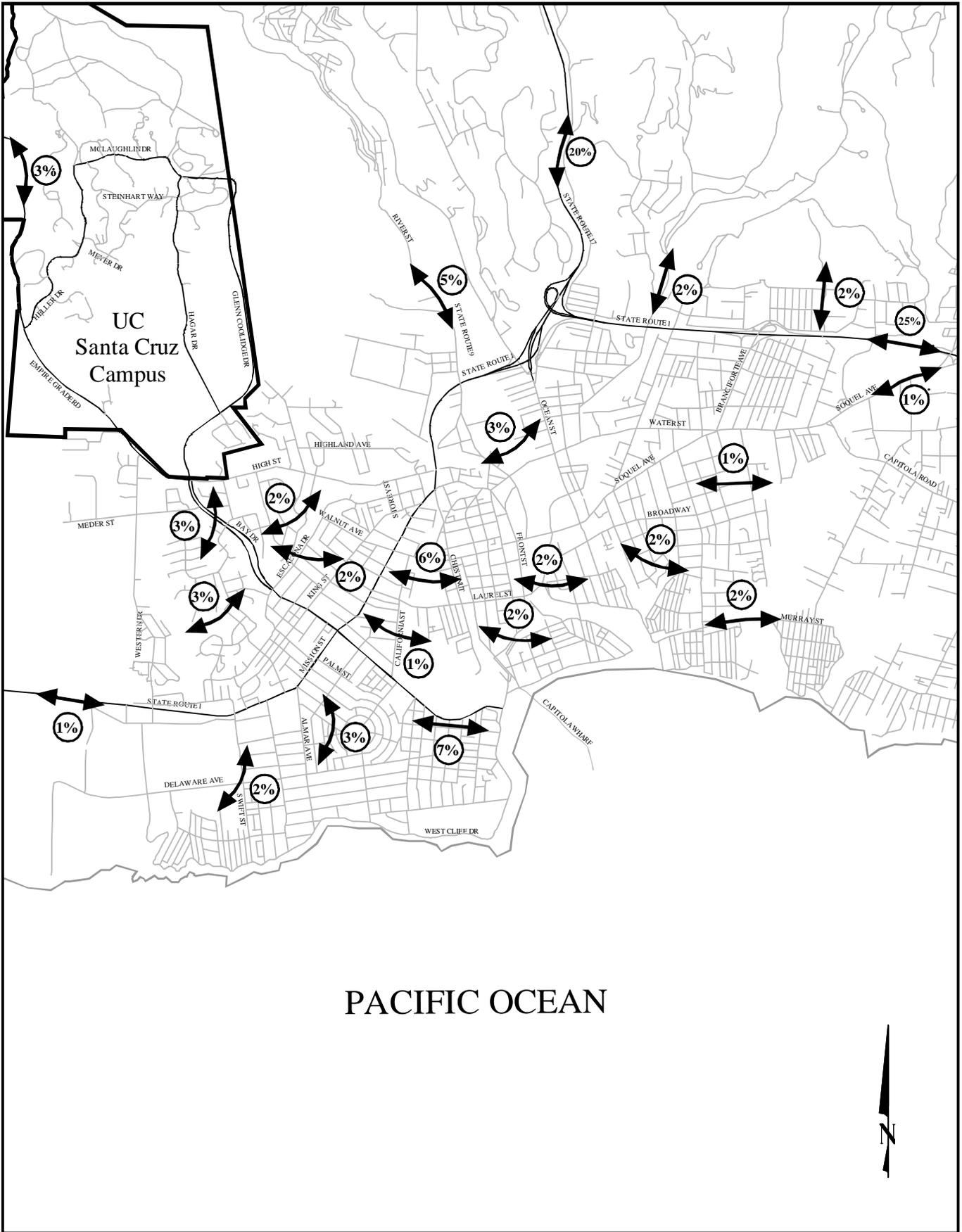
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FIGURE 4-2



PACIFIC OCEAN



Source: Kimley-Horn & Associates

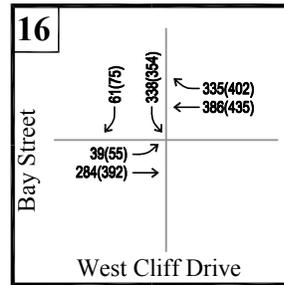
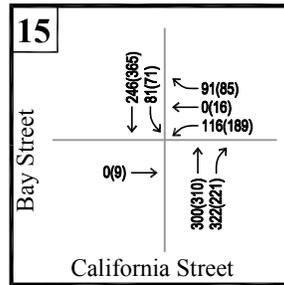
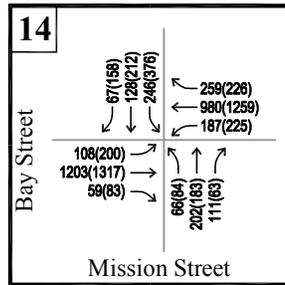
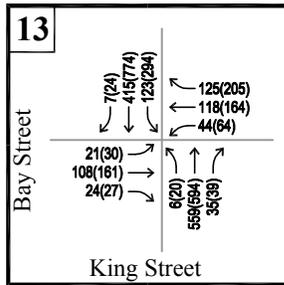
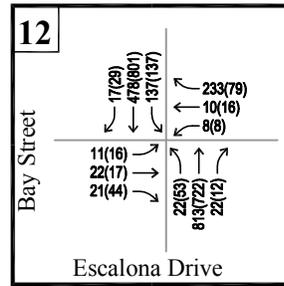
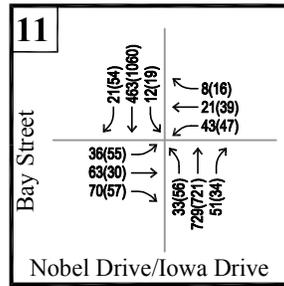
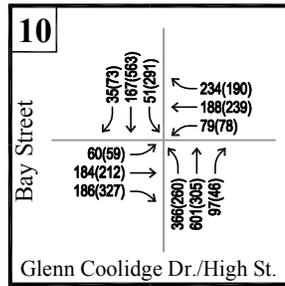
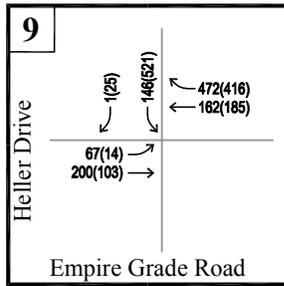
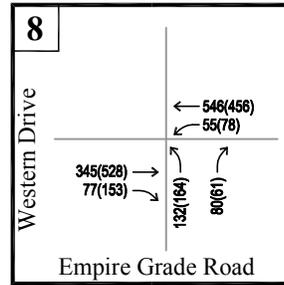
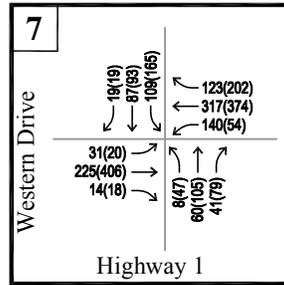
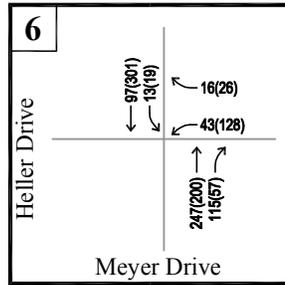
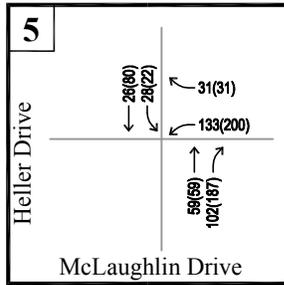
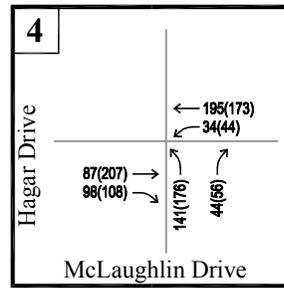
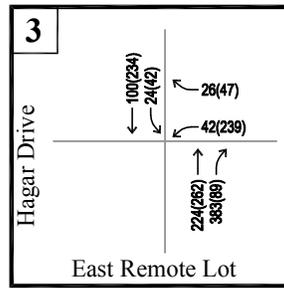
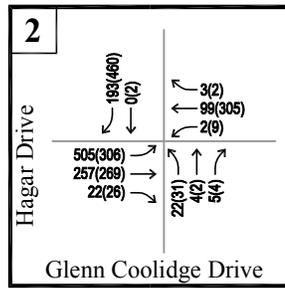
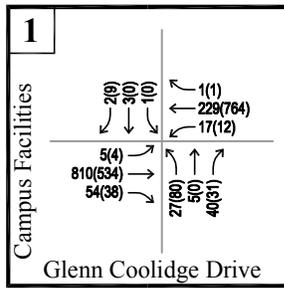
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FIGURE 4.3



LEGEND

X	STUDY AREA INTERSECTIONS
XX(YY)	AM(PM) PEAK HOUR VOLUMES

Source: Kimley-Horn & Associates

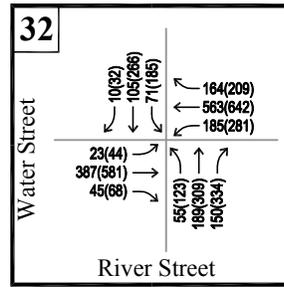
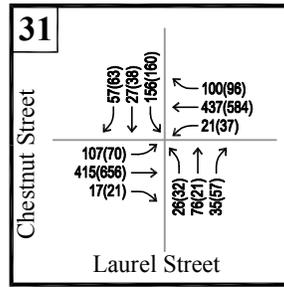
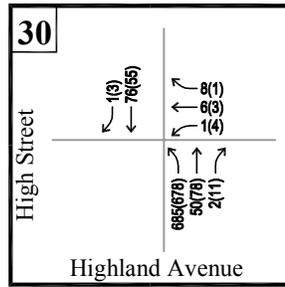
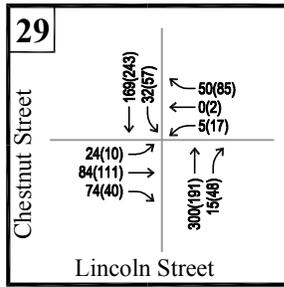
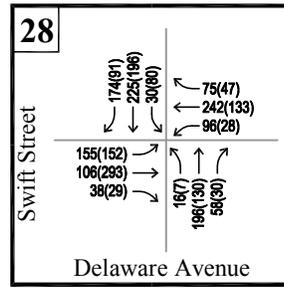
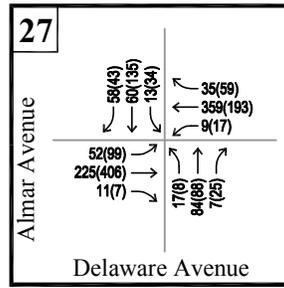
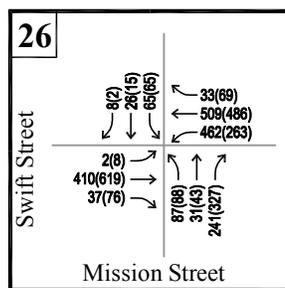
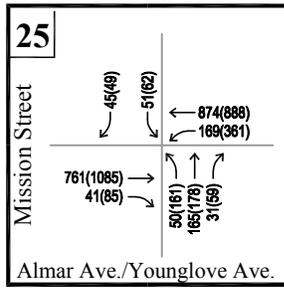
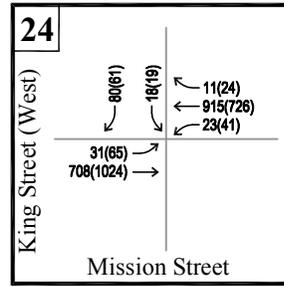
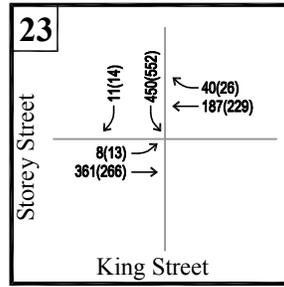
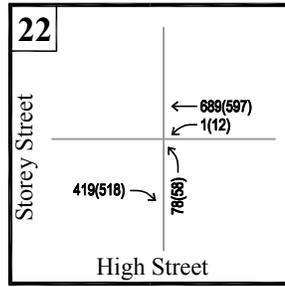
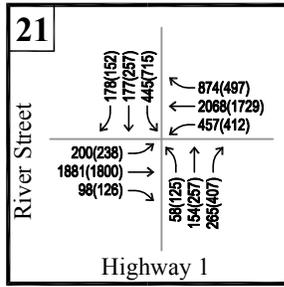
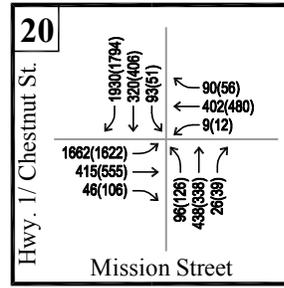
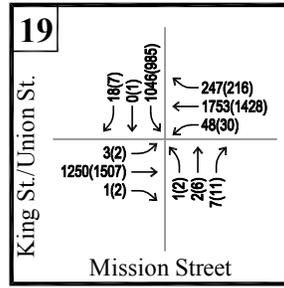
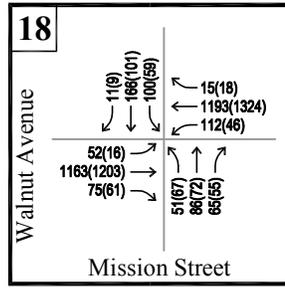
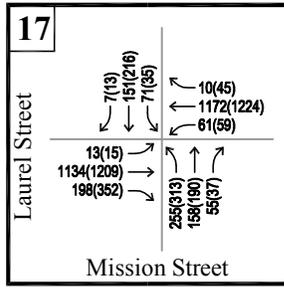
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FIGURE 4-4a



LEGEND	
X	STUDY AREA INTERSECTIONS
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Source: Kimley-Horn & Associates

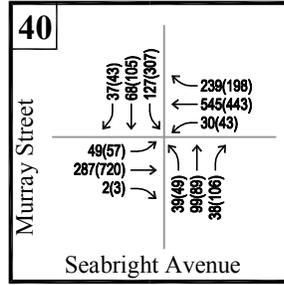
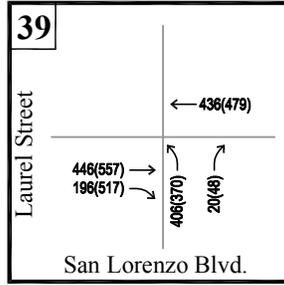
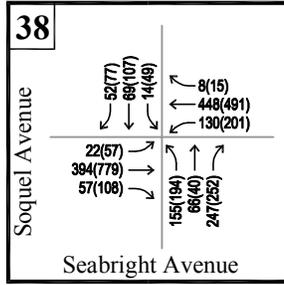
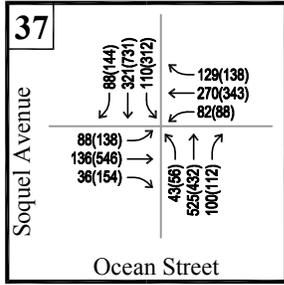
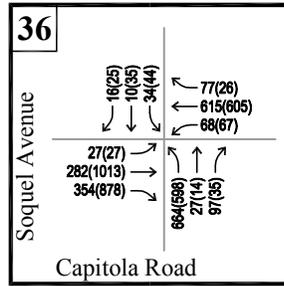
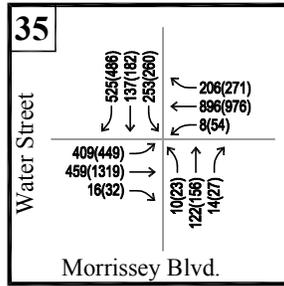
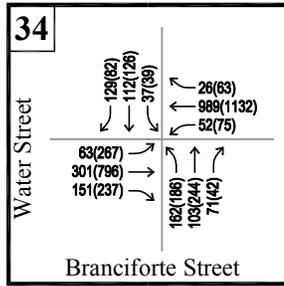
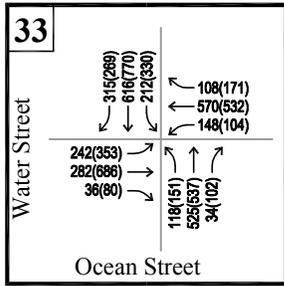
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FIGURE 4-4b



LEGEND	
X	STUDY AREA INTERSECTIONS
XX(YY)	AM(PM) PEAK HOUR VOLUMES

Source: Kimley-Horn & Associates

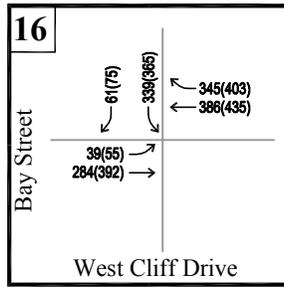
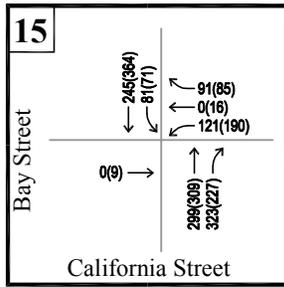
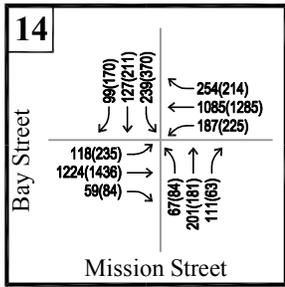
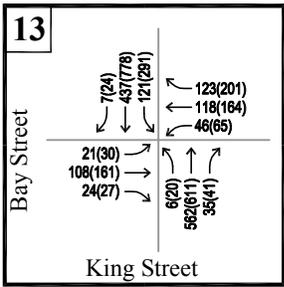
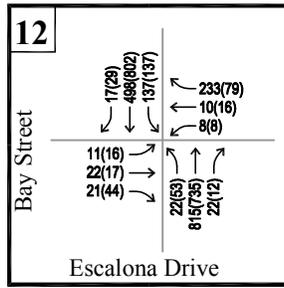
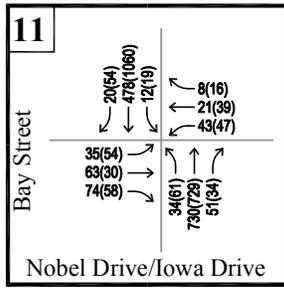
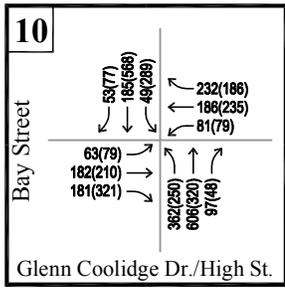
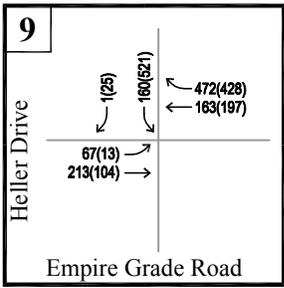
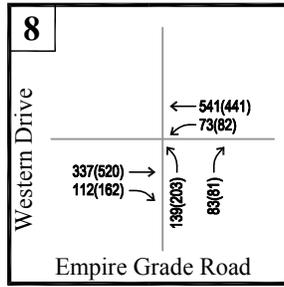
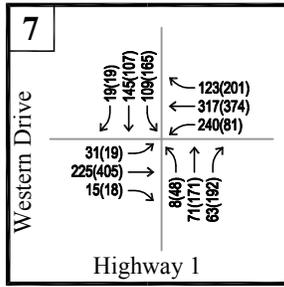
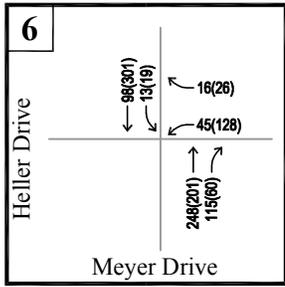
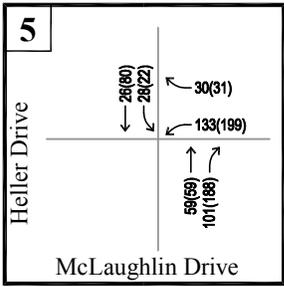
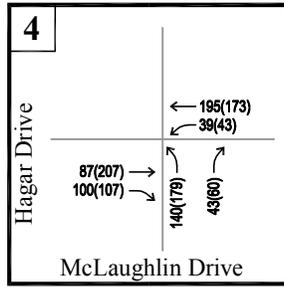
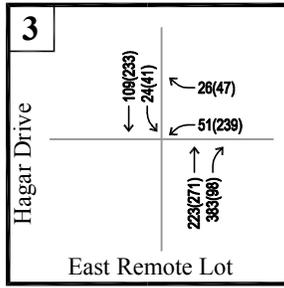
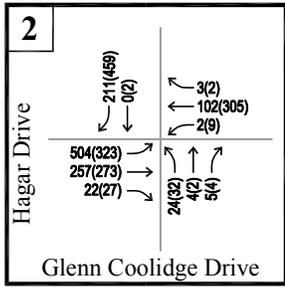
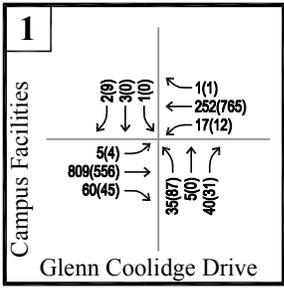
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FIGURE 4-4c



LEGEND

X STUDY AREA INTERSECTIONS

XX(Y) AM(PM) PEAK HOUR VOLUMES

Source: Kimley-Horn & Associates

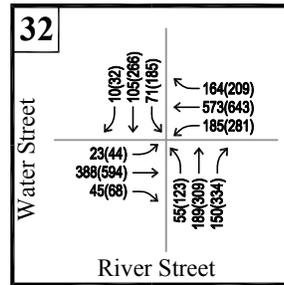
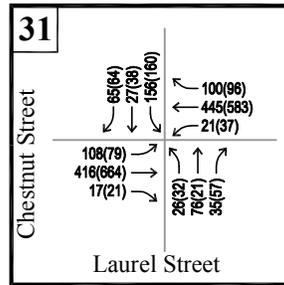
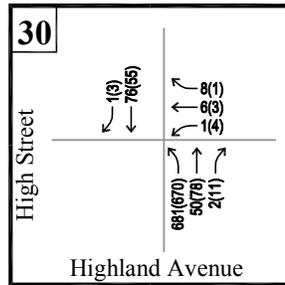
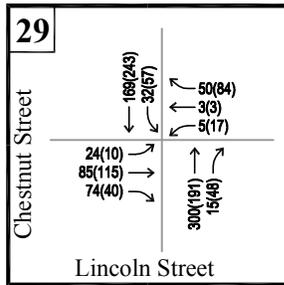
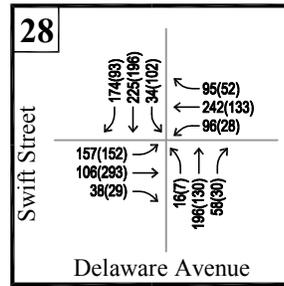
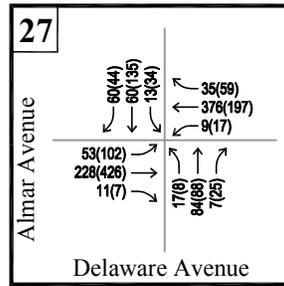
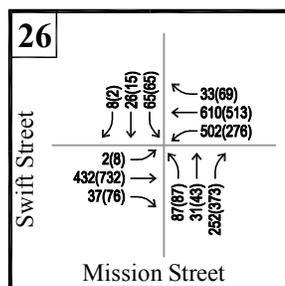
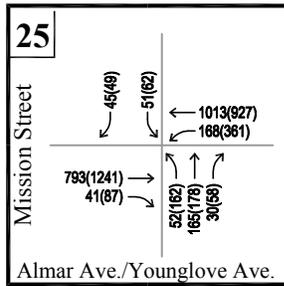
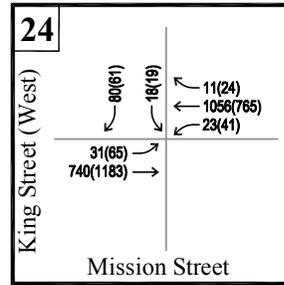
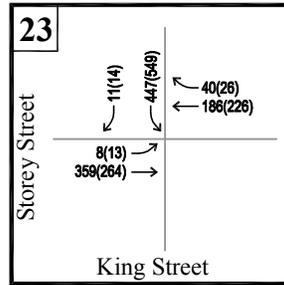
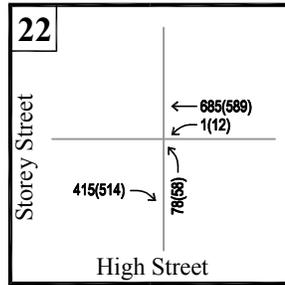
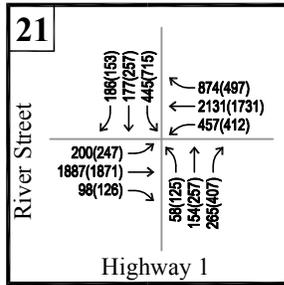
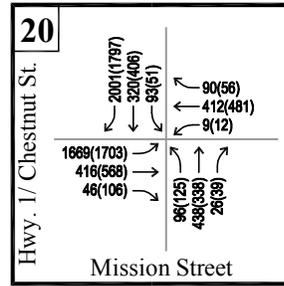
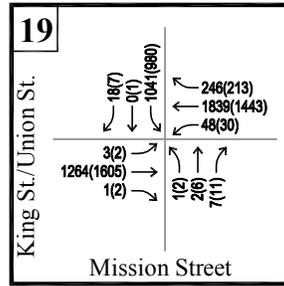
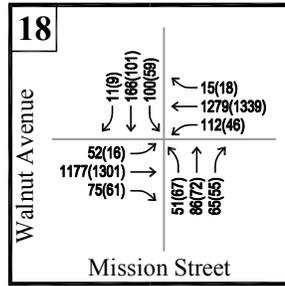
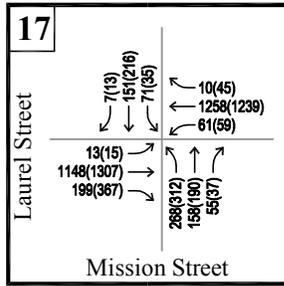
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Santa Cruz, California



FIGURE 4-5a



LEGEND

X	STUDY AREA INTERSECTIONS
XX(YY)	AM(PM) PEAK HOUR VOLUMES

Source: Kimley-Horn & Associates

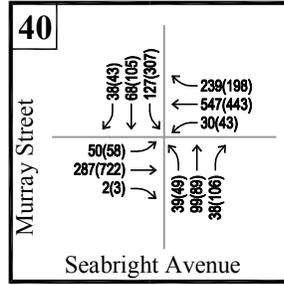
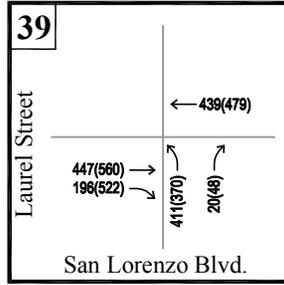
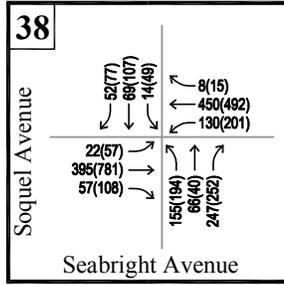
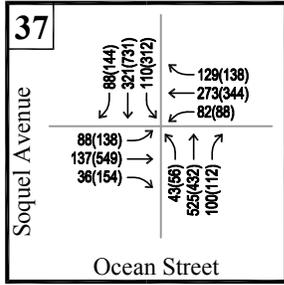
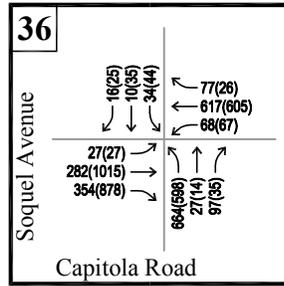
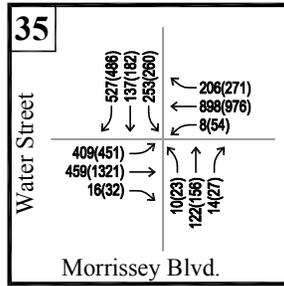
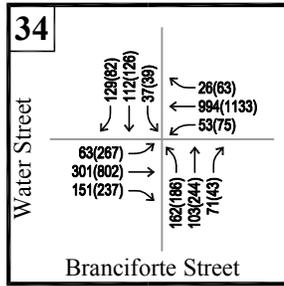
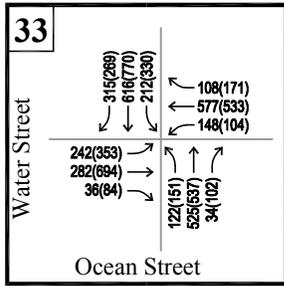
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FIGURE 4-5b



LEGEND	
X	STUDY AREA INTERSECTIONS
XX(YY)	AM(PM) PEAK HOUR VOLUMES

Source: Kimley-Horn & Associates

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FIGURE 4-5c