

**sAddendum #3 to the 2005 Long-Range Development Plan EIR for the Alterations for
Academic Programs Project Phase 1 and Materials Sciences Laboratories Project Phase 1,
Building C, 2300 Delaware Avenue**

I. PROJECT INFORMATION

1. Project title:

Alterations for Academic Programs
2. Lead agency name and address:
The Regents of the University of California
1111 Franklin Street
Oakland, CA
3. Contact person and phone number:
Alisa Klaus, 831-459-3732
University of California Santa Cruz
1156 High Street
Santa Cruz, CA 95064
4. Project location:
UC Santa Cruz 2300 Delaware Avenue Facility, Santa Cruz, California
5. Project sponsor's name and address: (See #3)
6. Custodian of the administrative record for this project (if different from response to #3 above.):
UC Santa Cruz Physical Planning and Construction
7. Identification of previous EIRs relied upon for tiering purposes (including all applicable LRDP and project EIRs) and address where a copy is available for inspection.)
 - 1) UCSC 2005-2020 Long Range Development Plan EIR, certified September 21, 2006, SCH No. 2005012113.
 - 2) Findings for Approval of the 2300 Delaware Avenue Project, Chancellor of UCSC, February, 2007
 - 3) Addendum #2 to the 2005 LRDP EIR, Thin Films and Materials Research Labs Project, October 2010.
 - 3) Findings for Approval of the Thin Films and Materials Research Labs Project, October 2010.These documents are available at the office of UC Santa Cruz Physical Planning and Construction, Barn G, UC Santa Cruz main campus, 1156 High Street, Santa Cruz, CA 95064. The 2005 LRDP EIR is available on the internet at <http://lrdp.ucsc.edu/final-eir.shtml>.

II. PURPOSE OF THIS ADDENDUM

The 2005-2020 Long Range Development Plan (2005 LRDP) for the University of California, Santa Cruz (UCSC's) describes envisioned development of new facilities on the main campus and at the campus'

facility at 2300 Delaware Avenue. The University prepared an Environmental Impact Report (EIR) to analyze the potential environmental impacts of the 2005 LRDP. The Regents of the University of California certified the 2005 LRDP EIR (State Clearinghouse No. 2005012113) in conjunction with approval of the 2005 LRDP in September 2006. The 2005 LRDP EIR included project-level analysis of redevelopment of the 2300 Delaware property, which is developed with three buildings, known as Buildings A, B and C. In February 2007, the University approved the 2300 Delaware project and adopted CEQA Findings in reliance on the certified LRDP EIR.

The 2300 Delaware project consisted of three major components: 1) adding work stations within Buildings A and B to accommodate up to 300 persons (for a net increase of 54 persons); 2) repairs and interior remodeling to unoccupied Building C to provide 92,000 asf of laboratory, office, and University service facility space to accommodate a new population of up to 482; and 3) limited work to upgrade chiller capacity in an existing walled exterior service yard, and other utility retrofits to support the proposed uses. At the time the 2005 LRDP EIR was prepared, the Campus had not developed detailed plans for the re-use of Building C. Therefore, the LRDP EIR analyzed the impacts of a development “envelope” based upon one possible use scenario.

The University remodeled the interior of Buildings A and B in 2007. These buildings are now fully occupied with a population of about 200 persons. Basic accessibility (ADA) and life safety improvements were carried out in Building C in 2009.

In October 2010, the University approved the Thin Films and Materials Research Labs, to remodel approximately 5,448 sf of Building C to create laboratories and associated corridors and mechanical space. The Thin Films and Materials Research Labs Project was completed in 2011 and is now in use.

With the exception of the Thin Films and Materials Research Labs, Building C has remained vacant and is used primarily for passive storage. The Campus is now proposing the Alterations for Academic Programs Project (“AAP Project”) to provide warm shell flexible and generic research laboratory spaces in Building C to make it possible to fit up research labs quickly as new faculty are hired. In addition, the Campus proposes to construct the Materials Sciences Laboratory Project Phase 1 (“MSL Phase 1”), in parallel with the AAP Project. The MSL Phase 1 Project would construction an approximately 2,200 asf clean room laboratory and an approximately 900 asf Materials Sciences wet laboratory for a newly hired faculty member in the Physics Department. As described below, both projects are within the development “envelope” analyzed in the 2005 LRDP EIR.

This addendum was prepared in accordance with CEQA to inform the University’s consideration and action on the Alterations for Academic Programs and Materials Sciences Laboratory Phase 1 projects. The purpose of this addendum is to evaluate whether the presence of changed circumstances or new information since The Board of Regents of the University of California (The Regents) adopted the 2005-2020 LRDP and certified the LRDP FEIR in September 2006, as described below, triggers the need for the preparation of a subsequent EIR.

III. PROJECT APPROVALS AND PERMITS

Relationship to Prior Approvals

The proposed AAP Phase 1 Project would partly implement the Building C improvements approved by the UC Santa Cruz Chancellor in February 2007 as part of the 2300 Delaware Avenue Project. The 2300 Delaware Avenue Project was described and analyzed in Volume 3 of the UC Santa Cruz 2005 LRDP EIR. The 2005 LRDP was adopted and the 2005 LRDP EIR was certified by the Regents of the University of California in September, 2006.

The Thin Films Project, which was approved by the UCSC Chancellor in October 2010, constructed a portion of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. The University prepared Addendum #2 to the 2005 LRDP EIR to evaluate whether the presence of changed

circumstances or new information since The Regents certified the LRDP FEIR in September 2006 triggered the need for the preparation of a subsequent EIR. Based upon the analysis presented in Addendum #2, the University determined that none of the conditions or circumstances that would require preparation of subsequent or supplemental environmental review existed.¹

As discussed above, the AAP and MLS Projects would implement portions of the previously approved 2300 Delaware Avenue EIR, and therefore is fully consistent with the scope of development, population, design, and policy objectives of the LRDP. The AAP Project would construct “warm shell” laboratory and support space, but additional construction would be required before the space could be occupied. The Campus’ planning and detailed design process has resulted in some modifications to the building infrastructure improvements included in the Project as approved in 2007, but the population and uses accommodated by the AAP Project would be consistent with the development “envelope” analyzed in the LRDP EIR.

The MLS Project would further develop, for specific research uses, a portion of the “warm shell” laboratory space constructed in Building C by the AAP Project. The population and use would be consistent with the development envelope analyzed in the LRDP EIR.

The Projects, if approved and funded, would not exceed the population and space projections considered for this site in the LRDP EIR. It therefore appears that the project is consistent with the LRDP.

Other Approvals and Permits

Equipment and materials proposed for use in Building C likely will require air quality and hazardous materials permits.

The project site is within the Coastal Zone. The California Coastal Commission issued Coastal Development Permit P-79-617 and P-79-617A for the construction and operation of the existing facility, which previously operated as a silicon chip manufacturing facility. The proposed lab operations and utility use would be consistent with but less intense than the uses associated with the previously-permitted operations of the facility. It therefore would not require a new Coastal Development Permit or amendment of the existing permit.

Environmental Determination

This project would implement a portion of the Building C program described for the 2300 Delaware Avenue Project, which was analyzed in the 2005 LRDP EIR and approved by the Chancellor of UCSC in February 2007.

If it is determined that project implementation would result in new significant impacts or a significant increase in previously identified significant impacts, or if new information changes prior significance conclusion or indicates that new mitigation measures would be required to reduce the significance of previously-identified mitigation measures, a subsequent environmental document is required. As Section 15168(c) of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations) states in relevant part:

When an EIR has been certified for a project, no additional environmental review is required except as provided for in Section 15162 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq), which sets forth the circumstances under which a

¹ Addendum #1 to the LRDP EIR was prepared in conjunction with approval of the Infrastructure Improvements Project, Phase 1, in February 2007. Addendum #1 concluded that none of the proposed project refinements would result in environmental impacts not previously identified in the LRDP EIR, or substantially increase the severity of the impacts previously identified. The Infrastructure Improvements Project, Phase 1 constructed infrastructure improvements on the UC Santa Cruz main campus.

project may warrant a Subsequent EIR or Negative Declaration:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Under Section 15163, a supplement to a certified EIR may be prepared when any of the conditions requiring preparation of a subsequent EIR are met, but only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. Under Section 15164, in cases where only minor technical changes or additions are necessary to make the previous EIR adequately apply to the project and none of the conditions calling for a subsequent or supplemental EIR has occurred, an EIR addendum may be prepared. If none of the above conditions is present, no further environmental review is required.

This Addendum finds the AAP Phase 1 and Materials Lab Phase 1 projects to be consistent with the 2005 LRDP and the 2005 LRDP EIR, certified by The Regents of UC in September 2006, and the 2300 Delaware Avenue Project, approved by the UCSC Chancellor in February 2007. The assessment below also concludes that the projects would not cause any new significant environmental effects that were not considered in the LRDP EIR, nor increase the severity of any impact previously found significant therein, and that no new information of substantial importance that was not known at the time the LRDP was certified, has become available. Accordingly, the University determines that an Addendum to the 2005 LRDP EIR is the appropriate level of environmental review for the projects. This Addendum therefore has been prepared to specifically describe the scope of the projects and its impacts in relation to the LRDP and the 2300 Delaware project, and to provide an analysis under CEQA Guidelines 15162 in the following assessment of Environmental Factors Potentially Affected.

IV. PROJECT OBJECTIVES

The objectives of the proposed Alterations for Academic Programs Project are to:

- Develop currently unusable areas of Building C to a condition of “warm shell” so that wet and/or dry research labs could be fit up quickly as new faculty are hired. These additional resources would allow continued recruitment of faculty in an effort to maintain competitive research and academic excellence;

- Enhance UC's research preeminence by fostering interdisciplinary exploration, learning, and discovery by allowing the future delivery of unique, essential hands-on research experience for students;
- Lay the foundation to create critical research laboratories and support facilities to address space deficiencies on the main campus; and
- Provide capacity for future collaboration spaces that facilitate interaction among faculty and students, across many disciplines.

These are consistent with the objectives of the previously-approved 2300 Delaware Avenue Project, as listed in the 2005 LRDP EIR (Vol. 3 p. 4-3):

- 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
- 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

V. PROJECT LOCATION AND DESCRIPTION

Project Location

The project would be located in Building C, at UCSC's 2300 Delaware Avenue facility. The facility 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 (Figure 1). 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, which is part of the Moore Creek corridor, a natural preserve managed by the City of Santa Cruz in cooperation with the Land Trust. The areas north and east of the facility are developed in mixed uses, including offices, commercial and light industrial facilities, and a few residences. The closest residences to the facility are the Santa Cruz De Anza residential community, southwest of the project site on the opposite side of Delaware Avenue, and a few residences along Natural Bridges Drive, east of the site. The entrance to UCSC's Coastal Science Campus (formerly known as the Marine Science Campus, Long Marine Laboratory and other facilities) is at the west end of Delaware Avenue, about ¼ mile west of the project site. A Union Pacific Railroad line runs along the north side of the 2300 Delaware Avenue property.

Project Description

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 redeveloping the facility for campus administrative and research development uses. The facility, which was vacant at the time of the acquisition, includes three large buildings; the two-story Buildings A and B, which comprise about 57,000 gsf, and Building C, which comprises about 183,000 gsf, including a basement, a main floor, and 52,400-sf mechanical equipment

mezzanine. A long narrow open atrium provides landscaped courtyard space between Building A and the windowed side of Building C. Two service yard areas are contained by exterior walls abutting the buildings include space for exterior storage, machinery, and a sheltered shipping/receiving area. The facility also includes two paved parking lots with a total of about 300 parking spaces, one north of Building C and one south of Building A/B; and amenities including lawns, a public access trail, and tennis courts. The facility is surrounded by a landscaped earthen berm 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.

The University remodeled the interior of Buildings A and B in 2007 following the approval of the 2300 Delaware Project and certification of the 2300 Delaware EIR, to accommodate offices and administrative support facilities. These buildings are now fully occupied with a population of about 200 persons. Basic accessibility (ADA) and life safety improvements were carried out in Building C in 2009 consistent with the 2300 Delaware Avenue Project approval. These included improvement of parking lot access from disabled parking spots, upgrading restrooms to comply with ADA requirements and current life safety codes, upgrading an existing air handler, and replacing inefficient boilers to provide basic heating and ventilation. With the exception of the Thin Films and Materials Sciences Lab Project, which constructed 4,363 sf of lab space and 1,085 sf of corridors and mechanical space, Building C has remained vacant and is used primarily for passive storage.

Recent Campus academic space planning efforts have refined the Campus’ plans for the use of Building C. The Campus proposes to upgrade the existing building infrastructure to create “warm shell” space for future research laboratory spaces. The project will provide readily available flexible research space, so that renovations to develop program-specific spaces can be performed as new faculty are hired. As described in more detail below, the proposed building program would differ to some extent from the scenario analyzed in the LRDP EIR but the building population would be within the development “envelope” and the proposed uses would be consistent with those described in the LRDP EIR.

Development of Building C as Analyzed in the 2005 LRDP EIR

Under the approved 2300 Delaware Avenue Project, Building C renovations involved remodeling 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. The 2300 Delaware Project description in the 2005 LRDP EIR was intended to encompass an “envelope” for potential uses of Building C. Project elements analyzed in the 2005 LRDP EIR were based on conservative assumptions regarding 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. Anticipated uses of Building C space as analyzed in the 2005 LRDP EIR are summarized in Table 1, below. The building consists of two floors, the main floor (ground level), and a basement.

**Table 1
Approximate Building C Space Allocation as Analyzed in 2300 Delaware Avenue EIR**

Function	Main Floor (asf)	Basement (asf)	Total (asf)
Computer Server Facility	9,300		9,300
Wet labs	24,600		24,600
Dry labs	18,400		18,400

Table 1
Approximate Building C Space Allocation as Analyzed in 2300 Delaware Avenue EIR

Research Support	14,700		14,700
Service and Storage Space	6,000	19,000	25,000
Total	73,000	19,000	92,000

Within the development envelope analyzed in the LRDP EIR, up to 43,000 asf on the main floor of Building C would be re-developed as research and research support space. Laboratory facilities would include about 18,400 asf of dry laboratory space, and up to about 24,400 asf of wet laboratory space with up to 131 fume hoods. Laboratories could include semiconductor clean room research laboratories (using existing clean room space in the building) for novel and high-performance electronic and photonic devices, nanotechnology and related research. The Campus planned to utilize some of the existing utility infrastructure in Building C, which was formerly used for the fabrication of advanced semiconductor wafers used in computers, to support these kinds of advanced laboratory uses.

As described in the EIR, the remaining 14,700 asf on the main floor of Building C would provide office space for academic faculty and administrative staff. Some conference space or expanded break rooms for use by research teams might also be included in this space allocation.

In addition, the EIR envisioned that 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 to host 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; and the second to house computer networks to serve users of Buildings A and B. The facility also would include emergency generators for life safety and as backup power for the computer rooms.

The 2005 LRDP EIR assumed that approximately 6,000 asf on the main floor of Building C and 19,000 asf on the basement level of the building could be available 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. The service and storage operations envisioned for the facility, if all were operating simultaneously, together could generate about 66 truck trips per day. This potential traffic is included in the total vehicle traffic analyzed for the facility in the EIR. Potential users and uses for the Building C lab space was envisioned in the EIR to include a number of existing campus science and engineering programs, faculty art studios, campus research affiliates, and joint programs between UC Santa Cruz and the City of Santa Cruz, such as an advanced technology incubator project that could include light manufacturing space for lease to qualifying emerging businesses.

The EIR considered a total population for Building C, at buildout, of up to 482 persons, and a total population for the 2300 Delaware Avenue Facility overall of up to 782 persons.

Description of the Proposed Alterations for Academic Programs Project Phase 1

The proposed Alterations for Academic Programs Project would be designed and constructed in two or more phases, with the Phase 1 planned for construction in 2015-17. The Project would construct building-wide basic infrastructure, both inside Building C and in the mechanical service yards to the east and north of the building. Phase 1 would construct infrastructure to serve approximately 28,000 asf of lab and lab support space. Subsequent phases would prepare additional space for use by adding modules to the proposed new heating, chiller, and emergency and backup power systems, and by conditioning additional

“warm shell” research spaces.

Program

As currently envisioned, when all phases are complete, the Alterations for Academic Building Project would support the development of a potential total of 24,391 asf of wet lab space, 33,712 asf of dry lab space, and 7,809 asf of lab service space, for a total of 65,912 asf. This includes the existing space created by the Thin Films and Materials Lab Project. As shown on Table 2, the Campus estimates that this space would accommodate a total population of 445 faculty, graduate students, post-doctoral researchers, and staff. Phase 1 would accommodate a population of up to approximately 190, in addition to the 12 existing occupants of Building C.

Table 2				
Building Program for Alterations for Academic Programs				
<i>Type of Use</i>	<i>TOTAL BLDG C ASF</i>		<i>Projected occupancy factor</i>	<i>No. of Occupants</i>
RESEARCH LAB - WET				
Materials Labs -Clean Rm	6,008		1 per 200 ASF	30
Materials Labs (Existing)	2,883		Per existing use	10
Materials/Other Labs	9,800		1 per 200 ASF	49
Other wet lab	5,700		1 per 200 ASF	29
Total Wet Lab/Conditioned Uses	24,391		Total Wet Lab/Conditioned Uses	118
RESEARCH LAB - DRY				
Robotics/Elec or Art	8,099		1 per 150 ASF	54
Various Grad Labs	8,397		1 per 100 ASF	84
Smart Power/ Environmental Tech	10,800		1 per 100 ASF	108
Materials/ Other Labs	3,600		1 per 100 ASF	36
Robotics/Elec or Art	2,630		1 per 100 ASF	26
Iridium Research Lab (Existing)	186		1 per 100 ASF	2
Total Dry Lab/Conditioned Uses	33,712		Total Dry Lab/Conditioned Uses	310
LAB SERVICES				
Materials Lab Service Corridor (Exist)	1,243		No occupants	0
Chemical Storage Rooms	1,276		No occupants	0
Shipping/Receiving/Stores	5,290		1 per 300 ASF	18
Total Lab Services Uses	7,809		Total Lab Services Uses	18
TOTAL BUILDING C	65,912			445

Interior Building Utility Infrastructure

The Alterations for Academic Programs Project Phase 1 would include alterations to all of the building mechanical systems, including:

- replacement of the existing chiller system in the basement with a new modular chiller plant. Phase 1 would install three chiller modules, two primary pumps, two secondary pumps, two

cooling tower and two condenser water pumps. Space would be allocated for the installation of addition of three additional chiller modules and associated pumps in a subsequent phase.

- mechanical exhaust systems upgrades to allow future fume hood installations,
- addition of new branch pipes to the domestic and industrial cold water system;
- new drain piping for clean room/wet lab which will connect to the existing sanitary drain in the basement;
- a new de-ionized water, replacing an older system that was removed;
- replacement of existing air compressors with new compressors;
- replacement of a basement floor drain and sump pump;
- a new 3-inch natural gas line from the basement to the north yard to serve the new generators;
- process piping systems upgrades

Other work on building utilities would include telecommunications, fire alarm, and security system upgrades; installation of a new building energy management system; reconfiguration of some existing transformers and switchboards and demolition of others, and lighting upgrades. In the “warm shell” research spaces, the Project would refurbish the existing infrastructure and/or install new basic lab utilities such as lab air, process vacuum, deionized water, lab waste piping, lab equipment cooling water, natural gas and lighting.

Architectural Infrastructure

The Alterations for Academic Programs Project Phase 1 would upgrade an existing freight elevator to an accessible passenger elevator; upgrade and reconfigure existing restrooms; demolish raised floors and abandoned utilities; and patch, repair, and finish walls, ceilings, and floors.

North and East Yards

The Alterations for Academic Programs Project Phase 1 would remove elements of the existing mechanical and electrical equipment in the north and east service yards, and install new equipment. In the north yard, an existing 80KW generator and associated propane fuel tank would also be removed. A new 300KVA/480/277V, dual-fuel generator, along with all of the associated natural gas, propane, and electrical distribution components required for the system to operate as a life safety generator would be constructed in its place. A new standby/backup power system would also be constructed. Phase 1 would construct the utility infrastructure necessary for the addition of up to three 250KVA natural gas-fueled generators in potential future phases. In Phase 1 only one 250KVA generator will be installed; the other two would be installed in future phases.

In the east yard, the four existing cooling towers in the east yard would be removed and replaced with two new cooling towers. The two new cooling towers would have the capacity to serve the chillers needed to serve all of Building C.

Optional project elements

Potential future phases of the Project may include a new rainwater harvesting system to collect, treat and distribute roof-top runoff for use in toilet flushing or other non-potable uses. The system would include piping, filters, UV sterilization, storage tank, pumping system and controls.

A second optional project element would be the development of a thermal storage system for cooling water. This system would utilize an existing 300-ton scroll chiller from the main campus, ice storage tanks, a heat exchanger and pumps.

Population

As shown in Table 2, the 65,912 asf of potential future lab space in Building C would accommodate a population of approximately 445 faculty, graduate students, post-doctoral researchers, and staff, including the occupants of the existing labs, who generally would be present at the site between 8 AM and 6 PM on weekdays. This population is slightly less than the population of 482 for Building C included in the development “envelope” in the 2005 LRDP EIR. The 28,000 asf of research space supported by the Alterations for Academic Programs Phase 1 would accommodate a population of approximately 190.

Construction

Project construction is anticipated to begin in late fall 2015 or early winter 2016 and be completed in phases in fall 2016 and spring 2017. Construction would be staged in the existing service yards and parking lots.

Description of the Proposed Materials Science Lab Project

The proposed Materials Science Lab, which would be built in parallel with the Alterations for Academic Programs Project Phase 1, would construct approximately 2,200 asf of clean room laboratory space, approximately 900 asf of wet laboratory space, and approximately 500 asf of lab service space. The Project would provide lab space for a newly hired faculty member and future hires in the Physics Department. The research will focus on the growth and characterization of advanced materials with strong magnetic and magnetoelectric interactions.

The new clean lab would be built within the existing clean room area, which includes unused state-of-the-art infrastructure which was in place when UC Santa Cruz acquired the building in 2004. Much of the infrastructure is still usable. The lab would include three fume hoods, gas cabinets, storage areas for research support equipment, and areas for housing specialized instrumentation. The equipment installed in the clean lab will include molecular beam epitaxy, pulsed laser deposition, and sputtering growth techniques, as well as device fabrication equipment. The wet labs will include equipment for the magnetic and electronic transport characterization of the devices made from these materials as a function of temperature and magnetic field.

Population

It is anticipated that the labs will be used by approximately 16 researchers, who generally would be present at the site between 8 AM and 6 PM on weekdays

Construction

Construction is planned for begin in winter 2017, with phased completion in fall 2016 and spring 2017.

Consistency with 2005 LRDP

The 2300 Delaware site is designated Academic Core (AC) in the LRDP. This land use designation provides for land uses that directly support the teaching, research, and public service mission of the University of California, including instruction and research, organized research, academic support, libraries, student services, institutional support, public services, and parking. The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects would develop research space, which is consistent with this designation. The projects would not construct new building space; the buildings at 2300 Delaware were included in the building space baseline for the 2005 LRDP.

The 2005 LRDP would accommodate a total, 3-quarter-average student headcount of 19,500, and an employee population of 5,074 at the main campus, various leased facilities in the city of Santa Cruz, and 2300 Delaware. In 2013-14, the three-quarter average student headcount was 16,300 and there were 3,847

employees.² The lab space which could be added under the AAP Phase 1 Project would accommodate approximately 135 new graduate students and 55 new employees. When added to the 2013-14 headcount, this would bring the total enrollment to 16,435 and the total number of employees to 3,902, which would not exceed the LRDP enrollment of 19,500 or the employee population of 5,074.

Applicable 2005 LRDP EIR Mitigation Measures

The following previously adopted 2005 LRDP EIR Mitigation Measures are applicable to and incorporated in the Alterations for Academic Programs Phase 1 and the Materials Laboratory Phase 1 projects:

LRDP Mitigation AIR-2A: *The Campus shall incorporate, in each new project, design and construction features that conserve natural gas and/or minimize air pollutant emissions from space and water heating. Specific measures that will be considered for each project include, but are not limited to the following:*

- *Orientation of buildings to optimize solar heating and natural cooling;*
- *Use of solar or low-emission water heaters in new buildings; and/or*
- *Installation of best available wall and attic insulation in new buildings*

Since building re-use presents unique energy efficiency challenges, the Campus has conducted a detailed energy performance analysis for the Alterations for Academic Programs Project. As the existing mechanical systems were installed and sized for a completely different, higher-capacity use, the modifications include replacement or retrofits of most major prime equipment with new highly efficient and modular equipment.

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.*

UCSC Grounds staff currently complies with this requirement in maintenance of landscaping at 2300 Delaware and will continue to comply with the same requirements with respect to any new landscaping established as part of the current project.

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

Trash containers have been placed as required and are serviced regularly by UCSC Grounds staff.

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 toward providing and maintaining picnic and trail facilities at Antonelli Pond.*

UCSC consulted with the Land Trust as required, and it was agreed that the augmentation of trash collection would be an adequate contribution to maintenance of recreational facilities at this time. The small additional population associated with the proposed project would not be expected to result in a noticeable increase in the demand for or use of recreational facilities at the site.

DA Mitigation REC-2D: *The Campus shall implement LRDP Mitigation REC-2D. (The Campus shall coordinate with the City of Santa Cruz's efforts in organizing an annual or semi-annual volunteer trail maintenance day, and shall assist in the recruitment of volunteers for these events from the UC Santa Cruz campus through campus advertising and education efforts).*

² UCSC Planning and Budget, Spring 2014 Enrollment, May 20,2014; UCSC Personnel Profile by Status and Gender, from PPS Monthly as of November 3, 2014. Employee count excludes student employees, employees based at the Coastal Science Campus, and those working outside Santa Cruz County.

Campus has contacted the City and has been told that the City does not have a volunteer trail maintenance program. Campus contacts the City periodically to check on the status of such a program.

DA Mitigation TRA-1A: *The Campus shall contribute its fair share toward the cost of installing a traffic signal at the intersection of Empire Grade and Western Drive and updating the signal timing at the intersection of Mission Street / Bay Street.*

As discussed below, an August 2008 Settlement Agreement defined the mechanism that will be used for calculating the campus' fair share of the costs of mitigating traffic impacts to which each project at 2300 Delaware contributes. Under this agreement, payments for average daily trips associated with new use of Building C (such as the proposed project) will be paid based on the City's methodology and citywide Traffic Impact Fee schedule in effect at the time of occupancy. Anticipated project trip generation and fair share traffic payments are discussed under Traffic and Transportation, below.

DA Mitigation TRA-1B: *The Campus shall implement LRDP Mitigation TRA-2B (Continue to improve TDM programs).*

Employees of 2300 Delaware are eligible for the same TDM programs provided for other UCSC staff and faculty, including: subsidized SCMTD Faculty/Staff bus passes; Commuter Vanpool program; Emergency Ride Home program (for participants in other TDM programs); Zipcar ridesharing program; and Zimride ridematching services.

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.*

Parking utilization surveys were conducted mid-morning and mid-afternoon on five weekdays in Spring 2014, finding an overall utilization rate of 71.06%.

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.*

SCMTD continued to provide supplemental Route 20D transit service via the UCSC service agreement during 2013-14. While SCMTD implemented service reductions throughout Santa Cruz County in September 2011, UCSC's supplemental Route 20D continued to operate. Two additional Route 20 runs were implemented weeknights at 9:20pm and 10:20pm during the Winter 2014.

Discussions began with the SCCRTC to locate a Westside rail station along the recently acquired rail right-of-way. TAPS is advocating a location north of the 2300 Delaware facility to provide easy access to the SCMTD Route 20 and 20D service operating along Natural Bridges Drive. Pedestrian and bike paths would adjoin the rail corridor, providing new circulation routes to UCSC facilities at 2300 Delaware and the Coastal Marine Campus.

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.*

This mitigation refers to a suite of measures to reduce UCSC water demand and to comply with drought restrictions as applicable. To implement these mitigations, restrooms in Building C were retrofitted with water-efficient fixtures as part of the ADA and life safety improvements made to that building in 2009.

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.*

The Campus is developing a phased water conservation landscape program that includes removal of turf. Each Project that results in an increase in occupancy of the building is required to implement one phase of

the program. The first phase of the program was implemented in conjunction with the Thin Films Project. The next phase would be constructed in conjunction with the Materials Science Lab Project.

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.*

The campus has installed an evapotranspiration-based irrigation controller at the 2300 Delaware site. The irrigation system is responsive to daily weather data (RainMaster Evolutions Central Irrigation System), as well as automated leak detection and shut down. An annual Preventative Maintenance program tests and adjusts the sprinkler system to reduce overspray and maximize distribution efficiency. Irrigation technicians respond quickly to any reports of suspected undesirable water flows. 18,000 sq. ft. of turf with large rotor sprinklers was removed and replaced a low water use landscape with appropriate irrigation.

Changed Conditions Since Certification of the 2300 Delaware Avenue EIR

The 2005 LRDP EIR anticipated that Building C could be fully-occupied by 2010. With the exception of the Thin Films and Materials Lab Project, which developed 4,363 sf of lab space and 1,085 sf of corridors and mechanical space the building has continued to be used primarily for passive storage. Similarly, development anticipated in the previously approved Coastal Long Range Development Plan for UCSC's Coastal Science Campus, which is close to the project site and is accessed similarly to the project site, also has not progressed as anticipated. Thus, the UC Santa Cruz trip generation anticipated for this area in the CLRDP EIR and the 2300 Delaware EIR has not materialized. However, the Campus is preparing to begin construction on the Coastal Biology Building (CBB) Project at the Coastal Science Campus, which was approved in January 2012. The CBB Project will construct a 40,000-gsf research and teaching lab building and a new 7,500-gsf in a new greenhouse complex. Subsequent to certification of the 2300 Delaware EIR, the Delaware Addition at Santa Cruz a phased live-work development in the Westside of Santa Cruz at 2120 Delaware Avenue (one block east of 2300 Delaware Avenue), was approved by the City of Santa Cruz. This project, which is being constructed in phases, would contribute traffic to many of the intersections also used the 2300 Delaware population. The new vehicle trips associated with the CBB Project and the Delaware Addition are addressed under Transportation/Traffic, below.

Subsequent to the University's initial approval of the 2005 LRDP EIR in 2006, the California Global Warming Solutions Act of 2006 (AB 32) was enacted. The State of California has adopted changes in CEQA guidelines with respect to analysis of project greenhouse gas emissions. The requirement to consider project greenhouse gas emissions in CEQA documents represents a changes regulatory condition since approval of the 2300 Delaware Project, which will be taken into account in the analysis that follows.

Since the 2005 LRDP EIR was published in 2006, the Santa Cruz Water Department, which provides water to the Coastal Science Campus, has revised downward its projections of water demand within its service area through 2020. However, the City continues to face challenges in meeting its current and future water supply needs. The lack of adequate water supply during drought continues to be the City's primary water management challenge. The second challenge is the regulatory requirement that the City ensure that the City's surface water diversions are operated in a manner that protects the aquatic habitat of threatened and endangered species (City of Santa Cruz Water Department 2011). Although this was mentioned in the 2005 LRDP EIR, the City's discussions with regulatory agencies have progressed to the extent that the City now projects that implementation of the endangered species regulations will result in a reduction in the water that will be available from the City's existing sources in the future. This will exacerbate the water shortage in dry years. These changes in the City's water supply planning are addressed under Utilities, below.

In August, 2008, the University entered into a Comprehensive Settlement Agreement ("Settlement Agreement") with the City of Santa Cruz, the County of Santa Cruz, two community associations, and 11 individuals to resolve litigation with respect to The Regents' approval of the 2005 LRDP. As part of the

Settlement Agreement, the parties negotiated the University's share of the costs of developing new water supplies by the Santa Cruz Water Department and of improvements to City intersections. These terms of the Settlement Agreement define the payments the University will make to the City to mitigate the water supply and traffic impacts of development on the main campus and 2300 Delaware under the 2005 LRDP. As discussed in the analysis below, under Transportation and Circulation and Utilities and Service Systems, the Settlement Agreement does not affect the significance of the impacts of the proposed project, or of the LRDP as a whole. However, the Settlement Agreement defines in detail how mitigations identified in the LRDP EIR, including the analysis of the environmental impacts of the 2300 Delaware Project would be implemented by the Campus. In addition, the University agreed not to tier from or otherwise rely on the housing and water supply analysis in the LRDP EIR. The analysis of the environmental impacts of the 2300 Delaware Project in the 2005 LRDP EIR were tiered from the program-level analysis of the impacts of development under the 2005 LRDP. The analysis of housing and water supply impacts of the Alterations for Academic Programs Phase 1 and the Materials Science Lab Phase 1 projects does not rely on the 2005 LRDP EIR.

Sustainability Elements

To comply with the UC Policy on Sustainable Practices, both the Alterations for Academic Programs Phase 1 and Materials Science Lab Phase 1 projects are being designed to target a LEED™ "Silver" rating. Restroom fixtures in Building C have been retrofitted with low-flow models. The irrigation system at the site is controlled by an irrigation controller which is responsive to daily weather conditions (RainMaster Evolutions Central Irrigation System), and includes an automated leak detection and shut down. The Campus has developed a program to replace existing turf with low-water-use landscaping in phases as Building C is occupied.

The Alterations for Academic Programs Phase 1 Project would replace existing chiller plant and lighting with more efficient systems. All new and existing equipment would be monitored and controlled using a web-based automation system, consistent with Campus Standards.

Cumulative Projects

Construction of the Alterations for Academic Programs and Materials Science Lab Projects would overlap with construction of the Coastal Biology Building at the UC Santa Cruz Coastal Science Campus. Elsewhere in the lower west side Santa Cruz, construction also could be underway at the Delaware Addition site (described above).

VI. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

VII. DETERMINATION: (TO BE COMPLETED BY LEAD AGENCY)

On the basis of the initial evaluation that follows:

- I find that the proposed project could have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, and that these effects have not been adequately analyzed by an earlier EIR. A TIERED ENVIRONMENTAL IMPACT REPORT will be prepared.

- I find that although the proposed project could have a significant effect on the environment but one or more of the following have occurred (1) all potentially significant effects have been addressed adequately in an earlier environmental document pursuant to applicable standards; (2) all potentially significant effects have been avoided or mitigated to the extent feasible pursuant to that earlier environmental document, including mitigation measures that are incorporated into the proposed project; (3) the project does not involve new information of substantial importance; and (4) no new mitigation measures or alternatives which are considerably different from those adopted as part of the certified 2005 LRDP EIR or which were previously considered infeasible, are now feasible that would reduce a new or previously identified significant impact. An ADDENDUM and/or FINDINGS will be prepared.

Signature

Date

Printed Name

For

VIII. EVALUATION OF ENVIRONMENTAL IMPACTS

The University has defined the column headings in the Initial Study checklist as follows:

“Additional Project-level Impact Analysis Required” applies where the project may result in an environmental impact that was not considered in an earlier document, or not considered in sufficient detail, and/or substantial project changes, changed circumstances, or new information of substantial importance triggering CEQA Section 15162 has occurred since certification of the earlier document.

“Project Impact Adequately Addressed in Earlier Environmental Document” applies where the potential impacts of the proposed project were adequately addressed in an earlier environmental document and either no changes or no substantial changes to the project are proposed, and no new information of substantial importance has been identified.

Impact Questions and Responses

Issues	(A) Additional Project-level Impact Required	(B) Project Adequately Addressed in Earlier Environmental Document
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1. AESTHETICS – Would the project:

- | | | |
|--|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Previous Analysis

a-d) The 2005 LRDP EIR (Vol. 3, p. 4-24) determined that the 2300 Delaware Avenue Project would not result in any impacts on scenic vistas, visual character or quality, or light and glare, because it would not alter the external appearance of the site and would not add new lighting.

Relevant Elements of the Project and Changes to the Project

The proposed Alterations for Academic Programs and Materials Science Projects would redevelop a portion of the 2300 Delaware Building C, alterations to and addition of rooftop mechanical equipment, and demolition and replacement of electrical and mechanical equipment in existing enclosed service yards. The Project would not make alterations that would be visible from off site.

Effect of Changes to the Project on the Previous Environmental Analysis

a-d) These alterations are within the scope of the 2300 Delaware Avenue Project analyzed in the 2005 LRDP EIR and would not result in any new potential aesthetic impacts.

Conclusions

The Alterations for Academic Programs Phase 1 and Materials Science Lab Phase 1 projects would not result in any adverse aesthetic effects, and are consistent with the certified 2005 LRDP EIR and the approved 2300 Delaware Avenue Project. The project would not introduce any new potential aesthetic impacts, and no changed circumstance or new information is present that would alter the conclusions contained in those documents. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address aesthetic impacts of the Projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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1. AGRICULTURAL AND FOREST RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the CA Dept. of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- | | | |
|---|-------------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined in Public Resources Code 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Issues	Additional Project- level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Previous Analysis

a, b, e) The 2005 LRDP EIR (Vol. 3, p. 4-25) determined that the 2300 Delaware Avenue Project would not directly or indirectly result in the conversion of farmland to non-agricultural uses. The project site is already developed with urban uses; the project would not alter the existing development footprint, and no agricultural use or timberland is present at or adjacent to the project site.

c, d) These questions were added to the CEQA checklist in December 2009 and were not addressed in the previous document.

Relevant Elements of the Project and Changes to the Project

The proposed project consists of redevelopment of an existing building and associated service yards and does not include any alteration of the existing building footprint.

Effect of Changes to the Project on the Previous Environmental Analysis

a, b, e) The proposed Alterations for Academic Programs Phase 1 and Materials Science Lab Phase 1 projects would not have the potential to result in impacts to agricultural resources. There have been no changes to the project site or adjacent sites that would increase the potential for impacts to agricultural resources.

c, d) The projects includes only interior renovation of an existing building and modifications to mechanical and electrical equipment in existing service yards.

Conclusions

The proposed Alterations for Academic Programs and Materials Science Lab Projects would not introduce any new potential agricultural impacts, and no changed circumstance or new information is present that would alter the conclusions of the 2005 LRDP EIR. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address agricultural impacts of the Projects.

Issues	Additional Project- level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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2. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Violate any air quality standard or contribute

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
substantially to an existing or projected air quality violation?		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	□	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	□	☒
e) Create objectionable odors affecting a substantial number of people?	□	☒

Previous Analysis

a) The 2005 LRDP EIR (Vol. 3, page 4-28) determined that the emissions of criteria pollutants associated with the 2300 Delaware Project would be below the significance thresholds established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD); therefore, the project would not have a significant impact on regional air quality. The 2300 Delaware Project would, however, contribute to a significant cumulative impact of development under the 2005 LRDP on regional air quality. The LRDP EIR identified LRDP Mitigations AIR-2A through AIR-2C to reduce this impact but concluded that even with mitigation the cumulative emissions of nitrogen oxides (NO_x) would exceed the MBUAPCD significance thresholds, and the impact would be significant and unavoidable. LRDP Mitigations AIR-2A and AIR-2B are applicable to and included as part of the project (see Section X, below).

The 2005 LRDP EIR (Vol. 1, pages 4-30 to 4-31) determined that development under the 2005 LRDP, including the 2300 Delaware Avenue Project, would hinder attainment of the regional air quality plan because the population growth associated with the LRDP was not accounted for in the 2004 Air Quality Management Plan (AQMP). This was considered a significant and unavoidable impact (LRDP Impact AIR-4). However, after the certification of the EIR, the Campus contacted both the Association of Monterey Bay Area Governments (AMBAG) and the MBUAPCD informing them of projected population growth on campus. Campus representatives also attended AMBAG's population forecast update meetings for 2008 population projections. AMBAG issued new consistency determination for the 2005 LRDP in April 2009 stating that the 2005 LRDP is consistent with the 2008 regional forecasts and AQMP. Therefore, LRDP Impact AIR-4 is no longer considered to be significant.

b, c, d) **Construction PM₁₀ Emissions.** The 2005 LRDP EIR (Vol. 3, page 4-26) determined that construction of the 2300 Delaware Avenue Project would not require grading or other earthmoving, the project construction would not generate fugitive dust emissions. Temporary exhaust emissions are taken into account in the regional air quality plan; therefore, quantification of these emissions was not required.

Operational Emissions of Criteria Pollutants. The 2005 LRDP EIR (Vol. 3, page 4-28) determined that the emissions of criteria pollutants associated with the 2300 Delaware Project would be below the significance thresholds established by the MBUAPCD and therefore would not have a significant impact on regional air quality. The Alterations for Academic Programs Phase 1 and Materials Science Lab

project would, however, contribute to a significant cumulative impact of development under the 2005 LRDP on regional air quality. The LRDP EIR identified LRDP Mitigations AIR-2A through AIR-2C to reduce this impact but concluded that, even with mitigation, the emissions of nitrogen oxides (NOx) would exceed the MBUAPCD significance thresholds, and the impact would be significant and unavoidable. LRDP Mitigations AIR-2A and AIR-2B are applicable to and included as part of the projects.

Operational Carbon Monoxide (CO) Emissions. An analysis of the localized CO emissions conducted for the 2005 LRDP, including the traffic associated with the 2300 Delaware Avenue Project, indicated that impacts at nearby intersections would be less than significant for all development envisioned under the 2005 LRDP. Additional analysis of CO impacts from the 2300 Delaware Avenue Project was not required and the impact was determined less than significant.

Operational TAC Emissions. The 2005 LRDP EIR quantified the potential impacts of the 2300 Delaware Avenue Project from toxic emissions using the California Air Resources Board (CARB) Hotspots Analysis and Reporting Program (HARP) software. 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). 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 maximum predicted cancer and non-cancer health risks that would result from project emissions are well below the significance thresholds (Table 4-7, LRDP EIR, Vol. 3, page 4-29). Therefore, the LRDP EIR determined that the 2300 Delaware project impact from emissions of toxic air contaminants would be less than significant.

e) The 2005 LRDP EIR did not identify any potential sources of objectionable odors associated with implementation of the 2300 Delaware Avenue Project, other than some indoor odors from printing facilities, which would be dispersed rapidly through ventilation. The EIR (Vol. 3, page 4-27) determined that the 2300 Delaware project would not create any impact resulting from these odors.

Relevant Elements of the Project and Changes to the Project

As analyzed in the 2005 LRDP EIR, the approved 2300 Delaware Avenue Project would include up to 24,600 asf of wet laboratory space with up to 131 fume hoods, about 18,400 asf of dry laboratory space, and 14,700 asf of office space. The EIR assumed that a single 500-kW generator would be installed at the 2300 Delaware Avenue site, and that the project would generate 1,782 new daily vehicle trips, including 1,152 associated with use of Building C, 746 of which would be associated with the lab space.

The proposed AAP Phase 1 Project would construct infrastructure to support up to 28,000 asf of wet and dry lab space and lab support space. This lab use would generate approximately 227 daily vehicle trips.³ This would be in addition to the 35 average daily trips generated by the existing Thin Films and Materials Labs, which would bring the total number of trips associated with Building C labs to 262.

The AAP Phase 1 Project would remove an existing 80KW emergency generator and install a new 240KW, dual-fuel (propane/natural gas) emergency generator, and a 200KW stand-by/backup generator. In future phases, two additional 200KVA standby generators may be installed.

The proposed Materials Science Lab Phase 1 Project consists of development of 3,100 asf of wet lab space on the main floor of Building C. This lab space, which is included in the 28,000 asf of warm shell lab space developed by the AAP Phase 1 Project, would be served by the emergency and standby/backup generators installed by the AAP Phase 1 Project.

³ The number of trips was calculated using the Institute of Transportation Engineers (ITE) trip generation rate for Research and Development facilities, 8.11 trips per 1,000 sf.

Effect of Changes to the Project on the Previous Environmental Analysis

a) The population associated with the proposed AAP Phase 1 and Materials Science Lab Phase 1 projects is within the population of the 2300 Delaware Avenue Project analyzed in the 2005 LRDP EIR. Based on the consistency determination provided by AMBAG for the 2005 LRDP in April 2009, the proposed projects would not conflict with the 2008 AQMP, which is the current regional air quality plan, and there would be no impact.

b, c, d) **Construction PM₁₀ Emissions.** The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects would not require any grading or other earthmoving and therefore would not result in construction PM₁₀ emissions not analyzed in the 2005 LRDP EIR. There would be no impact and no additional analysis is required.

Operational Emissions of Criteria Pollutants. The AAP Phase 1 and Materials Science Lab Phase 1 projects include the following sources of criteria air pollutant emissions: a 240-W natural gas/propane emergency generator, a 200 KW natural gas-fueled standby/backup generator and an estimated 227 vehicle trips. These are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR, and the emissions associated with the proposed project would not exceed the MBUAPCD significance thresholds. As analyzed in the 2005 LRDP EIR, the projects would contribute to the significant and unavoidable LRDP Impact AIR-2. The project would implement LRDP Mitigation AIR-2A and AIR-2B. Additional mitigation is not available.

e) The AAP Phase 1 and Materials Science Lab Phase 1 projects do not include any sources of potential odors. No impact would occur and additional analysis is not required.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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3. BIOLOGICAL RESOURCES -- Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

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

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

- | | | |
|--|--------------------------|-------------------------------------|
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with any applicable policies protecting biological resources? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Previous Analysis

a-d) The 2005 LRDP EIR (Vol. 3, pp. 4-30 to 4-31) determined that the 2300 Delaware Avenue Project would not result in significant impacts on biological resources. The property is developed with existing buildings and parking lots, does not contain any areas that are in a natural state, and existing development would preclude the use of the site as a wildlife corridor. Therefore, the project would not result in direct impacts on habitat for special-status plant species or wildlife, wetlands, or wildlife movement. 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 2300 Delaware Avenue Project would not result in new development that could affect either of these adjacent natural areas, because no significant change to the exterior of the facilities or new construction is proposed. New operational noise associated with the 2300 Delaware Avenue Project would consist only of occasional truck deliveries, HVAC equipment, and occasional emergency generator testing. This noise would be intermittent and low-level, and would not be noticeable for wildlife in nearby natural areas, due to the intervening distances.

e-f) There are no policies protecting biological resources, 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.

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consists of interior redevelopment of a portion of the main floor of 2300 Delaware Building C. to create research labs for the Physical and Biological Sciences Division, the Arts Division, and the Baskin School of Engineering. Exterior construction would be limited to the roof of the building, existing enclosed service yards. These project elements are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. In addition, as required by DA Mitigation UTIL-1B, which was identified in the 2005 LRDP EIR, the project would contribute to water conservation landscape renovations, which may include removal of existing lawn areas and replacement with new native tree plantings and mulch ground cover.

Effect of Changes to the Project on the Previous Environmental Analysis

a-f) The AAP Phase 1 and Materials Science Lab Phase 1 projects would not result in direct disturbance of natural areas. Operational noise associated with the project would consist of exhaust fans on the roof of the building and occasional emergency generator testing. These noise sources are consistent with those assumed in the 2005 LRDP EIR analysis. Therefore, the operational noise associate with the AAP Phase 1 and Materials Science Lab Phase 1 projects would not exceed that analyzed in the EIR. There are no

new policies protecting biological resources, HCP or NCCP applicable to the project vicinity. No additional analysis is required. Alterations to existing landscaping would diminish the amount of wildlife cover on the site, and likely would improve habitat by the introduction of native plants.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects would not introduce any new potential biological resources impacts, and no changed circumstance or new information is present that would alter the conclusions of the 2005 LRDP EIR. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address biological resources impacts of the projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
4. CULTURAL RESOURCES Would the project:		
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Previous Analysis

a-d) The 2005 LRDP EIR (Vol. 3, pp. 4-31 to 4-32) determined that the 2300 Delaware Avenue Project would not have any impacts on archaeological resources, human remains, paleontological resources, or historical resources. The project would not involve any disturbance of native soils or significant excavation, and would alter only buildings that are less than 50 years old.

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to the roof the building and existing enclosed service yards. In addition, as required by DA Mitigation UTIL-1B, which was identified in the 2005 LRDP EIR, the project would contribute to water conservation landscape renovations, which may include removal of existing lawn areas and replacement with new native tree plantings and mulch ground cover. These project elements are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR.

Effect of Changes to the Project on the Previous Environmental Analysis

a-d) The AAP Phase 1 and Materials Science Lab Phase 1 projects would not result in any ground

disturbance of native soils or significant excavation, and would alter a building that is less than 50 years old. Therefore, there would be no impact on cultural resources and no additional analysis is required.

Conclusions

The AAP Phase 1 and Materials Science Lab Phase 1 projects would not introduce any new potential cultural resources impacts, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address cultural resource impacts of the projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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5. GEOLOGY AND SOILS -- Would the project:

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

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

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

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

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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systems where sewers are not available for the disposal of waste water?

Previous Analysis

a-e) The 2005 LRDP EIR (Vol. 3, pp. 4-32 to 4-33) determined that the 2300 Delaware Avenue Project would not result in any significant impacts related to geology, soils or seismicity. The project site is not located within an Alquist-Priolo Earthquake Fault Zone, and the closest known active fault is 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. At the time the EIR was prepared, the Campus was in the process of carrying out a seismic retrofit of Buildings A and B and seismic retrofitting and was planning the seismic retrofit of Building C. 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. A small portion of the eastern margin of the project site, adjacent to Antonelli Pond, is within a potential tsunami-inundation area but all of the buildings are 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.

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consists of interior redevelopment of a portion of the main floor of 2300 Delaware Building C to create research labs. Exterior construction would be limited to demolition of existing equipment and installation of new mechanical and electrical equipment on the building roof and in two existing service yards. These elements of the project are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR.

Effect of Changes to the Project on the Previous Environmental Analysis

a-e) The Campus completed the seismic retrofit of Building C in 2007, thus reducing the potential for impacts from strong seismic ground shaking to a less-than-significant level. The building alterations proposed as part of the AAP Phase 1 and Materials Science Lab Phase 1 projects are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR and would not increase the potential for significant environmental effects related to geology, soils or seismicity.

Conclusions

The minor changes to the project do not have the potential to result in new significant effects related to geology or soils. The AAP Phase 1 and Materials Science Lab Phase 1 projects are consistent with the 2005 LRDP EIR and would not introduce any new potential impacts with respect to geology or soils, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address geology and soils impacts of the projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
6. GREENHOUSE GAS EMISSIONS -- Would the project:		
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Previous Analysis

a, b) The 2005 LRDP EIR was completed before the passage of SB 97 in 2007, and therefore did not analyze climate change impacts of the 2300 Delaware Avenue Project. The Campus has not conducted any other program- or project-level analysis of the climate change impacts of development under the 2005 LRDP. The following discussion provides background information on climate change and an estimate of emissions of greenhouse gases associated with the proposed AAP Phase 1 and Materials Science Lab Phase 1 projects, and analyzes the potential that the proposed project could result in significant climate change impacts.

Relevant Elements of the Project and Changes to the Project

As analyzed in the 2005 LRDP EIR (Vol., 3, p. 4-11), the 2300 Delaware Avenue Project would include up to 24,600 asf of wet laboratory space with up to 131 fume hoods, about 18,400 asf of dry laboratory space, and 14,700 asf of office space. The EIR assumed that a single 500-kW generator would be installed at the 2300 Delaware Avenue site, and that the project would generate 1,782 new daily vehicle trips, including 746 trips associated with research staff working in Building C.

The proposed AAP Phase 1 Project would construct infrastructure to support up to 28,000 asf of wet and dry lab space and lab support space. This lab use would generate approximately 227 daily vehicle trips.⁴ This would be in addition to the 35 average daily trips generated by the existing Thin Films and Materials Labs, which would bring the total number of trips associated with Building C labs to 262.

The AAP Phase 1 Project would remove an existing 80KW emergency generator and install a new 240KW, dual-fuel (propane/natural gas) emergency generator, and a 200KW stand-by/backup generator.

The proposed Materials Science Lab Phase 1 Project consists of development of 3,100 asf of wet lab space on the main floor of Building C. This lab space, which is included in the 28,000 asf of warm shell lab space developed by the AAP Phase 1 Project, would be served by the emergency and standby/backup generators installed by the AAP Phase 1 Project. GHG emissions associated with the Materials Science Lab Phase 1 Project are therefore a subset of the emissions associated with the AAP Phase 1 Project and are not analyzed separately here.

Effect of Changes to the Project on the Previous Environmental Analysis

⁴ Based on the Institute of Transportation Engineers (ITE) trip generation rate for Research and Development facilities, 8.11 daily trips per 1,000 sf.

a, b) It is generally the case that an individual project of any size is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. Thus, GHG impacts are recognized as exclusively cumulative impacts: there are no non-cumulative GHG emission impacts from a climate change perspective. Accordingly, discussion of the GHG emissions that would result from the proposed project and their impact on global climate are addressed in terms of the project’s contribution to a cumulative impact on global climate.

a) The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Strategy). The MBUAPCD has not adopted GHG emissions thresholds. According to a 2013 informational report from Mike Gilroy, Deputy Air Pollution Control Officer to the District Board of Directors, MBUAPCD has recommended a threshold of 10,000 metric tons (MT) CO₂e per year for stationary source projects and a threshold of 2,000 MT CO₂e per year for land-use projects, or compliance with an adopted GHG Reduction Plan/Climate Action Plan. MBUAPCD is currently evaluating a percentage-based threshold option (MBUAPCD 2013b).

Before it began developing its own thresholds MBUAPCD recommended use of the adopted San Luis Obispo Air Pollution Control District (SLOAPCD) quantitative emissions threshold of 1,150 MT CO₂e per year for most land use projects. Based on discussions with MBUAPCD in February 2015 for another UCSC Project, since the MBUAPCD thresholds have been recommended but not yet adopted, the more conservative SLOAPCD threshold is the most appropriate for analysis of each of the proposed projects (MBUAPCD, pers. communication, February 6, 2015). Therefore, the AAP Phase 1 Project’s contribution to cumulative impacts related to GHG emissions and climate change would be considered cumulatively considerable if the individual project would produce more than 1,150 MT CO₂e per year.

The total estimated GHG emissions associated with operation of the research labs that would be supported by the AAP Phase 1 Project, including the Materials Science Lab Phase 1 project, were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. The estimate takes into account existing travel demand management measures available to UCSC affiliates (subsidized bus passes and employee vanpools), the UC requirement that energy performance exceed Title 24 requirements by at least 20 percent, and the low-flow restroom fixtures already installed in Building C. As shown in Table, 1, Project operations would result in an estimated 303.58 MT CO₂e per year, which would not exceed the significance threshold of 1,150 MT CO₂e per year. Therefore, the impact would be less than significant.

Table 1
Estimated Project Greenhouse Gas Emissions (metric tons CO₂ equivalent [MTCO₂e])

Mobile sources	172.49
Natural gas	32.96
Electrical consumption	65.20
Solid waste generation	0.49
Water supply and wastewater treatment	32.44
Total	303.58

b) The University of California Policy on Sustainable Practices (issued in 2004 and updated November 18, 2013) requires that each campus develop a long- term strategy for voluntarily meeting the State of California’s goal for reducing GHG emissions to 1990 levels by 2020, pursuant to the California Global Warming Solutions Act of 2006. As an intermediate target, each campus must pursue the goal of reducing GHG emissions to 2000 levels by 2014.⁵ Additionally, in November 2015, UC President Janet Napolitano

⁵ <http://policy.ucop.edu/doc/3100155/Sustainable%20Practices>

issued a directive for each campus to achieve carbon neutrality by 2025. Napolitano outlined four focus areas for achieving this aggressive goal: increasing the renewable portfolio standards for purchased electricity beyond the state requirements, investing in campus energy efficiency and renewables projects, systemwide procurement of natural gas and biogas, and management of environmental attributes.⁶

In October 2011, UCSC published a Climate Action Plan (CAP), in compliance with the UC Policy on Sustainable Practices. The UCSC goals include a reduction from 2007 levels of 13,600 MT CO₂e by 2014 and 25,300 MT CO₂e by 2020. As of calendar year 2014, the campus is on track to meet the interim targets specified in the Sustainable Practices Policy, although the 2014 greenhouse gas inventory has not been officially reported and third-party verified by The Climate Registry yet. Within the CAP, reduction strategies and programs include but are not limited to: green campus activities (energy efficiency and carbon reduction projects), installation of renewable energy generation facilities, improved bicycle infrastructure, and working with regional partners to address climate change mitigation.

The Campus is preparing to update the CAP, through a yearlong Climate & Energy Study that will include energy audits for over 2M SF of buildings, a renewable energy feasibility study, and development of a scenario analysis tool to assist with short and long-term carbon neutrality planning.

Although the University, as a state entity, is not subject to local regulation, local standards are a subject of importance to the University in evaluating impacts. The City of Santa Cruz adopted a Climate Action Plan in June 2012. The City's Climate Action Plan includes several goals which are relevant to the redevelopment of the 2300 Delaware facility: reducing energy use in the built environment; reducing vehicle miles traveled, decreasing single occupancy vehicle travel, and increasing the use of alternative fuels and transportation options; continuing to reduce per capita and total water use; reducing GHG emissions through improved waste handling and increased recycling, composting, reuse, and waste reduction; ensuring a sustainable transition toward locally generated renewable energy.

The building area associated with the 2300 Delaware Project were taken into account in the UCSC CAP. The AAP Phase 1 Project would contribute to the energy efficiency goals of the UCSC and City of Santa Cruz CAPs. A detailed energy performance analysis was conducted for the Project, to evaluate the most efficient ways of updating the existing mechanical and electrical systems. Most of the lighting systems would be upgraded to meet current energy standards. The existing mechanical systems, which were installed and sized for a completely different, high-capacity use, would be modified to provide highly efficient service for the new intended use. The modifications include replacement or retrofits of most major prime equipment with new highly efficient and modular equipment. New system components and controls will be capable of moderating operations to take advantage of existing oversized mechanical distribution and to shut down systems in areas of the building yet to be occupied.

The Project would also support the goals of the UCSC and City of Santa Cruz CAPS in the area of alternative transportation. The Santa Cruz Metropolitan Transit District (SMTD) Route 20 bus provides hourly service to the site on weekdays from 7:30 a.m. until 8:30 p.m. (until 10:30 during the UCSC school terms), and on weekends from 8:30 a.m. until 8:30 p.m.. Supplemental bus service is provided on weekdays during the UCSC school term to handle overload on this route. SMTD route 3 also serves the site, with hourly service 7:10 p.m. to 6:10 p.m. Through an agreement between the University and the SCMTD, students who display a valid UCSC ID card do not have to pay a fare to ride SCMTD buses. SCMTD service for students is funded through the Student Transit Fee. Faculty and staff may obtain a SCMTD bus pass for \$8.75 per month, or \$105 annually, which provides UCSC's Transportation and Parking Services (TAPS) with funding for payments to the SCMTD to accommodate faculty and staff transit ridership. TAPS coordinates a vanpool program that is open to faculty, staff and students. Zimride, a Facebook-based application, provides ride matching (on a regular or occasional basis) to members of the UCSC community. TAPS also has several programs to support the use of bicycles as a means of

⁶ http://ucop.edu/sustainability/_files/carbon-neutrality2025.pdf

transportation: classes on bicycle safety, free bicycle licensing, a no-interest bike loan program, an emergency-ride-home program, and bicycle maintenance and repair clinics on the main campus.

The Project would support the energy efficiency and transportation goals of the UCSC and City of Santa Cruz climate action plans. The Project would minimize GHG's associated with construction through re-development of an existing facility. The re-development of Building C primarily for laboratory use was anticipated in the 2005 LRDP and therefore has been taken into account in GHG emissions projections used to develop the UCSC CAP. The Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases. The impact would be less than significant.

Conclusions

Greenhouse gas emissions associated with the AAP Phase 1 and Materials Science Lab Phase 1 projects would not result in a new significant impact which was not analyzed in the 2005 LRDP EIR.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
6. HAZARDS AND HAZARDOUS MATERIALS – Would the project:		
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Previous Analysis

a, b) The 2005 LRDP EIR (Vol. 3, pages 4-34 to 4-35) determined that the use of hazardous materials by UC Santa Cruz researchers at the 2300 Delaware Avenue facility would be less than significant because of existing UC Santa Cruz policies and procedures and regular compliance monitoring by UC Santa Cruz Environmental Health and Safety (EH&S). These policies and procedures are described in detail in the 2005 LRDP EIR, Vol. 2, pages 4.7-9 to 4.7-11. Previously adopted LRDP EIR Mitigation HAZ-2, requiring the Campus to minimize the production of hazardous waste is applicable to and included s part of the project (see Section X, below), and would further reduce the less-than-significant impact.

c) The 2005 LRDP EIR (Vol. 2, page 4-36) determined that, because the project site is not within ¼ mile of a public or private elementary, middle, or high school, there would be no impacts associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or wastes within ¼ mile of a school as a result of the project.

d) The 2300 Delaware Avenue facility was the subject of a contamination remediation effort that was concluded in 2004, as determined by the Santa Cruz County Department of Environmental Health. Therefore, the 2005 LRDP EIR (page 4-34) concluded that construction workers and the public would not be exposed to hazards related to this contamination.

e, f) The Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that impacts related to safety hazards associated with private and public airports or airstrips were not applicable to facility at 2300 Delaware Avenue (2005 LRDP EIR, Vol. 3, page 4-34). The 2300 Delaware facility is not located within an airport land use plan or within two miles of a public airport or in the vicinity of a public airstrip. The project would not result in hazards with respect to airport use.

g) The 2005 LRDP EIR (Vol. 2, pages 4.7-26 to 4.7-27) determined that Campus development under the 2005 LRDP could potentially interfere with the Campus' Emergency Response Plan, but that implementation of LRDP Mitigations HAZ-9A through HAZ-9D would reduce the impact to a less-than-significant level. Development at the 2300 Delaware Avenue property under the 2005 LRDP would not affect emergency access because the site is in a relatively flat, developed area of the city and is easily accessible by way of city streets (2005 LRDP EIR, Vol. 3, page 4-34). LRDP Mitigation HAZ-9C, which requires the Campus to prepare a site-specific Emergency Operations Plan (EOP) for the 2300 Delaware Avenue property before occupation of Building C is applicable to and included as part of the 2300 Delaware Avenue Project.

h) The 2005 LRDP EIR (Vol. 2, page 4-34)) determined that the risk of wildland fire at the 2300 Delaware Avenue property is low because the site is surrounded by urban development. Therefore, no impact would occur.

Relevant Elements of the Project and Changes to the Project

As analyzed in the 2005 LRDP EIR, the approved 2300 Delaware Avenue Project authorized up to 24,600 asf of wet laboratory space with up to 131 fume hoods, about 18,400 asf of dry laboratory space, and 14,700 asf of office space. The EIR assumed that a single 500-kW generator would be installed at the 2300 Delaware Avenue site, and that the project would generate 1,782 new daily vehicle trips, including 746 trips associated with research staff working in Building C.

The Thin Films Project redeveloped 5,448 sf of the main floor of Building C, including 4,363 sf of occupied laboratory space, and 1,085 sf of corridors and mechanical space. Because of the types and quantities of research chemicals that were anticipated for the Thin Films Laboratory, 1,435 sf of the Thin Film lab space was constructed to meet the standards of the International Building Code for semiconductor fabrication facilities and comparable research and development areas in which Hazardous Process Materials (HPM)⁷ are used. These standards include more stringent seismic requirements and an HPM service corridor to ensure safe delivery of hazardous research materials to the proposed research labs. The HPM corridor is separated from the building exit corridors, and includes separate air handling, tight self-closing door assemblies that are ¾ hour rated, is protected by fire and smoke dampers, is not crossed by the normal building exit corridors, and is provided with two exits. The building and lab exit vestibules serving the Thin Films Lab, also as required by code, provide direct exit to the exterior from the Thin Films Laboratory space in which HPM are used, and the HPM service corridor, and are designed as one hour-rated spaces as required by the International Building Code.

Effect of Changes to the Project on the Previous Environmental Analysis

a-b) As part of the Project design process, the Campus has performed an analysis of whether Building C is suitable for the proposed use.⁸ The analysis took into the likely types and quantities of hazardous materials which would be used in the building, and the code requirements for uses involving these materials. Based on interviews and a sample quantity listing proposed for the building, the analysis indicates that the proposed use as research and material labs is allowed under current regulations as proposed. Project construction would comply with the International Building Code standard appropriate to the level of the hazard associated with the proposed use. It is not anticipated that the facility would use or store any of the “acutely hazardous materials” listed under the California Accidental Release Prevention program; the project therefore would not require a Risk Management Plan to comply with the Clean Air Act. No additional analysis or mitigation is required.

c) A small preschool is now located in a former single-family residence on the east side of Natural Bridges Drive, opposite the north end of Building C. As discussed above, “acutely hazardous materials” would not be used in the lab, and the quantities of hazardous materials used in the lab would be small. The lab would be designed and constructed to meet the International Building Code standard applicable to the level of the hazard associated with the proposed use, and hazardous materials would be stored, used and transported in compliance with all applicable laws, regulations, and UC Santa Cruz policies. Therefore, the project would not create a significant risk associated with the use of hazardous materials.

d) No new soil or building materials contamination has been discovered at the 2300 Delaware Avenue facility since the 2005 LRDP EIR was certified. Therefore, no additional analysis is required.

e,f) There are no private or public airports or airstrips within 2 miles of the site. No additional analysis is required.

g) The AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior alterations to an existing building, with only minor exterior improvements. These improvements are within the scope of the construction analyzed as part of the 2300 Delaware Avenue project in the 2005 LRDP EIR and would not increase the potential for interference with the Campus EOP. The Campus would implement previously adopted LRDP Mitigation HAZ-9C prior to occupancy of the new lab space. No additional analysis is required.

Conclusions

⁷ A Hazardous Production Material is defined as a solid, liquid, or gas that has a degree of hazard rating in health, flammability, or reactivity of class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory, or production processes that have as their end product materials that are not hazardous.

⁸ Gordon Prill, 95% Schematic Design Narrative, Alterations for Academic Programs, 2300 Delaware Avenue – Building C. February 24, 2015

The AAP Phase 1 and Materials Science Lab Phase 1 projects would not introduce any new potential impacts with respect to hazards and hazardous materials, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address hazards associated with the Project.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
7. HYDROLOGY AND WATER QUALITY --		
Would the project:		
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Previous Analysis

a) Wastewater at the 2300 Delaware Avenue site is discharged to the City's sewer system and treated at the City's wastewater treatment plan. The 2005 LRDP EIR (Vol. 3, page 4-38) determined that implementation of the 2300 Delaware Avenue Project would not result in wastewater discharges that would violate wastewater discharge requirements because similar uses at the main campus have not resulted in significant wastewater impacts and there is no reason to expect that the quality of wastewater discharged from the labs at 2300 Delaware Avenue would be substantially different. In addition, all laboratories would be required to comply with Campus procedures and guidelines with respect to proper disposal of hazardous wastes.

b) The City of Santa Cruz Water Department supplies water to the 2300 Delaware Avenue facility; the Campus would not extract groundwater to serve the proposed development. The 2300 Delaware Project would not add new impervious surface. For these reasons, the 2005 LRDP EIR (Vol. 3, page 4-38) determined that groundwater resources would not be affected by the 2300 Delaware Avenue project.

c-e) The 2300 Delaware Project would not add new impervious surface and therefore would not increase the stormwater runoff from the site. The Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that further analysis of hydrology and water quality impacts related to the 2300 Delaware Avenue property was not required because no new facilities or other changes on that property were proposed under the 2005 LRDP that could result in a change in surface or groundwater hydrology (2005 LRDP EIR, Vol. 2, page 4.8-26).

f) The 2005 LRDP determined that the potential for the use of pesticides and herbicides in landscaping maintenance to affect the quality of the water in Antonelli Pond, would be potentially significant. The EIR (Vol. 3, page 4-39) concluded that the impact would be reduced to a less-than-significant level by implementation of DA Mitigation HYD-2 (see Section X, below). The campus implements this previously adopted mitigation, which provides guidelines for the use of pesticides, herbicides and chemical fertilizers, on an ongoing basis.

g-i) Areas proposed for development at the 2300 Delaware Avenue property are not within a 100-year flood hazard area or within the inundation hazard area for any levees or dams. Therefore, the Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that further analysis of these hazards was not required (2005 LRDP EIR, Vol. 2, page 4.8-25).

j) The buildings at 2300 Delaware Avenue are not within a mapped tsunami inundation area. Therefore, the 2005 LRDP EIR (Vol. 3, page 4-38) determined that the project would not result in significant impacts related to tsunami inundation.

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to the roof and existing service yards. These project elements are within the scope of the 2300 Delaware Project as analyzed in the 2005 LRDP EIR.

Effect of Changes to the Project on the Previous Environmental Analysis

a) The hazardous materials use resulting from the AAP Phase 1 and Materials Science Lab Phase 1 projects is within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. As analyzed in the EIR, researchers 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. Therefore, the AAP Phase 1 and Materials Science Lab Phase 1 projects would not increase the potential for wastewater discharge from the site to violate wastewater discharge requirements. No additional analysis is required.

b) The AAP Phase 1 and Materials Science Lab Phase 1 projects would not add new impervious surface

and water would be supplied by the City of Santa Cruz. No additional analysis of potential effects on groundwater resources is required.

c-e) As under the 2300 Delaware Avenue Project analyzed in the 2005 LRDP EIR, the AAP Phase 1 and Materials Science Lab Phase 1 projects would not add new impervious surface. No additional analysis is required.

f) The Campus implements DA Mitigation HYD-2 at the site on an ongoing basis. The AAP Phase 1 and Materials Science Lab Phase 1 projects would not result in increased use of agricultural chemicals at the site. No additional mitigation or analysis is required.

g-j) The AAP Phase 1 and Materials Science Lab Phase 1 projects would be constructed on the site as analyzed in the 2005 LRDP EIR. No additional analysis is required.

Conclusions

The AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant impacts related to hydrology or water quality, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address hydrology and water quality impacts of the Project.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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8. LAND USE AND PLANNING -- Would the project:

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

Previous Analysis

a-d) The Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that the 2005 LRDP, including the 2300 Delaware Project, would not physically divide an established community or resulting a land use designation change that could conflict with any City or County land use plan. The Initial Study also concluded that the 2300 Delaware Avenue Project would not conflict with any HCP, as there is no HCP that is applicable to or relevant to the project site and its vicinity. Therefore, no further analysis of these potential impacts was included in the 2005 LRDP EIR (2005 LRDP EIR, Vol. 3, page 4-40).

d) The LRDP EIR analyzed the potential that implementation of the 2300 Delaware Avenue Project would result in development that would be incompatible with existing or planned adjacent land uses. The EIR (Vol. 3, page 4-41) concluded that the proposed uses and occupancy levels would be substantially

less intensive than the previous manufacturing use of the site and that 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 Natural Bridges State Beach and Antonelli Pond. Therefore, the impact would be less than significant.

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to the roof and existing service yards. The applicable LRDP land use designation for the site is Academic Core, which provides for land uses that directly support the teaching, research, and public service mission of the University of California, including instruction and research, organized research, academic support, libraries, student services, institutional support, public services, and parking.

Effect of Changes to the Project on the Previous Environmental Analysis

a-d) The type and intensity of the uses proposed under the AAP Phase 1 and Materials Science Lab Phase 1 projects are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. There have been no changes to the use of the adjacent sites since the EIR was certified. No additional analysis is required.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant land use impacts, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address the land use impacts of the Project.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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9. NOISE -- Would the project result in:

- | | | |
|--|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
<p>plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</p>		
<p>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</p>	□	☒

Previous Analysis

a-d) The 2005 LRDP EIR (Vol. 3, pages 4-43 to 4-44) determined that neither construction activities nor operations associated with the 2300 Delaware Avenue project would result in a substantial or temporary periodic increase in ambient noise levels and the impact of noise from project construction, building operations, and project-related vehicle trips would be less than significant. There are no noise-sensitive receptors in the immediate vicinity of the site; and the earthen berm would buffer project-related construction noise and the minor noise associated with building operations. The increase in daily traffic due to the project would be too small to result in a measurable increase in traffic noise.

e, f) The Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that development at the 2300 Delaware Avenue site would not result in any impacts related to airport noise because there is no public airport or land use zone or private airstrip within 2 miles of the site (2005 LRDP EIR, Vol. 3, pages 4-42 to 4-43).

Relevant Elements of the Project and Changes to the Project

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to demolition and installation of mechanical and electrical equipment on the roof and in existing service yards.

Effect of Changes to the Project on the Previous Environmental Analysis

a-f) The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects would construct a fraction of the lab space envisioned for 2300 Delaware Avenue in the 2005 LRDP EIR. Therefore, construction activities, building operational noise, and vehicle traffic associated with the proposed AAP Phase 1 and Materials Science Lab Phase 1 projects would be within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. There are no new noise-sensitive receptors in the immediate vicinity of the site. No additional analysis is required.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant noise effects or a substantial increase in the severity of previously identified significant effects related to noise. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address noise impacts of the projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
10. POPULATION AND HOUSING -- Would the project:		
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Contribute substantially to a cumulative demand for housing that could not be accommodated by local jurisdictions		<input checked="" type="checkbox"/>

Previous Analysis

a) The 2005 LRDP EIR (Vol. 2, page 4.11-8) determined that development under the 2005 LRDP would directly induce substantial population growth in the study area by accommodating increased enrollment and additional employment and that this would be a significant impact. Although the increase in employment on the campus under the LRDP was fully accounted for in the AMBAG employment forecasts, the residential population and the increase in student population were not included. The environmental effects associated with land development, increased traffic, and expanded infrastructure and services to serve this population could be significant. The EIR concluded that, because the 2005 LRDP is a program that includes campus population growth as an essential component, no mitigation is available to avoid or reduce this impact.

The 2005 LRDP EIR determined that campus growth under the 2005 LRDP would not indirectly induce substantial population growth in the area through extension of roads or other infrastructure because the roads and infrastructure that would be built to serve development under the 2005 LRDP would not facilitate off-campus development.

The EIR (Vol. 3, page 4-44) determined that the program-level analysis adequately addressed the project-level impacts of the 2300 Delaware Avenue Project with respect to the inducement of population growth.

b-c) The Initial Study prepared as part of the scoping process for the 2005 LRDP EIR determined that development under the 2005 LRDP, including the 2300 Delaware Avenue Project would not displace a substantial number of existing housing units. The removal of some existing student housing on the campus to allow for new construction was taken into account in planning additional student housing that would be provided on the campus under the 2005 LRDP. Therefore, no impact would occur, and no additional analysis was required in the EIR (2005 LRDP EIR, Vol. 2, page 4.11-14).

d) The 2005 LRDP EIR (Vol. 2, page 4.11-21) determined that growth of the campus under the 2005 LRDP, including the 2300 Delaware Avenue Project, in conjunction with other regional growth, would

create a demand for housing that would exceed the supply, and that this would be a significant and unavoidable impact. Because the demand generated by campus growth would constitute a substantial portion of the total housing demand, the project's contribution would be cumulatively considerable. The EIR identified LRDP Mitigations POP-3A through POP-3C on an ongoing basis, but concluded that the impact would be significant even with mitigation. The EIR (Vol. 3, page 4-44) determined that the program-level analysis adequately addressed the project-level impacts of the 2300 Delaware Avenue Project with respect to the inducement of population growth.

Relevant Elements of the Project and Changes to the Project

The EIR considered a total population for Building C, at buildout, of up to 482 persons, and a total population for the 2300 Delaware Avenue Facility overall of up to 782 persons. Currently, approximately 200 Campus staff occupy Buildings A and B are fully occupied; Building C is used primarily for passive storage and is not occupied on a regular basis.

The AAP Phase 1 and Materials Science Lab Phase 1 projects consists of interior redevelopment of a portion Building C to create research labs. The AAP Phase 1 project would accommodate a population of approximately 190 faculty, research staff, and graduate students, including those associated with the Materials Science Lab project.

Effect of Changes to the Project on the Previous Environmental Analysis

a). In April 2009, AMBAG issued a new consistency determination for the 2005 LRDP, stating that the 2005 LRDP is consistent with the 2008 regional population forecasts. The population associated with the AAP Phase 1 and Materials Science Lab Phase 1 projects is well within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. Therefore, the AAP Phase 1 and Materials Science Lab Phase 1 projects would not have the potential to increase the severity of the impact identified in the 2005 LRDP EIR and further analysis is not needed.

The AAP Phase 1 and Materials Science Lab Phase 1 projects would not require extension of roads or utilities and therefore would not indirectly induce population growth. The analysis in the 2005 LRDP EIR adequately addresses this potential impact and no additional analysis of this potential impact is needed.

b-c) The AAP Phase 1 and Materials Science Lab Phase 1 projects consists of alterations to and use of an existing building and would not displace any housing or population. No impact would occur and further analysis is not needed.

d) The population associated with AAP Phase 1 and Materials Science Lab Phase 1 projects is within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. However, as part of the 2008 Comprehensive Settlement Agreement, the University agreed that for future projects under the 2005 LRDP it would not "tier" from or otherwise rely on the housing analysis in the LRDP which was invalidated by the Santa Cruz Superior Court to obtain CEQA compliance. Therefore, the analysis below does not rely on the LRDP EIR.

The Proposed AAP Phase 1 Project would construct "warm shell" lab space which is intended to provide lab space for new faculty hired in the future. Therefore, a large proportion of the faculty and graduate students occupying the future labs would be new to the University; many would move to Santa Cruz from outside the region. The 28,000 asf of lab space would accommodate a population of approximately 190, including about 55 faculty and postdoctoral students, and 135 graduate students. Approximately 15 percent of UCSC employees and about six percent of students live outside Santa Cruz County (Bay Area Economics, 2005; Brailsford and Dunlevy, 2014). Therefore, approximately 47 of the faculty and post-doctoral students, and approximately 127 of the graduate students would seek housing in the city of Santa Cruz or the surrounding area. Assuming the average household size for faculty and post-doctoral students is the same as for the City of Santa Cruz (2.39), the new faculty would generate a population of about

112.⁹ The 28,000 sf of lab space would be built out in phases as new faculty are hired. Therefore, the new housing demand would be spread out over the next several years. This analysis assumes that the new labs would be occupied between 2016 and 2020.

The new faculty would be eligible to purchase on-campus faculty/staff housing, as well as for rental units owned by the University. Post-doctoral students are eligible to rent University-owned housing. However, the existing Campus housing is generally fully occupied, with waiting lists. The University has approved construction of the Phase 2 of the Ranch View Terrace project, which would construct 39 single-family houses on the campus. Construction of this project is on hold but the Campus may decide to construct it if warranted by demand. The construction of these homes would probably open up smaller homes in the Hagar Court, Hagar Meadow, and Cardiff Terrace, and Laureate Court faculty/staff housing complexes. This may accommodate some of the new housing demand associated with the AAP Project Phase 1.

On an ongoing basis, the Campus implements previously adopted LRDP EIR mitigation measures POP-3A and POP-3C, which require that the Campus ensure that a sufficient number of students beds are available on campus to accommodate at least 50 percent of undergraduate student enrollment and 25 percent of graduate student enrollment, and that the Campus fund and carry out a market analysis of the local housing market, including demand for housing by housing type and other demand factors, costs, vacancy, and occupancy rates, to provide data to assist the City in its planning activities related to housing needs, to assist the Campus in planning Campus housing, and to assist in the planning of potential joint projects. In addition, under the 2008 Comprehensive Settlement Agreement, the Campus has committed to ensure that additional beds will be available to accommodate 67 percent of enrollment above 15,000 (the 2005 LRDP EIR baseline).

Campus housing currently houses approximately 80 of about 1,500 graduate students. The Campus is planning to construct an additional 120 beds for graduate students and families without children; however, that housing will not be available until 2020. Therefore, most of the graduate students working in the new labs at 2300 Delaware would likely seek off-campus housing.

As explained above, the population associated with the AAP Phase 1 and Materials Science Lab Phase 1 projects is well within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. The Campus population growth associated with the 2005 LRDP has been taken into account in recent City and regional planning studies, including AMBAG's *2014 Regional Growth Forecast* and *Regional Housing Needs Allocation Plan*, and the EIR for the City's General Plan 2030 Update (April 2012).

Table 1, below, summarizes AMBAG's 2014 forecasts for population, housing units, and employment for the County of Santa Cruz as a whole, the City of Santa Cruz, and the remainder of the County. AMBAG projects that the population of the city of Santa Cruz will increase to 66,860 in 2020, an increase of 6,914 from 2010. The population of other cities and unincorporated areas of the County are projected to increase to 212,521 over the same period, an increase of 10,085. AMBAG projects that the number of housing units in Santa Cruz will increase by 3,314 between 2010-2010, and that 6,587 new housing units would be added in other parts of the county.

Table 1			
Population, Housing Unit and Employment Forecasts, 2010-2020			
Population forecast	2010	2020	Increase 2010-202
<i>Santa Cruz County total</i>	262,382	279,381	16,999

⁹ <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

<i>City SC</i>	59,946	66,860	6,914
<i>Balance of County</i>	202,436	212,521	10,085
Housing Unit Forecast	2010	2020	Increase 2010-202
<i>Santa Cruz County total</i>	104,476	111,039	6,563
<i>City SC</i>	23,316	26,890	3,574
<i>Balance of County</i>	81,160	84,149	2,989
Employment Forecast	2010	2020	Increase 2010-202
<i>Santa Cruz County total</i>	110,200	120,101	9,901
<i>City SC</i>	37,077	40,391	3,314
<i>Balance of County</i>	73,123	79,710	6,587
Source: AMBAG, 2014 Regional Growth Forecast, June 11, 2014			

The *Regional Housing Needs Allocation Plan* allocates smaller numbers of units to the County for 2014-2023: 747 units to the city of Santa Cruz and 2,297 to the rest of the county. The County and cities within the county have not yet updated their housing elements to show how they will meet these allocations.

The EIR for City of Santa Cruz General Plan 2030 estimates that the General Plan could accommodate up to 3,315 housing units, primarily through redevelopment of underutilized sites, shown on Figure 4.1-3 of the EIR. Specific sites for redevelopment have not been identified; however, the General Plan EIR indicates that much of the Seabright neighborhood is zoned for low-medium or medium density housing and could be redeveloped at a higher density. The General Plan EIR also notes that, as of 2011, numerous development projects had recently been approved or were pending decisions, including approximately 35 single-family residential units and 425 multi-family residential units.

A cumulative project list provided to the Campus by the City's CEQA consultant in June 2013 lists projects (under construction, approved, and pending application) which would construct 591 net new single- and multi-family residential units within the city. The County's Transit Corridors Plan for Santa Cruz County (Bay Area Economics, 2012), focuses on six census-designated places (CDPs) within unincorporated Santa Cruz County, including Aptos, Live Oak, Pleasure Point, Seacliff, Soquel, and Twin Lakes. That plan identified planned and proposed residential development, as of May 2012, which would construct 234 non-senior units. All of these would be multi-family residential units, including 100 affordable homes.

All of the regional planning studies, as well as student and employee housing market studies conducted by the Campus in 2014, cite the high cost of housing, limiting the affordability of housing in the city of Santa Cruz and surrounding areas for UC Santa Cruz affiliates, particularly staff and students. Therefore, it is likely that many of the occupants of the new labs would pay more than 30 percent of their income for housing, and/or would live outside the city of Santa Cruz, in lower-cost areas such as the southern part of the county and the San Lorenzo Valley. However, the Project-related population including 112 faculty and postdoctoral researchers and their households, and 127 graduate students who would likely seek housing in the County, would represent a small fraction (1.4 percent) of the projected population growth in

the County between 2010 and 2020 and would occupy only 2.6 percent of the new homes projected for the County during that period. Therefore, the Project would not result make a substantial contribution to a demand for housing which could not be met by local jurisdictions, and the Project would not result in a new significant impact not previously analyzed.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant population and housing impacts or a substantial increase in the severity of previously identified significant effects related to population and housing. The prior environmental analysis is sufficient and comprehensive to address the potential population and housing impacts of the Project. No Project revisions or additional mitigation measures are required.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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11. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Create other public service impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Previous Analysis

a) The 2005 LRDP EIR (Vol. 2, page 4.2.12) determined that no environmental impacts would be associated with facility expansions needed to maintain service levels in response to growth under the 2005 LRDP at either the UC Santa Cruz or the City of Santa Cruz Police Department.

b) The 2300 Delaware Avenue facility is served by the City of Santa Cruz Fire Department. The existing fire stations are adequate to serve all parts of the city. Because no new construction is envisioned, the 2005 LRDP EIR (Vol. 2, page 4.2.14) determined that there would be no environmental impacts from the alteration or construction of fire department facilities to serve development under the 2005 LRDP, including the 2300 Delaware Avenue Project.

c) School enrollment is projected to decline throughout the Santa Cruz City School District, and no new school facilities are needed. Therefore, there would be no significant environmental effects from the construction of new school facilities to serve the new population associated with the 2005 LRDP, including the 2300 Delaware Avenue Project (2005 LRDP EIR, Vol. 2, page 4.2.15).

d) Impacts to parks are analyzed below, under *Recreation*.

e) Although regional population growth may result in the need for new or expanded libraries in the City or the County of Santa Cruz, growth associated with the 2005 LRDP would not contribute to the need for these library facilities, because UC Santa Cruz affiliates primarily would use University libraries.

Relevant Elements of the Project and Changes to the Project

The EIR considered a total population for Building C, at buildout, of up to 482 persons, and a total population for the 2300 Delaware Avenue Facility overall of up to 782 persons. Currently, approximately 200 Campus staff occupy Buildings A and B are fully occupied. Approximately six to eight people occupy the lab space developed in Building C by the Thin Films and Materials Lab Project. The remainder of Building C is used primarily for passive storage and is not occupied on a regular basis.

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consists of interior redevelopment of a portion Building C to create research labs. The warm shell lab space developed by the AAP Phase 1 Project would accommodate a population of approximately 190 faculty, research staff, and graduate students.

Effect of Changes to the Project on the Previous Environmental Analysis

a-f) The population associated with the proposed AAP Phase 1 and Materials Science Lab Phase 1 projects is within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. The project would not construct any new building space that would increase the demand for fire protection services, and, according to the City of Santa Cruz General Plan EIR, the City’s existing fire protection and police services are adequate to serve growth through 2030.¹⁰

At the time the 2005 LRDP EIR was prepared, school enrollment in the City of Santa Cruz was projected to decline throughout the Santa Cruz City School District. According to the City’s General Plan 2030 EIR, increased population resulting from development accommodated by the General Plan could result in enrollment exceeding existing school facility capacities. However, the excess enrollment could be accommodated within existing facilities, including Natural Bridges Elementary School, which is currently leased as a charter school, through expansion or existing facilities or the addition of classroom modules. Therefore, the potential addition or expansion of school classroom facilities is not expected to result in significant physical impacts due to the location of existing facilities within developed footprints.

Therefore, the demand for public services would not exceed the demand of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects does not have the potential to result in new significant public services effects or a substantial increase in the severity of previously identified significant effects related to public services. The prior environmental analysis is sufficient and comprehensive to address the potential public services impacts of the Project. No Project revisions or additional mitigation measures are required.

Issues	Additional Project- level Impact Analysis	Project Impact Adequately Addressed
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¹⁰ City of Santa Cruz, General Plan 2030 EIR, State Clearinghouse #2009032007. April 2012.

	Required	in Earlier Environmental Document
12. RECREATION --		
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Previous Analysis

a-b) The 2005 LRDP EIR (Vol. 3, pages 4-46 to 4-47) identified as a potentially significant impact of the 2300 Delaware Avenue Project that the Project could increase the use of the Antonelli Pond area such that substantial physical deterioration of recreational facilities could occur or be accelerated. The EIR determined that this impact would be reduced to a less-than-significant level through the implementation of DA Mitigation REC-1A, DA Mitigation REC-1B, and LRDP Mitigation REC-2D (see Section X, below).

Relevant Elements of the Project and Changes to the Project

The EIR considered a total population for Building C, at buildout, of up to 482 persons, and a total population for the 2300 Delaware Avenue Facility overall of up to 782 persons. Currently, approximately 200 Campus staff occupy Buildings A and B are fully occupied; Building C is used primarily for passive storage and is not occupied on a regular basis.

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to demolition and installation of mechanical and electrical equipment on the roof and in existing service yards.

Effect of Changes to the Project on the Previous Environmental Analysis

a, b) The population associated with the proposed AAP Phase 1 and Materials Science Lab Phase 1 projects are within the scope of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. Therefore, the demand for recreational facilities would not exceed the demand of the 2300 Delaware Avenue Project as analyzed in the 2005 LRDP EIR. The Campus implements DA Mitigation REC-1A, DA Mitigation REC-2A, and LRDP Mitigation REC-2D on an ongoing basis.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant recreation effects or a substantial increase in the severity of previously identified significant effects related to recreation. The prior environmental analysis is sufficient and comprehensive to address the potential recreation impacts of the Project. No Project revisions or additional mitigation measures are required.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
13. TRANSPORTATION/TRAFFIC -- Would the project:		
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycles paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with applicable policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Previous Analysis

Revised CEQA guidelines with respect to checklist items for Traffic and Transportation analysis were adopted in January 2010. The analysis below reflects those revisions.

a, b) The 2005 LRDP EIR analyzed the impact of the 2300 Delaware Avenue on intersection operations under 2010 conditions, based on the assumption that the project would be completed in that year. The EIR concluded that the project would contribute traffic to two intersections, Empire Grade/Western Drive and Mission Street/Bay Street, which would operate at unacceptable levels of service under 2010 cumulative conditions. The 2300 Delaware Avenue Project would contribute more than 3 percent of the traffic, and the project’s impact therefore was assessed as significant. The EIR identified two mitigations that would reduce this impact: DA Mitigation TRA-1A, requiring the Campus to contribute its fair share toward the cost of improvements at the two affected intersections, and DA Mitigation TRA-1B (LRDP Mitigation TRA-2B), which requires the campus to actively pursue transportation demand strategies with the objective of increasing sustainable transportation modes and reducing single-occupant vehicle trips. However, the EIR determined that these mitigations would not reduce the impact to a less-than-significant

level because implementation of the intersection improvements is outside the jurisdiction of the University and, further, the effectiveness of traffic reduction measures would depend on significant coordination and collaboration among the University, the City, and regional transportation agencies the therefore cannot be guaranteed in the short term. The impact therefore was considered significant and unavoidable.

c) There are no airports in the vicinity of the project site and the project would not affect air traffic in any way (2005 LRDP EIR, Vol. 3, page 4-54).

d) The 2005 LRDP EIR determined that the project 2300 Delaware Project would not have the potential to result in traffic hazards because it does not include any alterations to the property outside the existing buildings.

e) The 2005 LRDP EIR determined that the 2300 Delaware Avenue Project has no potential to result in inadequate emergency access because it does not include any design features or operations that would interfere with emergency operations.

f) The 2005 LRDP EIR identified the increased demand for public transit generated by the 2300 Delaware Avenue Project as a potentially significant impact. The site was served by two SCMTD bus routes, but buses were often overcrowded during peak hours, and the EIR concluded that, at buildout, the project would exceed the capacity of this service. The EIR determined that the impact would be less than significant with implementation of DA Mitigation TRA-3, which requires the Campus to implement, on its own or in coordination with the SCMTD, transit service with adequate capacity to serve site population.

In addition to the impacts described above, which respond to the questions in the new CEQA checklist, the 2005 LRDP EIR identified parking demand as a potentially significant impact of the 2300 Delaware Avenue Project. If parking demand rates at the 2300 Delaware Avenue facility were approximately equal to those on the main campus (0.31 space per employee), then the existing parking spaces at the facility would meet the project demand. However, the main campus parking demand rates reflect a wide range of transportation demand measures which have not been extended to the 2300 Delaware site. Therefore, the EIR determined that the 277 existing parking spaces at the site may not be adequate to meet demand at project buildout. The EIR determined that the impact would be less than significant with implementation of DA Mitigation TRA-2, which requires the Campus to implement parking management and traffic demand management measures at the project site, monitor parking demand, and, if parking occupancy reaches 90 percent of the supply, implement additional measures to provide additional parking spaces or reduce parking demand.

Relevant Elements of the Project and Changes to the Project

The proposed project consists of interior redevelopment of a portion of the main floor of 2300 Delaware Building C to create research labs. The project would accommodate a population of approximately 190 faculty, research staff, and graduate students and would generate approximately 227 average daily vehicle trips, including 34 in the AM peak hour and 30 in the PM peak hour.¹¹

The 2005 LRDP EIR anticipated that Building C could be fully-occupied by 2010. In fact, as of March 2015, most of the building is still used for passive storage; only the 5,448 sf of lab and lab support space created by the Thin Films and Materials Lab Project is regularly occupied, by up to 10 researchers. Similarly, no new trip-generating development has occurred under the Coastal Long Range Development Plan (CLRDP) for UCSC's Coastal Science Campus, which is approximately 1/3 mile west of the

¹¹ The estimate of daily and peak-hour vehicle trips is based on the trip generation rate used in the 2005 LRDP EIR for research lab space at 2300 Delaware Avenue (8.11 trips/1,000 asf, the standard Institute of Transportation Engineers trip rate for research and development labs), and by agreement with the City of Santa Cruz for purposes of determining number of trips for UCSC's fair share payments for traffic mitigation.

property at 2300 Delaware Avenue. The University is preparing to begin construction on the Coastal Biology Building (CBB) Project at the Coastal Science Campus in May 2015. The CBB Project will construct a new 40,000-gsf research and teaching lab building, a 7,500-gsf greenhouse complex. The Project also includes extensive utility and infrastructure improvements; a new utility yard; and a series of public coastal access and interpretive facilities, including trails, overlooks, and educational signage and exhibits; and wetland restoration and habitat improvements. The potential environmental effects of the CBB Project were analyzed in the Marine Science Campus Projects EIR (SCH No. 2010062090). The cumulative traffic analysis in the Marine Science Campus Projects EIR also took into account the mixed-used development at 2200 Delaware Avenue, which is currently being developed in phases.

Effect of Changes to the Project on the Previous Environmental Analysis

a, b) The 227 daily trips generated by the 190 people who would occupy the 28,000 asf of lab space supported by the AAP Phase 1 Project, including the lab space created by the Materials Science Lab Phase 1 Project, are within the 746 trips included in the LRDP EIR traffic analysis for occupants of labs in Building C. Subsequent to the certification of the LRDP EIR, the University and the City of Santa Cruz and other parties entered into a Settlement Agreement that included specifications about the mitigation of the University's contribution to local traffic impacts. Under this agreement, the Campus agreed to pay to the City the equivalent of the City's Traffic Impact Fee for each trip generated by new projects at Building C, with trip generation rate based on the City's traffic model current at the time of the new development. It was agreed that these payments would constitute UCSC's fair share of mitigation of intersection operation impacts to which UCSC projects contribute. In accordance with this agreement, the University has already made a payment to the City for trips generated by Buildings A and B and by the Thin Films and Materials Lab Project as mitigation of the traffic impacts identified above. The Materials Science Lab Phase 1 Project, and future lab projects which outfit for use the warm shell lab space created by the AAP Phase 1 Project also would include payments to the City equivalent to the City's Traffic Impact Fee, based on the trip generation described above.

The AAP Phase 1 Project could result in the addition of up to about 34 vehicle trips during the peak hours. These trips would be distributed among several roadways. Therefore, the net increase in peak hour trips at any given intersection would be minimal. This number of trips would not result in a noticeable effect on level of service or delay at any given intersection. Therefore, the payment to the City would reduce the project's traffic contribution to LOS impacts identified in the LRDP EIR to a less-than-significant level.

The campus has continued to refine its Transportation Demand Management (TDM) program since certification of the 2300 Delaware EIR. Campus ride-sharing, vanpool and transit subsidy programs are available to 2300 Delaware occupants. A Carshare program (Zipcar) has been established on campus, although no Carshare pod has yet been established at the Delaware site. These measures have proven effective in reducing UCSC trip generation overall, as demonstrated by annual gate counts at the campus. In 2013-14, the average number of daily trips to the campus was 20 percent less than in 2005-06, and three percent less than in 2007-08. The campus is continuing in its efforts to increase the effectiveness of its TDM programs.

c) No airports have been constructed in the vicinity of the project site since the 2005 LRDP EIR was certified. Therefore, the AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to affect air traffic in any way.

d) The proposed the AAP Phase 1 and Materials Science Lab Phase 1 projects do 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.

e) The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects have no potential to result in inadequate emergency access because they do not include any design features or operations that would

interfere in any way with emergency operations.

f) 2300 Delaware is served by transit, and is accessible on foot or by bicycle. The site is convenient for residents of the west side to access on foot or bicycle, since the area is level and includes street width sufficient to accommodate bicycles, as well as adequate sidewalks. Building C is equipped with bicycle racks near the building entrance. Campus staff also has access to van-pooling and carpooling opportunities and related services provided by the campus to discourage the use of single-occupancy vehicles. The site is served by transit, and the Campus continues to work with SCMTD to implement DA Mitigation TRA-3. Currently, the Campus pays SCMTD to provide supplemental buses on certain overcrowded routes, including route 20D, which serves the project site. The population of the AAP Phase 1, Project, including that associated with the Materials Science Lab Phase 1 Project, is within the population included in the 2005 LRDP EIR analysis. As discussed above, the 2005 LRDP EIR analysis of transit impacts adequately addresses the impacts of the AAP Phase 1 and Materials Science Lab Phase 1 projects.

In addition to the checklist items discussed above, the Campus continues to implement and monitor DA Mitigation TRA-2, which requires that, 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. There are two parking lots at the 2300 Delaware Avenue site, one south of buildings A and B with 137 spaces, and one to the north with 139 spaces. The north parking lot at Building C currently is not in use, as the parking demand generated by Building A/B occupancy does not require the use of this area. Parking surveys conducted at 2300 Delaware in Spring 2014 showed an overall utilization rate of 66 percent for the south lot, leaving an average of 47 spaces available. As described above, the population which could be accommodated by the AAP Phase 1 Project, including the Materials Lab Phase 1 Project, would be about 190. Based on the current average ratio of parked cars to the facility population (95/210), the projects would generate an average parking demand of 85 spaces. The available spaces in the south lot, in addition to the north lot, would provide more than enough spaces to accommodate this population. Therefore, the Projects would not result in impacts to parking which were not adequately analyzed in the 2005 LRDP EIR.

Conclusions

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects do not have the potential to result in new significant traffic or transportation effects or a substantial increase in the severity of previously identified significant effects related to traffic or transportation. The prior environmental analysis is sufficient and comprehensive to address the potential impacts of the Projects.

Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
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14. UTILITIES AND SERVICE SYSTEMS -- Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause

significant environmental effects?

- c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?
- h) Create other utility and service system impacts?

Previous Analysis

a-h) The 2005 LRDP EIR determined that the 2300 Delaware Avenue Project would not result in any significant impacts related to utilities. No upgrades to the existing water, electricity and natural gas service to the site are required to meet the demands of the project and the existing sewer and storm drains on the site have adequate capacity. The City's wastewater treatment plant and landfill have the capacity to handle the wastewater and solid waste from the development under the 2005 LRDP, including the 2300 Delaware Avenue Project.

The project water demand, which would be approximately 3.4 million gallons per year, would represent less than 1 percent of the current system demand. Therefore, the EIR determined that the 2300 Delaware Avenue project would not result in 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 Mitigations UTIL-9A through UTIL-9H, the 2300 Delaware Avenue project includes a wide range of water-saving measure. 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. However, the EIR determined that the 2300 Delaware Avenue Project would make a cumulatively considerable contribution to the cumulative water supply impact of development under the 2005 LRDP in conjunction with other regional growth. The 2005 LRDP EIR identified LRDP Mitigations UTIL-9A through UTIL-9I to reduce this impact to the extent feasible. However, as discussed in the 2005 LRDP EIR (Vol. 2, pages 4.15-30 to 4.15-37), the impact would be significant and unavoidable even with mitigation.

Relevant Elements of the Project and Changes to the Project

As analyzed in the 2005 LRDP EIR, the 2300 Delaware Avenue Project would include up to 24,600 asf of wet laboratory space with up to 131 fume hoods, about 18,400 asf of dry laboratory space, and 14,700 asf of office space. The EIR assumed that a single 500-kW generator would be installed at the 2300 Delaware Avenue site.

The proposed AAP Phase 1 and Materials Science Lab Phase 1 projects consist primarily of interior redevelopment of a portion of 2300 Delaware Building C to create research labs. Exterior construction would be limited to demolition and installation of mechanical and electrical equipment on the roof and in existing service yards. The Project would not require new or expanded utility service to the site. The Project would include removal of an existing 80-KW emergency generator with a new 300KVA, dual-fuel emergency generator. A new 250KVA standby/backup generator would also be installed. New 3-inch natural gas line would be extended from the basement to the north service yard to serve the new emergency generator. The Project includes lighting upgrades, and installation of a building management system to provide remote monitoring and management. The Project would increase natural gas and electricity use at the site over existing levels; however, the new mechanical equipment and lighting would be more efficient than the existing systems, so the energy use at the site would be less than it was before the University acquired the property in 2004.

The restrooms in Building C were recently retrofitted with fixtures that meet current standards for water efficiency. Under the 2300 Delaware Project as analyzed in the 2005 LRDP EIR, cooling would be provided by an electrical chiller with a capacity of 400 to 600 tons. With the AAP Phase 1 Project, the Campus is proposing instead to use an evaporative cooling system consisting of two new cooling towers and chillers in the east yard. The new cooling towers would have adequate capacity to serve all of Building C, although the chiller system would be modular and only those chillers and pumps necessary to serve up to 28,000 asf would be installed in AAP Phase 1. At full build-out of Building C, water use for cooling would be approximately 1.4 mg of water.

Existing water use at 2300 Delaware is approximately 1.4 mg. Water use associated with future lab uses in Building C would be approximately 1.1 mg. Total future water use at 2300 Delaware would be approximately 3.9 mg, which would be about 0.5 mg more than analyzed in the 2005 LRDP EIR. However, in compliance with DA Mitigation Measure UTIL-1B, the Campus would continue to implement the measure which requires that the large turf area be replaced with drought-tolerant native plants. Based on Campus tracking of water use reduction during the 2014 drought, when watering of the turf was discontinued, replacement of turf would reduce water use at the site by approximately 0.9 mg. Table 4 summarizes the existing and estimated future water use at 2300 Delaware, assuming full buildout of Building C.

Table 4 Revised Projected Water Use for 2300 Delaware Project

Use	Estimated usage (million gallons/year)
<i>Existing</i>	1.4
Future labs and restrooms	1.1
Cooling towers	1.4
Turf removal	-0.9
<i>Net increase over existing</i>	1.6
Total future	3.0

Water use for associated with the 28,000 asf of lab use which would be supported by the AAP Phase 1 Project, including a portion of the future cooling tower use, water use in labs, and personal use by the 190 occupants of the labs, would be approximately 1.1 mg.

Effect of Changes to the Project on the Previous Environmental Analysis

a-h) Consistent with the analysis in the 2005 LRDP EIR, no expansion of utility service to the site would be needed to serve the lab space which would be supported by the AAP Phase 1 Project, including the Materials Science Phase 1 Project.

The use of up to 1.4 mgd water for evaporative cooling was not anticipated in the 2005 LRDP EIR. With implementation of DA Mitigation Measure UTIL-1B, the total future demand at the 2300 Delaware site would be approximately 3.0 mgd, or 0.4 mgd less than projected in the 2005 LRDP EIR, before mitigation.

As part of the 2008 Comprehensive Settlement Agreement, the University agreed not to tier from or otherwise rely on the housing and water supply analysis in the LRDP EIR. The Water Supply Assessment prepared by the City in 2011 for the City's General Plan Update, concluded that the City's existing water supply would be adequate to meet projected demand through 2020 in normal water years, but may fall short of demand by up to 223 million gallons by 2030, if the higher of two potential growth scenarios proves accurate (Erler & Kalinowsky 2011). However, the City does not have adequate supplies to meet existing or future demand under drought conditions. Furthermore, the City is in the process of preparing a Habitat Conservation Plan (HCP) in connection with an incidental take permit under the federal Endangered Species Act. Although the outcome of the permit and HCP process is uncertain, according to the City's 2010 Urban Water Management Plan, it is clear that it will result in a reduction in the availability of water from the City's existing flowing sources, which would increase reliance on Loch Lomond Reservoir and thereby exacerbate the problem of water shortage during periods of drought (City of Santa Cruz Water Department 2011). To address these challenges, the City has been exploring alternatives for supplementing the existing water supply for a number of years. However, it is not certain if and when the City will develop a means of augmenting its supply. The City has put planning for a regional desalination plant on hold while assessing other options for addressing the City's water supply challenges. In addition, even if the City decides to proceed with the desalination plant, completion of the environmental review and regulatory approvals would still be required. Therefore, the City's future water supply capacity remains uncertain. Nonetheless, the City has identified a desalination plant as its best option to alleviate supply shortages in drought conditions and under cumulative growth scenarios. The City's General Plan 2030 EIR identified the water supply impact of development which would be accommodated by the General Plan 2030 as a significant and unavoidable impact.

The City's *Regional Seawater Desalination Project Draft EIR* analyzes the environmental impacts of the four basic components of the proposed desalination plant: seawater intake, pretreatment and salt removal through reverse osmosis filtration; disposal of by-products; and conveyance and delivery of the product water to existing City and Soquel Creek Water District infrastructure. The EIR analyzes alternative sites for the seawater intake system and the desalination plant. The Draft EIR analysis indicates that all potentially significant impacts except one can be reduced to a less-than-significant level with implementation of mitigation measures identified in the Draft EIR. The one significant and unavoidable impact would be removal of trees which may be providing secondary wind protection to an active monarch butterfly overwintering roost site at Natural Bridges State Park, to the west. Selection of one of the other alternative plant sites would eliminate this potential impact. The Draft EIR also identified less-than-significant impacts related to marine water quality, treated potable water quality, impacts on marine resources due to operation of the intake system, energy, greenhouse gas emissions, and growth.

The City adopted a Water Shortage Contingency Plan in 2009 to establish its approach to reducing demand under different shortage scenarios (City of Santa Cruz Water Department 2009). The Plan includes reduction goals for UC Santa Cruz under each shortage scenario. These goals were developed in consultation with the Campus. The Campus reached, and even exceeded its reduction targets in 2009, 2012, 2013 and 2014, the years in which the City has implemented the Plan. In addition, the Campus has been implementing water conservation measures, including improvements to irrigation systems and retrofitting restroom fixtures, which have contributed to a reduction in per capita water use UC Santa Cruz reduced per capita water use nearly 36% from the period between 2002 and 2005, to 2011-12 (UC

Santa Cruz 2013). The Campus is planning additional fixture retrofits and infrastructure improvements which will further increase the efficiency of water use on the campus.

The projected increase in water demand associated with the AAP Phase 1 Project would be approximately 1.1 mgd. The construction of new cooling towers which would serve all potential future uses of Building C, constitutes a change to the 2300 Delaware Project as analyzed in the 2005 LRDP EIR which could result in future net increase in water use at the site of 1.6 mgd. This net increase in water demand is not considered substantial in relation to the estimated future demand in the City’s service area of 3,500 to 4,000 mgd. The existing restroom fixtures are low-water-use; the Project would replace turf with drought-tolerant plants; and irrigation at the site is automatically adjusted for actual weather conditions. Under the 2008 Comprehensive Settlement Agreement, the Campus will pay a fee equivalent to the City’s System Development Charges for water use exceeding the Campus’ LRDP EIR baseline use. These charges are used in part to cover the costs of the City’s conservation programs and the desalination project.

According to the City’s 2010 UWMP, as a result of the success of the City’s water conservation programs, system-wide water use decreased by almost 80 mgd. The Campus has been implementing water conservation measures, including improvements to irrigation systems and retrofitting restroom fixtures, which have contributed to a reduction in total campus water use since the 2005 LRDP EIR was approved, despite an increase in enrollment. The Campus is planning additional fixture retrofits and infrastructure improvements which will further increase the efficiency of water use on the campus.

The City adopted a Water Shortage Contingency Plan in 2009 to establish its approach to reducing demand under different shortage scenarios (City of Santa Cruz Water Department 2009). The Plan includes reduction goals for UC Santa Cruz under each shortage scenario. These goals were developed in consultation with the Campus. The Campus reached, and even exceeded its reduction targets in the 2010 and 2014, the two years in which the City implemented the Plan. Under future drought conditions, the Campus would curtail water use at 2300 Delaware consistent with the City’s Water Shortage Contingency Plan. The increase in water demand resulting from the AAP Phase 1 Project would not substantially affect the reliability of the water supply during drought or during future normal water years, as the increase is too small to cause a noticeable increase in the curtailment which would be required during drought conditions. Thus, the Project’s water supply impact would be less than significant and the Project would not make a cumulatively considerable contribution to cumulative water supply impacts.

The impacts of the project demand for wastewater treatment and distribution facilities, electricity, and natural gas would not exceed those previously analyzed. Under the 2008 Comprehensive Settlement Agreement the Campus may not rely on the 2005 LRDP EIR analysis of water supply impacts. However, for the reasons discussed above, the Project impacts related to water supply would be less than significant.

Conclusions

The refinements to the Project do not have the potential to result in new significant impacts related to utilities, and no changed circumstance or new information is present that would alter the conclusions contained therein. No Project revisions or additional mitigation measures are required and the prior environmental analysis is sufficient and comprehensive to address utility impacts of the Project.

15. MANDATORY FINDINGS OF SIGNIFICANCE Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species,	<input type="checkbox"/>	<input checked="" type="checkbox"/>

15. MANDATORY FINDINGS OF SIGNIFICANCE Issues	Additional Project-level Impact Analysis Required	Project Impact Adequately Addressed in Earlier Environmental Document
<p>cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</p>		
<p>b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>c) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>a) As discussed under Biological Resources and Cultural Resources sections, above, the LRDP EIR (Section 4.4 and 4.5) did not identify significant project-level or cumulative impacts of the project with respect to biological or cultural resources. The AAP Phase 1 and Materials Lab Phase 1 projects consist of modifications to an existing building and associated service yards, and minor changes to landscaping to reduce water use, and would not include any modifications that would affect natural habitats, or any significant ground disturbance. Prior studies indicate that no significant biological or cultural resources are present on the site. The project therefore has no potential for significant impacts.</p>		
<p>b) The project is consistent with the 2005 LRDP. Further, as discussed in the preceding sections, although the AAP Phase 1 and Materials Lab Phase 1 projects would make contributions to previously-identified significant impacts with respect to demand for off-campus housing, traffic levels of service and water demand, the projects’ contribution either has been reduced to less-than-significant levels by the incorporation in the 2300 Delaware Avenue Project of mitigation measures identified in the 2005 LRDP EIR, or is so small that it would not be cumulatively considerable. The project would not hinder the achievement of either long term or short term environmental goals.</p>		
<p>c) As analyzed in the Traffic and Utilities sections, above, the AAP Phase 1 and Materials Lab Phase 1 projects would make a small contribution to the cumulative impacts of 2005 LRDP and other regional development with respect to intersection levels of service at several intersections in the City of Santa Cruz, to drought period water shortages, and to normal year water shortages sometime after 2020. However, the contribution would not be cumulatively considerable.</p>		
<p>d) Based on the analyses provided in this addendum, the AAP Phase 1 and Materials Lab Phase 1 projects would not result in direct or indirect adverse effects to human beings.</p>		

IX. REFERENCES

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X. MITIGATION MONITORING PROGRAM

No project-specific impacts were identified for the AAP Phase 1 and Materials Science Lab Phase 1 projects. However, applicable mitigation measures that were identified in the 2005 LRDP EIR are incorporated into the projects. These are listed in Section X, below. The campus will monitor and report on the implementation of these measures during detailed design and construction of the AAP Phase 1 and Materials Lab Phase 1 projects, as described in the 2005 LRDP Mitigation Monitoring Program and shown in the table below. Items on which the campus will report explicitly for the AAP Phase 1 and

Materials Lab Phase 1 projects are shaded. All other items will be implemented, monitored and reported as part of ongoing operations of the campus or of the 2300 Delaware site generally.

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
LRDP AIR-2A	Operational air emissions	<p>The Campus shall incorporate, in each new project, design and construction features that conserve natural gas and/or minimize air pollutant emissions from space and water heating. Specific measures that will be considered for each project include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Orientation of buildings to optimize solar heating and natural cooling; • Use of solar or low-emission water heaters in new buildings; and/or • Installation of best available wall and attic insulation in new buildings 	Review design of each new project to ensure that it incorporates measures to conserve natural gas and/or minimize emissions.	PP&C/Project Manager	During project design, prior to design approval	Verify that conservation measures are included in final project plans and specs and in bid documents.
LRDP AIR-2B	Traffic air emissions	The Campus shall implement LRDP Mitigation TRA-2B to reduce motor vehicle trips.	See LRDP TRA-2B			

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
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	<p>DA Mitigation HAZ-1: The Campus shall implement LRDP Mitigations HAZ-2 and HAZ-11.</p> <p>LRDP HAZ-2 The Campus will enhance its hazardous waste minimization program by (1) monitoring chemical purchases and use; and (2) maintaining a hazardous waste website to provide campus waste generators with the latest information on hazardous waste requirements; recycling, treatment, and disposal options; and waste minimization techniques.</p> <p>LRDP HAZ-11 applies to non-UC tenants of UC buildings and is to applicable to the Thin Films Project.</p>	<p>EH&S monitor chemical purchase and use and report annually.</p> <p>Maintain hazardous waste website and train potential users how to utilize it.</p>	<p>EH&S/ Purchasing</p> <p>EH&S</p>	<p>Ongoing</p> <p>Ongoing</p>	<p>EH&S will provide accounting annually to PP&C for AMMR.</p> <p>Document training sessions and list topics covered on website. Report in AMMR.</p>
LRDP HAZ-2	Hazardous materials handling	The Campus will enhance its hazardous waste minimization program by (1) monitoring chemical purchases and use; and 2) maintaining a hazardous waste website to provide campus waste generators with the latest information on hazardous waste requirements; recycling, treatment, and disposal options; and waste minimization techniques.	<p>EH&S monitor chemical purchase and use and report annually.</p> <p>Maintain hazardous waste website and train potential users how to utilize it.</p>	<p>EH&S</p> <p>EH&S</p>	<p>Ongoing</p> <p>Ongoing</p>	<p>EH&S will provide accounting annually to PP&C for AMMR.</p> <p>Document training sessions and list topics covered on website. Report in AMMR.</p>

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
DA HAZ-9C	Emergencies	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.	Grounds Services to consult with hydrologist to develop procedures that comply with specifications, and ensure implementation	PP&C/ Grounds Services	Procedures to be developed before first rainy season following project approval	Verify and document in project file that plan has been completed; Grounds Services to verify implementation annually.
DA Impact HYD-2	Implementation of 2300 Delaware Avenue Project could result in storm water runoff that could affect surface water quality.	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.	Grounds Services to consult with hydrologist to develop procedures that comply with specifications, and ensure implementation	PP&C/ Grounds Services	Procedures to be developed before first rainy season following project approval	Verify and document in project file that plan has been completed; Grounds Services to verify implementation annually.
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.	DA Mitigation REC-1A: UC Santa Cruz shall provide trash and litter collection services for containers along the east side of Antonelli Pond.	Grounds Services to provide and service litter receptacles along western property boundary adjacent to Antonelli Pond trail.	PP&C/ Grounds Services	Within 3 months of project approval	Ground Services to report annually on status of compliance.

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
		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.	Consult as specified to determine cost of picnic and trail facilities as specified, negotiate and pay fair share.	Physical Plant/ Planning and Budget	Within one year of project approval	Confirm consultation and document in AMMR.
		DA Mitigation REC-2D: The Campus shall implement LRDP Mitigation REC-2D:	Contact City and Land Trust to initiate coordination and organization of volunteer activities specifically related to Antonelli Pond, and initiate activities.	PP&C/ Physical Plant	Initiate within six-months of project approval; Ongoing, semi-annually	Annually, by June 30, confirm that advertising and volunteer projects were conducted as specified and document and report number of UC Santa Cruz volunteers at Antonelli Pond in AMMR.
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.	DA Mitigation TRA-1A: The Campus shall contribute its fair share toward the cost of installing a traffic signal at the intersection of Empire Grade Road and Western Drive and updating the signal timing at the intersection of Mission Street / Bay Street.	UCSC shall coordinate with City of SC to determine appropriate trip generation rate for facility, calculate number of average daily trips, and make payment to city equivalent with its then-current Traffic Impact Fee for each projected trip	PP&C/ TAPS	No later than project occupation	Confirm that City has been paid document in AMMR. Report on status of planned City improvements in AMMR.
		DA Mitigation TRA-1B: The Campus shall implement LRDP Mitigation TRA-2B.	In addition, conduct transportation survey of employees at 2300 Delaware Avenue.	TAPS	Annually	In addition, report annually on effectiveness of existing TDM measures at 2300 Delaware Avenue.

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
			Assess modal mix at facility, identify and implement relevant TDM improvements.	TAPS	Annually	Report plans for revisions and/or changes to TDM program; document in AMMR.
		LRDP TRA-2B: UC Santa Cruz shall continue to implement and will expand its existing Transportation Demand Management programs with the objectives of increasing sustainable transportation modes (use of modes other than single-occupant vehicles) above 55 percent during the planning horizon of the 2005 LRDP and reducing peak hour traffic volumes. Potential measures that the Campus will consider for achieving this objective are listed in LRDP EIR Table 4.14-19.	UCSC shall continue to implement TDM improvements.	TAPS	Ongoing	Report on TDM effectiveness in AMMR

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
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.	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.	Implement Parking management and TDM programs at 2300 Delaware Avenue. Monitor demand. If parking reaches 90 percent occupancy, consult with City on additional parking management measures, and expand TDM program as specified. If parking demand continues to exceed 90 percent, consider proposing expansion of parking lots.	TAPS	Within 1 year of project approval Annually At such time as parking demand reaches 90% of capacity Annually	By June 30 each year, report on TDM and parking management measures at 2300 Delaware; report results in AMMR. Report demand in AMMR Document consultation with City and additional TDM measures in AMMR. Document consultation and solution in AMMR
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.	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.	Consult with SCMTD to investigate transit options and implement shuttle or coordinate on implementing transit route.	TAPS	Within one year of project approval; revisit annually	Document consultation and solution in AMMR.

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
DA Impact UTIL-1	The proposed project would not require the construction of new or expanded water supply facilities.	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.	Implement all relevant water conservation and efficiency measures relevant to the 2300 Delaware Avenue facility as specified in the LRDP MMP, LRDP Mitigations UTIL-9A through-9I.	Physical Plant	Various; refer to LRDP MMP, LRDP Mitigations UTIL-9A through -9I.	Refer to LRDP MMP, LRDP Mitigations UTIL-9A through -9I.
		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 Avenue to reduce the area of turf and replace planting of drought-tolerant native plants, as feasible.	Assess landscaping to determine cost effective measures to reduce water use and renew landscaping with drought-tolerant native plants. Institute a systematic program of replacement with the goal of reducing turf.	Physical Plant Services	Within one year of project approval Ongoing, beginning within one year of project approval	Confirm that assessment is complete and document in project file. Document efforts and results annually.
		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.	Design and implement irrigation improvements as specified.	Physical Plant/Grounds Services	Within 3 years of project approval	Confirm that new system has been installed; document in AMMR.
		(relevant provisions of LRDP UTIL-9A-9H) • LRDP UTIL-9A The Campus shall continue to implement and improve all current water conservation strategies to	As detailed in LRDP EIR and mitigation monitoring program			

**Mitigation Monitoring Program for
2005 LRDP and 2300 Delaware Avenue EIR Mitigation Measures incorporated in the Thin Films Project**

Impact		Mitigation Measure	Mitigation Procedure	Responsible Party	Timing	Monitoring and Reporting Procedure
		<p>reduce demand for water</p> <p>LRDP UTIL-9B As new technologies become available, the Campus shall continue to conduct pilot programs for high-efficiency plumbing fixtures.</p> <p>LRDP UTIL-9D The Campus shall consult with the City of Santa Cruz regarding the appropriate scope of and initiate, an engineering audit of campus water use and recommend top priority measures for implementation within the succeeding five years</p> <p>UTIL-9F The Campus shall identify additional feasible and effective water conservation measures for implementation on the campus during the subsequent five year period.</p> <p>LRDP UTIL-9G The Campus shall initiate a study on feasible measures for utilization of reclaimed water.</p>				